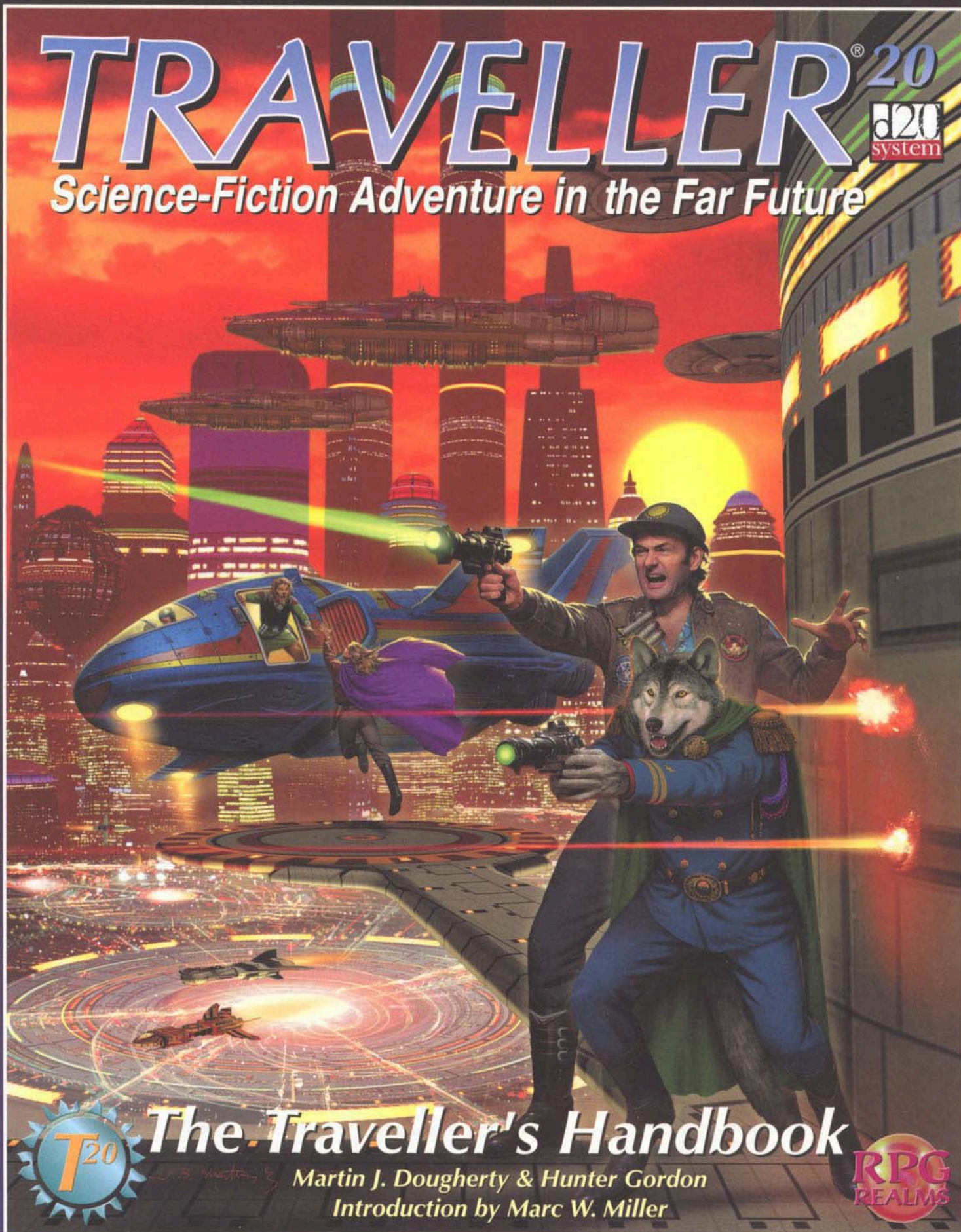


# TRAVELLER<sup>®</sup> 20



Science-Fiction Adventure in the Far Future



## The Traveller's Handbook

Martin J. Dougherty & Hunter Gordon  
Introduction by Marc W. Miller





# ***TRAVELLER T<sup>20</sup>***





## TRAVELLER20 – The Traveller's Handbook

### Traveller for the d20 System

*Science Fiction Adventure in the Far Future*

**BASED ON THE AWARD-WINNING TRAVELLER GAME SYSTEM AND UNIVERSE BY MARC W. MILLER**

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And to the gamers who contributed to our Traveller Experience over the past years and decades; the Traveller community who keeps the game alive; and the original designers whose work we have built upon.

#### Dedicated to the Memory Of

Rhonda Sue Gordon

Robert "Bob" Jones, Jr.

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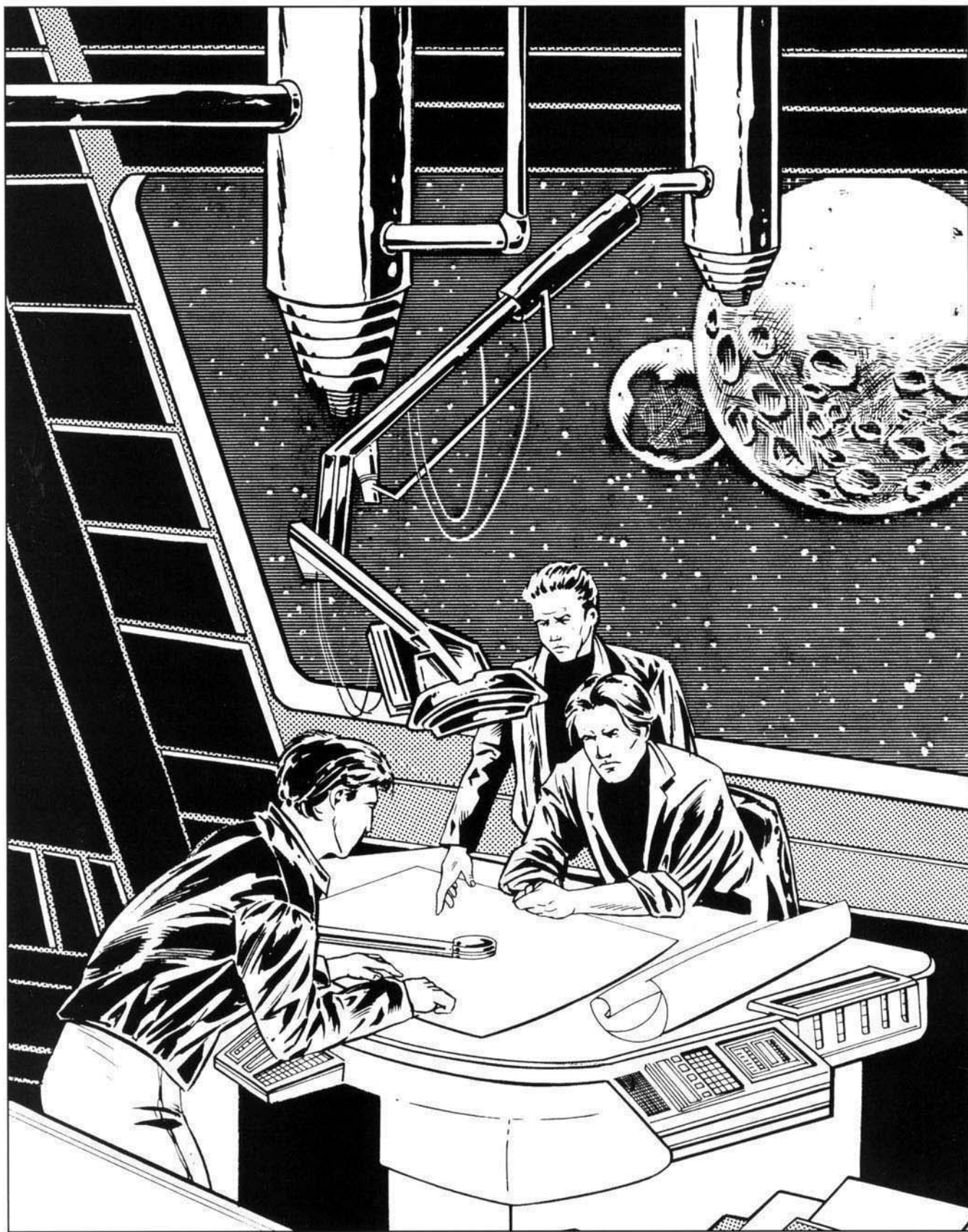
T20's Home on the Web  
<http://www.TravellerRPG.com>

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# KISHIMAA DOWNPORT— OR BUST!

When Dr. Sobraashii's archeological research team found the Rule Of Man-era ruins they'd been seeking for the past year, the whole camp erupted into an impromptu party. Everyone drank too much, including Tallei Haalein the research assistant. When the party finally died down, Tallei the civilian stumbled over her friend Duek's boots in the tiny prefab they shared, then fell into her bunk and was instantly and deeply asleep.

But when shots rang out in the compound three hours later, the civilian was gone and Lance-Corporal Haalein, Imperial Army Rifle Instructor and all-round hard case, was back.

She woke to find that she was already rolling from her narrow bunk in the prefab living unit. Twelve years of soldiering in the Emperor's name had left certain useful instincts behind. Like the one that got her moving before it woke her up.

Her Army-issue reflexes slipped feet into boots, ballistic vest over t-shirt, and draped her overjacket on top of that. By the time her mind had realized it was awake and started to demand coffee she had scooped up her rifle and magazine bandolier. She opened the door a crack to eyeball the situation.

Chilly night air seeped into the bunkroom as Tallei peered out the door into the snow-dusted compound. Subconsciously she tracked Duek's position behind her as the female Vargr stumbled out of her bunk and began rummaging among discarded clothing on the floor. Duek Roghz was a civilian, a fellow research technician with no battlefield survival instincts. A good friend, but a liability at a time like this.

At no point did Tallei doubt that they were in mortal danger; that someone was coming here to kill both of them; that she was the only chance for survival for them both. Nor was there any doubt that she could deal with the situation, get them both to safety, and save their employer too. There wasn't any room for thoughts like those and besides, they were groundless. Tallei could, and would.

Shots, shouting and the sound of Contragrav lifters came from outside. The locals didn't have Contragrav, so most likely someone in the compound was starting an air/raft for a swift getaway. Good for them, so long as they left at least one of the 'rafts behind for Tallei.

Leadfooted steps - two sets - thundered up to the doorway, labored breaths sounding harsh and loud in the night air. Tallei crouched, ready. The door was hammered open and a figure hurled itself inside. Tallei tripped it, in case it wasn't who she expected, then stood to face the pursuer. He was a young man, dressed in dark gray camo-fatigues and a steel helmet. The carbine in his hands was tipped with a wicked bayonet.

Not even seeing Tallei in the darkness, the soldier raised his bayonet to plunge down at his victim. Tallei hit him with her rifle. The high-impact plastic stock made a dull thump as it slammed into unsuspecting ribs. The soldier doubled up and dropped his weapon. Tallei kicked him as he went down, glanced behind to check the figure she'd tripped really was her employer, and dragged the local soldier upright by the throat.

"We've just become unwelcome, I take it?" Duek said as she fumbled into her clothes - unlike Tallei, the Vargr didn't sleep mostly dressed and ready for anything from an earthquake to a planetary invasion. After pulling her jacket she helped her employer up from the floor.

Between gasps, Dr. Gavin Saint-Etienne Sobraashii said, "Yeah. One of the local nations just turned nasty. We've got to get out; make for the Downport. Zuri got a distress call off, but the Marine contingent can't spare anyone for a rescue." He dragged himself up to his full five feet five inches and straightened his quilted cold-weather jerkin, checking his instruments remained unbroken. His tone was sarcastic as he went on, "they have a situation."

"They told us to pull out last week," Duek said, buckling a webbing belt containing a semi-automatic pistol around her waist. She cocked her head, ears twitching. "I hear two air/rafts warming up. I suspect we'd better make a run for one of them."

"Yup," Tallei agreed. "But first...." She banged her captive's head against the door frame, then snarled, "How many, which nation, and you live!"

"Aw... Awlech... just a strike team... couple of trucks...." The soldier stammered, naming one of Kishimaa's many small nations. Until a week ago, Awlech had been a district of the relatively stable Lowland Alliance. Now, apparently, the breakaway state was flexing its muscles by driving the offworlders out. A grand and pointless gesture that would ultimately cost its leaders dear. But for now....

"Awlech?" Gavin said. "Now, I'd have put money on the Republic of Drallei, or...."

"Boss!" Tallei snapped. "Stop theorizing and grab my ready bag. I bet you lost your sidearm...."

"It's in my quarters.... I was just out looking over the ruins again!" Gavin said defensively.

"Whatever. Listen. As of now, you are no longer an archeologist. You are a refugee, and I am your only chance to stay alive. So it's do as told and mouth shut, get it?"

Gavin nodded nervously, and Tallei turned back to her captive as an air/raft hummed low overhead. "Right. Is this a hostage snatch or something nastier?" She demanded.

"S...snatch," the soldier said. Tallei kneed him in the crotch, hard. He groaned and slid down the door frame.

## KISHIMAA DOWNPORT— OR BUST!

"Why'd you do that?" Gavin demanded.

"Don't need him chasing us. And besides, he was lying," Tallei replied grimly. "Now grab his weapon and be ready to run. If you get tired, or someone gets in the way, just remember that they're planning to shoot anyone they capture."

The three of them edged out of the prefab and into the chaos of the dig site. Figures ran about the compound, firing and looting. One of the clusters of prefab quarters modules - the one with the main sample storage area - was already alight. Someone was shooting from the other, and soldiers in the compound were firing back. So far the third cluster, the one Tallei and Duek inhabited, was relatively undisturbed. Away to the right, close to the earth berm they'd built when they bulldozed the living area flat, one of the air/rafts was still grounded. A couple of figures fired handguns from the other as it slowly rose on its lifters.

Tallei led her companions towards the grounded air/raft. If they could reach it or one of the others came back, it might be possible to pick up some of the other survivors - assuming there were any. If not, well, they were pretty much stuffed. It was several hundred klicks to the Downport and the Neutral Area enforced by Imperial Marines, through territory controlled by unstable and sometimes downright hostile states. And the cavalry wasn't coming to save them.

A new dusting of snow began to fall as the three flitted through the darkness. Behind them, someone threw a grenade into their prefab. Tallei wondered in a detached way if her captive had managed to get out. Not that it mattered all that much.

The shooting, which had been dying down, suddenly increased in intensity. Bullets zipped past as several local soldiers spotted them and opened fire. Gavin dove to the ground; Duek swerved away to the right and dashed behind a prefab. Tallei went prone, her rifle tracking around even before she stopped skidding.

The locals were shooting low-tech bolt-action carbines; the very best their technological base could produce. Slow to load and inaccurate - but deadly - they gave

away the firer's position with a huge muzzle flash and a cloud of smoke.

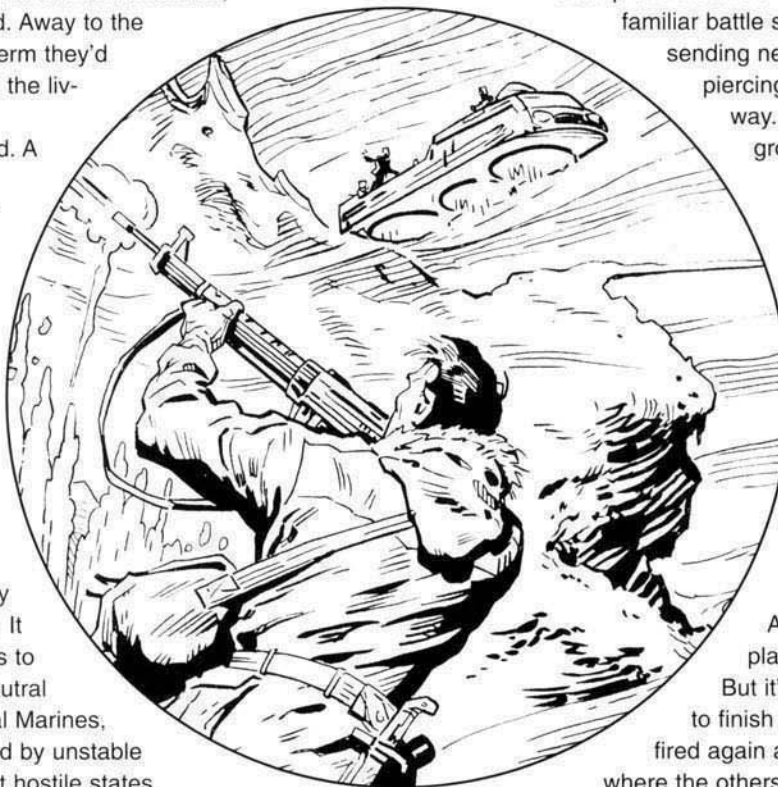
Not so Tallei's weapon. That was an Imperial Army-issue 9mm ECT Advanced Combat Rifle fitted with electronic sighting aids and designed to maximize the effectiveness of the individual trooper. Such weapons weren't easy to come by - Tallei's was a gift from the army for 12 years' exemplary service; a faithful companion wherever she might go. And Tallei hadn't just been a lift trooper armed with an ACR, she'd been a marksmanship instructor.

It showed as the ACR came into play.

Electrochemically-excited propellant made a dull, ripping thump and assailed Tallei's nostrils with its familiar battle stench. The rifle twitched, sending neat bursts of 9mm armor-piercing rounds on their deadly way. Soldiers tumbled to the ground.

"Gav! Run for the 'raft! I'll cover!" Tallei barked, her rifle searching out new targets. The heads-up goggles would make the task so much easier, but they were in her grab bag, and Gavin was carrying that. Still, Lance-Corporal Haalein, late of the 2716th Lift Infantry (Retired) armed with an ACR was a match for a platoon of low-tech troopers. But it'd only take one lucky shot to finish her, all the same. Tallei fired again and again, and wondered where the others had got to. If that air/raft didn't get here soon...

Lifters whined overhead. An air/raft slewed sideways, drifting half out of control as its inexperienced pilot tried to bring it in close. Gavin leaned out, offering a hand. Tallei timed its erratic approach, winced as a carbine round starred the windshield, and sprang up, leaping for the 'raft side. Her right arm heaved the rifle aboard, her left missed its grip on the open-topped vehicle's side. The pilot floored it, accelerating away and lifting at the same time, dragging Tallei's boots along the ground. Then Gavin reached down, grabbed the first thing he laid hands on - a handful of the butt of her trousers, but nobody was standing on ceremony - and heaved. Tallei's left arm found purchase, and suddenly she was in the 'raft, tangled up with Gavin and her grab bag, but safe and accelerating away from the dig site.





## KISHIMAA DOWNPORT— OR BUST!

"Hey, thanks Duek...." Tallei said, then paused. The pilot wasn't Duek. It was Garh'ahl, the only other Vargr among the dig team. Garh'ahl's snout was shorter, and black rather than tawny, graying with age. And he was snarling in pain as he hunched over the controls.

"Medic!" Tallei snapped reflexively, seeing the spreading stain on the pilot's shoulder. He'd been hit before he got into the 'raft, Tallei realized. Amazing that he'd managed so much, but he was clearly losing his fight for consciousness. As Gavin fumbled for the air/raft's medkit, Tallei realized they were headed straight for the perimeter berm. She vaulted over the front seats and lunged for the emergency autopilot handle, flipped up the cover, and slammed it home.

The 'raft was a Ling Standard Products Venture-600, a rugged model designed for frontier use. Its terrain-following safety systems, overridden during the hurried takeoff, were designed to save the crew, no matter what.

They tried.

The 'raft's headlong acceleration suddenly slowed, power surging to the lifters instead. The vehicle lunged skywards, straining to clear the berm. Bullets cracked and whined from the rear bodywork and lift plates. The bow cleared the berm, but the 'raft's rear end clipped it and flipped high. Tallei grabbed Garh'ahl and wedged herself against the dash as Gavin clung to the rear seat.

The 'raft's automatics cut lift, trying to prevent the craft from flipping over. It began to level out, but only at the cost of height. Gavin's voice shouted, "Brace for..." and then the grav vehicle was plowing a furrow in the half-frozen earth. Lifter plates buckled and sheared away, automatic systems killing the power to prevent a catastrophic discharge. After a tooth-loosening slide, the craft came to rest. It was brutally obvious that it would never fly again.

Tallei scanned back the way they'd come through her rifle sights. Nobody was pursuing them out over the berm, but there were lights approaching out of the darkness. A vehicle. It sounded like a combustion-engine jeep. The occupants weren't likely to be friendly.

Gavin worked feverishly, trying to pack the bullet wound in Garh'ahl's shoulder. The old Vargr had lost consciousness; maybe he was already dead. But Gavin tried anyway, talking into his wrist comm. as he struggled in the bloody darkness to save an old friend's life.

"This is Dr. Sobraashai... Anyone, please answer," he said over and over. The comm. had a short range, and the air/raft's booster was likely smashed, but there was a chance that someone might hear. Perhaps whoever had got out in the other 'rafts might turn back. Perhaps Duek might be out there somewhere. Perhaps....

The jeep was closing fast, and someone aboard it had spotted them. Shots rang out. Tallei's rifle answered. Behind her Gavin hunched down and kept working on the

wounded Vargr. She'd have to grab him and make a run into the darkness. Not that their chances were good, of course. Any minute now, unless she could knock out the crew and grab that jeep, she'd have to pry him away from his friend. He'd fight, he'd hate her, but she'd do it. Being alive and hurting was better than the alternative. That was something else the Army had taught her.

But she'd give Gavin every chance first; she'd let him try to save his friend. She'd do what the Army did; the service for which they'd let her keep the rifle. She'd defend Imperial citizens from foes within and without.

Until they killed her.

Light flared within the compound. Another vehicle was approaching, hurtling up the berm. Tallei tracked her aim point to where the headlight pattern suggested it would appear, then noted the sound it made. Electric drive train, fusion powered! She grinned and went back to shooting at the jeep, which skidded to a stop.

The vehicle crested the berm. As Tallei had suspected, it was the Portalab, a converted All-Terrain-Vehicle with its own fusion plant. The front six of the eight huge studded balloon tires left the ground as the heavy vehicle crested the berm. For a second it hung suspended in the air, drive train howling protest, sparks from rifle shots flickering along the hull. Then the front wheels plunged to earth, balloon tires bulging and spurting their gel filling where bullets had holed them. They'd seal in seconds, Tallei knew. Rifles wouldn't hurt an ATV.

The ATV shed a scattering of tools and equipment cases as it bounced, almost leaving the ground a second time. Then the wheels bit the hard earth, showering snow and dirt as the vehicle swerved left.

Towards the jeep.

Two soldiers leaped down and fled into the night as the ATV crunched over their vehicle. Then it was racing towards the crashed air-raft, skidding to a stop with the wide hull doors open and inviting. Tallei grabbed Garh'ahl's corpse - no, he was moving slightly - and scrambled aboard, gently lowering the Vargr scientist to the floor amid a heap of scientific equipment that'd poured out of sprung lockers or fallen from broken mountings.

Gavin stood up in the air/raft wreck and began throwing everything he could find aboard the ATV. A survival kit came arcing up. Tallei caught it and threw it inside. A Dens-Pak Cold Weather Clothing set followed. Tallei began to call to Gavin, to tell him to get aboard. They had survival gear in the ATV. But as Gavin turned back to the wreck, one of the local soldiers lunged out of the darkness and grabbed him. Another rushed up, carbine raised.

Tallei reached for her rifle, knowing she'd be too late. A shot rang out, the round passing over Tallei's shoulder to ricochet around in the ATV for a frighteningly long time. She hosed half a magazine at the soldier as he worked the bolt of his carbine, more or less cutting him in half.

The other assailant had lost his weapon - Tallei guessed it was crushed in the jeep wreckage - and was trying to grapple Gavin to the ground where he could be pummeled at leisure.

But Gavin was having nothing of it. His right hand, gripping something dark and hopefully solid, swung out in a wide clumsy blow that connected with the soldier's head. There was a crunch, and the trooper staggered away. Gavin took whatever he'd used as a club in both hands and bashed the soldier over the head with it several more times. He fell groaning to the ground. Tallei left him be as Gavin jumped into the ATV. He dropped the remains of his hand computer to the deck as Tallei slammed the hatch.

"Barbarians!" snarled Gavin. "All my notes were on that handcomp!"

Tallei shrugged. Alive with a broken handcomp was better than dead. "Wait till you see what Duek's done to the lab..." she muttered, then moved to Garh'ahl's side and reached for the large medkit. Most casualties that reached an aid station lived, she knew. This old Vargr must be supremely tough to have held on this long. He'd make it if she had anything to do about it.

Gavin looked around at the wreckage of his portable lab and muttered something about barbarians again. Then he helped Tallei clear the wreckage, set up a drip, and minister to Garh'ahl. The ATV raced on into the night, occasionally skidding, tilting alarmingly or even bouncing into the air as Duek kept the throttle on the floor and tried to make sense of the thermal imaging and radar displays.

After a while, Gavin and Tallei came forward to the driving compartment. Duek didn't take her eyes off the displays but nodded a weary greeting.

"Didn't know you could drive an ATV," Tallei said.

"Neither did I," Duek replied. "But it was learn quick or stay permanently. What happened?"

"I heard a rumor about war crimes and mass graves a while back," Gavin said. "I discounted it at the time, but I wonder if one of the local factions has something to hide. Perhaps they thought we might find something..."

"So they decided to murder a bunch of people in case we discovered they'd murdered a bunch of people..." Duek said.

"People do stuff that seems to make sense at the time," Tallei put in. "Not that it matters why, really. Once the Marines at the Downport deal with their situation they'll show the locals why you don't murder Imperial citizens. Meantime, we have to reach the port if we want to stay alive."

"Quite," Gavin replied. There really wasn't much else to say.

For a long while there was silence in the ATV cab. They slowed their breakneck pace and took turns to spell

Duek at the controls. Garh'ahl clung grimly to life in the lab area, and slowly the dawn crept upon them. With it came a new problem.

"Oh, but you people have got to be kidding!" Tallei said. Gavin was at the controls, wrestling the ATV through a frozen-up watercourse. Unable to make sense of the radar display, he'd called Tallei over.

"This is bad?" Duek said from somewhere behind.

"Aircraft incoming," Tallei replied.

"Air/raft?" Duek said.

"Aircraft. Moving at less than a hundred and fifty kph. I'd guess local biplanes."

"You're kidding!" Duek said. When Tallei shook her head the Vargr lapsed into her native dialect for some choice expletives to add.

"Armed biplanes would represent the pinnacle of local technology," Gavin offered. "These people must really want us dead. Can the ATV survive their attack?"

"No," Tallei replied. "The hull will resist smallarms indefinitely, but they could chew us up with concentrated machine-gun fire. But it's worse than that. We're getting a satellite feed from the Port; it seems that their little situation is an all-out war between several of the local states. And we're in the middle."

"Ideas?" Gavin said.

"Keep running," Duek suggested.

"Outstanding," Tallei replied, staring at the terrain map. Unlike the others, she could read the military symbols displayed on it. Assuming the recon satellite they were getting the feed from was remotely accurate, then there was a major war going on ahead. That would explain the Marines' 'situation' and their inability to send help to a dig team they'd advised to pull out a week before.

"Aircraft closing," Gavin said needlessly.

"Yeah.... Look, boss, we can't go through a war zone. Come right and we'll take a shortcut," Tallei suggested.

"I'm reading this display right, am I not?" Gavin said.

Yup, that's a river," Tallei confirmed. "The A in ATV stands for 'All', remember?"

"Hmm... the autodrives pegs it as uncrossable... too much current, steep banks, waterfalls..." Gavin replied.

"Just do it, boss. We'll find a way."

"Okay.... What about the biplanes?"

"Just drive!" Tallei snapped, putting her boot on the back of Gavin's chair and throwing open the roof hatch. Bitter dawn air flooded into the speeding ATV, taking away everyone's breath. Tallei jammed herself into the hatchway and changed magazines in her rifle. One full, one partial, and that was it. And shooting at an aircraft from a moving vehicle. She should know better. Tallei laughed bitterly and brought the rifle up to her shoulder.

The ATV lurched sharply to the right, hurtling out of the frozen streambed and across the tundra, crashing



## KISHIMAA DOWNPORT— OR BUST!

through bushes and bouncing over rocks. Some kind of grazing animal fled in terror from this insane, speeding beast with its whining drive and scrabbling wheels.

Machine-guns thundered, chewing up the tundra as the first biplane made a pass. Tallei hunched down, trying to tell herself that the pilot had as much chance of hitting her as she had of bringing the plane down with a rifle. But all the same... she shoved the fear into that armored vault where she kept it during combat. When this was all over she'd bring the terror out, examine it carefully, and maybe have a little breakdown all to herself... but that was for later. For now there was rifle, target, aimoff, recoil and a very, very unstable firing platform.

Tallei sent burst after burst at the second biplane as it began its run. Ironically, the low signature of her rifle was working against her. The pilot probably didn't even realize he was being shot at; he wouldn't be rattled by what he was oblivious to.

Heavy-caliber-slugs rang and sparked from the aft end of the ATV, scattering most of the remaining tools and equipment. The right-rear-most tire shredded in a fountain of gel. Tallei slid out of the hatch as the ATV slewed crazily to the right, tilting violently. The rifle skidded overboard. Tallei started to go after it, sliding across the ATV roof.

Duek lunged from the hatch, grabbing at her friend's boot. Her claws sank into the tough pseudohide, stopping the skid long enough for Tallei to twist around and grab a tool rail. Duek hauled, and together they tumbled back into the driving compartment.

Gavin battled with the controls as the hull rang and thudded to the impact of more heavy bullets. Spallation - fragments of hull metal detached by the impact - blazed across the crew area, amazingly missing the unconscious Vargr strapped to the emergency bunk on the port side. The ATV skidded again as Gavin flinched from the impact of Duek's flailing boot. The scientist hunkered down, weaving the ATV through boulders and between lines of tracer.

The ATV clipped a boulder, lurching crazily. A tire snagged, tearing. Tallei and Duek clutched at the back of the seats, unable to do anything but cling on. Gavin was shouting at the communications panel, but neither of his companions could hear what he was saying.

The ATV straightened up, beginning a headlong rush for the river. The far shore was considered Imperial territory; if they could just get there, then maybe the locals would break off their attack. It wasn't likely, but it was just about possible. Shooting up a dig site in the middle of a war was one thing; attacking Imperial citizens on Imperial territory was an act of war and few low-tech nations wanted to take on the entire Imperium.

It wasn't much but it was a chance, and the only one they had.

The ATV's drive whine rose to a shriek as it streaked

for the riverside, trailing shredded balloon tires and debris as Gavin abandoned evasion in favor of straight-line speed. Tallei got up off the floor and looked out the windshield. "We're crabbing right!" she hissed urgently in Gavin's ear.

"No, we're not!" he replied with a strangely manic grin. "Yes, we.... Oh, but you are kidding!"

Gavin just nodded. He wasn't following the streambed into the river, he was aiming to the right where the ground rose; where a six-meter cliff jutted above the water.

"We're real slow in the water!" Gavin said. "I want to cross as quick as possible!"

"It floats! It doesn't fly!" Tallei all but yelled in his ear, but Gavin kept the hammer down, racing for the line as the biplanes closed in for a new attack pass. Tallei and Duek threw themselves into the front seats, slapping the crash harnesses closed as the ATV left the clifftop under full throttle.

The ATV hit the water nose first and plunged under, turning over on its side. The nose drove into soft silt on the riverbed, icy water pouring in through bullet holes and the open hatch. The craft rolled right over, then bobbed to the surface, floating lopsidedly. With two tires gone on one side, the vehicle had lost much of its buoyancy, and the pumps were only just keeping pace with the leaks.

Gavin ignored the water lapping around the base of his seat and engaged the water jets, apparently unconcerned that the vehicle's electrical systems might electrocute him. The ATV moved slowly forward, struggling against the rapid current.

And astern, the biplanes closed in again.

Gavin didn't look up from the controls, trying to drive the ATV onward by sheer will. Duek's ears went flat.

"That's it," she said softly. "We're..."

Tallei shook her head, holding out her right hand.

Duek pulled the autopistol from her belt and handed it over. It was their sole remaining weapon, a pitiful thing against what was coming. Tallei took it and began climbing out of the hatch.

"What's she hope to do with that?" Gavin's voice said from below.

"She's going to do what the Army does..." Duek replied, and up above them Tallei grinned.

The bank was still a hundred meters away; the planes were closing from astern. Tallei chambered a round and wedged herself in the hatch ring. She brought the pistol up in a two-handed grip. Yes, this was what the Army did. It protected Imperial citizens to the very end. Tallei had mustered out two years ago, but the rifle they'd let her keep was more than a weapon. It was a symbol of trust and a reminder that she had a duty to those who couldn't protect themselves. The weapon was gone, lost, but the duty remained. Nobody was going to get to her friends except over this soldier's dead body. And right to the end she'd be

trying to win the fight. Machinegun bullets stitched the water astern as Tallei took aim and ever so gently squeezed the trigger.

The biplane vanished.

Tallei blinked, uncomprehending, as the second plane stood on its wingtip, trying to escape. A ripping snarl came from behind Tallei as the plane and its pilot were instantly turned to matchwood and meatpaste. Something hurtled overhead, swinging back to hover beside them. A Marine Support Sled, an armored Air/raft topped by a turret mounting a VRF Gauss Gun with a truly awesome rate of fire. Not much of a combat vehicle for the modern battlefield, but more than a match for anything on this miserable planet.

Tallei slid back inside the ATV, splashing into the remaining water.

"Marines on the radio," Gavin said. "They're offering to send a G-carrier out for us."

Tallei caught his undertone, and agreed with the sentiment. "Tell them no. We could use a grav ambulance for Garh'ahl, but we're coming in under our own power."

Duek barked something, then translated, "Could use some dry socks though!"

Tallei glanced around at the half-wrecked ATV. "Thank them for the offer, but we got this far ourselves. Let's finish this."

Gavin nodded, speaking into the commset. "The Downport is secure, and the Marines are sending a G-carrier to take Garh'ahl in," he said. "But I've told them what we want to do."

The ATV hit the far bank, tires scrabbling in the half-frozen silt of the riverbed. The drive whined as they cleared the water and the Marine support sled raced off.

"Right then," Gavin said "Kishimaa Downport or bust."

The ATV bounced and jolted onwards. Tallei looked around at what was left of it.

"Make that and bust!" she said. "Kishimaa Downport - AND bust!"

## FOOTNOTES

While some worlds of the Imperium are safe, well-policed, neatly-organized paragons of high-technology civilization, others are lawless frontiers where smart travellers go armed and are prepared for self-defense. Danger takes many forms, from hostile locals to pirates, robbers and other criminals. Flora and fauna, and even the environment, can threaten the safety of those making their living out on the frontiers. For this reason, many Imperial citizens who travel away from home own a personal weapon or two, and ex-military personnel (like Tallei) are sought out as travelling companions.

Traveller characters are rarely beginners fresh from the farm (though there is no reason why not!). Most are

mature adults with a history or a career behind them and a bank of useful skills. A Traveller party might include one or two very inexperienced characters, one who is quite old (but with many, many skills) and several of moderate experience and age. Everyone will have some useful role to play, if they are smart enough to find it.

Most cultures in the Traveller universe are effectively "blind" to concepts like gender and even species. Thus males and females can hold any position they are capable of handling - it is the person that is important, not some arbitrary label like "Man", "Woman" or "Non-human".

Many alien species are fully integrated within Imperial society, and stand out only as much as someone with blonde or black hair, or who insists on wearing only black clothing, stands out in modern-day Terran society. For example, the Vargr (bipeds descended from canines rather than apes) are particularly common in some regions of the Imperium and people are as used to seeing them as humans.

Sometimes prejudice is encountered, but this tends to be in isolated communities or where the locals have had bad experiences with a particular species in the past. For the most part, individuals are seen as "a person who is a male member of the Vargr species" or "a person who is a female human", or even "A person who is an unclassifiable member of some species I've never heard of".

First and foremost in the Imperium, individuals are people. Labels serve to identify individuals, not to classify or stereotype them.

Thus any of the characters could have been the ex-military "Warrior", or the "Scholar", or, like Duek, the generalist "Traveller". Imperial society does not limit individuals based upon what they are. People are judged on what they can do, and what they actually do; not on what species, creed, "race", gender or religious sect they may belong to.

One of the main features of the Traveller universe is the mix of technologies. Quite often, characters may find themselves travelling by steam train or dirigible to a Starport where they will take passage on a starship. The weapons and equipment they carry may represent a technological level far beyond the reach of the world government.

The richness of culture does not end with technology. It is possible to go from an urbanized, industrial high-tech world to a rural agrarian setting - which may use oxen or grav-tractors to till the soil - in a short trip aboard a starship. Airless rockballs, waterworlds, icy wastes and lush jungle planets have all been settled by humans and aliens, and these settings have left their mark upon local society. It is this great variety of settings that makes it possible to run any sort of adventure in the Traveller universe; to go anywhere and to do anything.

In the rest of this book, you'll see how that's possible.



# INTRODUCTION

by Marc W. Miller

1

## WHAT IS TRAVELLER?

Most people never travel beyond their own region; they live their lives close to home, pursuing honorable goals, raising families, creating and sustaining the framework of society and economy that drives civilization. But adventure comes to those who travel, move, and act. Adventurers are travellers and this game system centers on the potential for epic adventure that travel presents.

### **Traveller is about travel.**

Players want to know about the universe in ways that extend beyond their daily lives... they want to know about other worlds and other cultures, about space travel and alien beings, about technology and how it will be used. Traveller emphasizes the effects of science in a fictional setting that is realistic enough to be the future.

### **Traveller is about the human condition.**

As players encounter alien races, exotic cultures, strange worlds, and the unknowns of time and space, they see the results through their own human eyes. If an alien culture is so random or so illogical or so incomprehensible that players cannot understand it then, in this game system, it serves no useful purpose.

On the other hand, well-thought-out alien cultures stimulate both thought and understanding. Encounters with a war-like alien race makes us think through or examine our own perceptions of violence and its place in society. A world where music is prohibited forces us to examine the value of that art to society and to ourselves. Everything in

Traveller is ultimately understood through its effects on the human condition and seen through the lens of human understanding.

### **Traveller is about consequences.**

All actions have potential consequences beyond their immediate result. A random act of kindness sets in motion the possibility of consequences at some point distant in both space and time; negative acts potentially produce negative consequences. The fact that acts have consequences strongly influences (or should strongly influence) the decisions every role-player makes.

### **Traveller is about danger**

Travel without danger is mere tourism. It is only when there is an element (however small) of hazard or peril that travel becomes adventure.

### **Traveller is about risk and reward.**

Gains that come purely by chance are no more than lottery prizes; true rewards come only when the players take risks (albeit calculated risks) in order to achieve their goals.

### **And so, Traveller is about goals.**

Some people want to build empires; others are content to follow their leaders. Some individuals care about money, others about power, still others care about knowledge. Players can set their own goals and pursue them at their own pace. The adventure is not in achieving goals, it is in the process of getting there.

*Marc W. Miller is the creator of the award winning Traveller science-fiction universe.*





## INTRODUCTION

**T20** is a conversion of the *Traveller* Science-Fiction RPG to the d20 System. *Traveller* was first published in 1977, and has gone through many incarnations since then. With each new edition, the background became deeper and richer.

While various *Traveller* products use other rules systems, the background, library data and setting are all compatible with T20. Conversion to these rules is quick and easy, since most *Traveller* products are rules-light. Similarly, ideas and even whole scenarios can be "borrowed" from other games, movies or novels without difficulty. *Traveller* is not a thing of rules; it is a setting and a Space-Opera-meets-Hard-SF style of gaming.

And it's fun.

Welcome to **T20**.

## WHAT YOU NEED TO PLAY

*Please note that this rulebook is not a standalone game system. It requires that you already possess a copy of a roleplaying game core book published by Wizards of the Coast® and that you be familiar with those basic rules, particularly character creation, skills, feats, and combat. T20 assumes this familiarity and thus only includes rules already existing in the core rulebook that have changed or are useful enough to warrant inclusion here.*

In order to play **T20** you will need at least the following items:

- A roleplaying game core book published by Wizards of the Coast®, which tells you how to create and play characters under the basic d20 System and how to apply the effects of experience gained by your character during the course of play.
- This copy of the **Traveller's Handbook**, which details the changes and enhancements to the basic d20 rules that are used in T20, along with the new rules for starships, worlds and adventuring in a science-fiction universe!
- One or more of each of the following types of dice: four-sided (d4), six-sided (d6), eight-sided (d8), ten-sided (d10), twelve-sided (d12), and twenty-sided (d20).
- Pencil (or pen) and paper for keeping notes about your character and the adventure. Graph paper is also recommended for making maps of places your character has visited.
- If you enjoy playing online, or are interested in playing *Traveller* online, you should also have a copy of *GRIP: Traveller*. *GRIP (Generic Roleplaying for Internet Players)* will allow a Referee and up to eight players to get together via the Internet or a local area network (LAN) and play *Traveller* (or any other RPG) no matter where they are located physically in the world. Visit <http://www.RPGRealms.com> for more information.

## T20 - TRAVELLER FOR THE D20 SYSTEM

*Traveller* is a hard-SF (Science-Fiction) roleplaying game. That is to say, the *Traveller* universe obeys consistent and realistic laws. A few physics-tweaks are necessary to allow characters to travel between worlds, but what they find on those alien worlds will be physically plausible.

*Traveller* also obeys the laws of social science. The people encountered in the game will behave in a believable manner. Even aliens will follow their own consistent rules of behavior, even if they are so alien as to be incomprehensible.

Far from limiting the imagination, this grounding in hard science promotes creativity by creating a sound foundation to work from and a core of "normality" to counterpoint the wonders of the universe. Nothing is weird for the sake of making it weird, but there is certainly plenty of strangeness to explore and encounter.

The *Traveller* universe is a strange and mysterious place, but it is not frivolously so. A mysterious artifact or an alien society will have a reason for being as it is. Finding that reason may be a challenge, but who said exploring the universe was going to be easy?

Since *Traveller* first appeared in the mid-1970s, several editions have been published. Each had slightly (or radically) different rules. Each was set in a different era of the *Traveller* universe. These different systems allowed players to experience the classic SF RPG in different ways, and yet to a large degree they were all compatible. In fact, it is quite possible to mix-n-match components from all the different *Traveller* editions. We know this from experience. Our gaming table is littered with *Traveller* stuff from the past 25 years: our favorite rules, a setting book from a different *Traveller* line, deck plans and an adventure from yet another.

These rules allow *Traveller* to be played with the d20 System. They do not require knowledge of any previous *Traveller* rule set and will be supported by d20-specific supplements and adventures. Or you can plug them into any *Traveller* game, in any era. Everything in **T20** (other than the game mechanics) is cross-compatible with all official *Traveller* products.

One thing is important to note. *Traveller* is a high-technology setting, and this means that often a character's skills will be far more important than his or her level. Of course, those skills are gained by increasing levels, but it is important to understand that a high-level Academic with few appropriate skills will actually be less adept at his or her job than a lower-level but more specialized individual.

## TRAVELLER GAMES

*Traveller* is suited to just about any style of play. Gritty and realistic to heroic and cinematic, the rules allow the Referee (*Traveller* has always referred to the GM, DM, Keeper, Project Director, Storyteller or whatever other

names you want to give this person - "Evil Sadist" is quite common - as the Referee, and **T20** follows this practice) sufficient flexibility to create a style of game suited to his or her players. There is no limit to the range of adventures that can be undertaken, but a few of the more common themes are listed here for reference:

**Mercenary:** One of the favorite *Traveller* themes has the characters as a team of well-armed mercenaries (or perhaps part of an organized military unit). Mercs act as proxies for world governments and megacorporations. They handle dubious tasks that the regular army cannot, for political reasons. They often get caught up in events beyond their control, where firepower may not be the answer. But when it IS the answer... these guys have it. And some to spare!

**Free Trader:** In the other classic *Traveller* game, the player-characters form part or all of the crew of a small merchant starship. With the big trade routes sewn up by the megacorp freighters, Free Traders (as these small starships are known) are forced to take whatever cargoes are on offer. A seemingly good deal can go sour in an instant, requiring fast talking or faster shooting. Free Traders often undertake other kinds of adventure, following up rumors that might lead to a big score... or a whole pile of trouble.

**Exploration:** Inside the frontiers and beyond them, there is still plenty to find out about the *Traveller* universe. As part of an exploration team, the characters get the chance to research some of it first-hand. That means interacting with strange aliens and stranger humans, investigating mysterious ruins and all the time trying not to get eaten by the local wildlife.

**Intrigue:** The corporations and world governments throughout charted space are constantly engaged in espionage, sabotage and intrigue. There is always work for a small team of experts-for-hire, especially if they don't mind getting their hands dirty. Or bloody.

**Political:** The grand events of the *Traveller* universe don't just unfold around characters. Sometimes they are driven by PC diplomats, nobles and military officers. From alien relations to arbitrating a corporate dispute, there is plenty for the well-connected character to get involved in. And political events can involve anyone... whether they like it or not.

**Scientific:** *Traveller* characters often explore ancient ruins or investigate strange biospheres for profit or in the name of science. Field research can be dangerous, especially on frontier worlds or in hazardous environments.

**Adventuring:** Most *Traveller* campaigns are a mix of the types mentioned above, and others too. Adventurers never know what will happen next. A routine port stopover can turn into Die Hard In A Vacc Suit. A simple cargo delivery may lead the characters to a mysterious alien vessel. A megacorporate official may decide the characters make a convenient scapegoat for his embezzlement of funds. The

only certainty is that the unexpected can and indeed will happen - but not when you expect it!

## THE TECHNOLOGY OF TRAVELLER

Certain concepts are integral to the *Traveller* setting. Most importantly, there is no means of faster-than-light communication other than sending a courier ship. With no FTL radio, communications are limited to the speed of the Jump drive, which is the only means of traveling between the stars. Any Jump takes a week or so, and most ships are limited to Jump 1 or 2, meaning that they can cross a parsec or two in a week. News travels slowly in the *Traveller* universe.

This creates a situation similar to Terra around 1850. Far-off colonies were weeks or months from advice or assistance, even if they could summon it. Cruising warships were the only representatives of government in some regions.

So it is in the universe of *Traveller*. Local leaders must make their own decisions. Higher authority can dictate general policy but it is the people on the scene who make the big decisions. Trustworthy, reliable, competent people are at a premium. Many freelance experts make a good living by being available where they are needed.

Worlds can have widely varying technology. A high-tech world with contragravity and fusion power may exist just parsecs from one relying upon steam power - or stone axes. There is no "prime directive" to prevent the sale of high technology to the savages - but what would they pay with? So Charted Space is a mix of industrial worlds and hardly-explored backwaters.

There are no "ray guns" in *Traveller*. The most common weapons are high-technology versions of modern firearms and blades. Laser, plasma and fusion weapons do exist, but they are grounded in real science rather than pure invention.

## THE TRAVELLER SETTING

*Traveller* games can be run in any setting. The basic rules (ignoring any obviously irrelevant parts) could be used for a modern-day or post-apocalypse game, a crossover fantasy/high-technology game... even a Superhero game. There is no reason why your *Traveller* campaign should not feature spacegoing Orc pirates, zombie assault troops and interstellar dragon-riding mages (imagine filling in the insurance claim forms with "our starship then became involved in a fierce ship-to-dragon action in the Brogan system!") or any other elements you deem suitable. These things do not appear in the "Official *Traveller* Universe", but don't let that stop you from creating the setting YOU want!

The *Traveller* rules can also (obviously) be used for any SF setting. You may decide (for example) to do away with some aspects of the technology such as Jump drive in

favor of your own invention or one lifted from your favorite movie. Or you could use the *Traveller* rules exactly as written but create your own setting from the ground up.

For those who do not have the time or inclination to immediately begin developing their own campaign universe, there is the official *Traveller* universe (sometimes referred to as the OTU). The OTU is one of the most fully realized science-fiction campaign settings ever created, having been developed over 25 years (and counting...). This rulebook assumes that games will be set in the OTU, or something that looks a lot like it. This gives us a handy source of examples, but it doesn't mean that you have to adopt all, or any, of the background concepts referred to.

## THE OFFICIAL TRAVELLER UNIVERSE (OTU)

The Official *Traveller* Universe is set in a region known as Charted Space. Habitable worlds and intelligent life are common in this region - and much of that life is human. Major and minor alien races live within Charted Space, and here and there can be found remnants of older high-technology species. Charted Space has been inhabited for a long, long time. But there are still mysteries to uncover, new places to find and new dangers to face.

Most *Traveller* games are set in the Third Imperium, often just referred to as "the Imperium". The Imperium is a large region dominated by humans, but which grants full citizenship and rights to sentient aliens within its borders.

The Imperium is made up of thousands of member worlds, which agree to certain High Laws and pay a proportion of their income in tax, but which are otherwise free to tend to their own affairs. Friction, even to the point of open warfare, is tolerated amongst member worlds so long as the security of the Imperium is not threatened and trade is not disrupted.

With the exception of a few strategic worlds and areas of territory on most planets (for example, Starports are considered Imperial territory, but not local spaceports), the Imperium does not rule planets. Instead, it controls space and thereby all trade and movement of personnel.

So long as member worlds remain within their charter of membership, they are free to form any kind of government (or none at all!), and to pursue whatever goals seem appropriate. Trade is for the most part unrestricted, and citizens are free to move around as they please.

The vast majority of people live out their lives without ever leaving their homeworld. Others may study or work offworld for a time, or serve in the Imperial armed forces, before returning home.

Individuals who are not really tied to any one world are known (sometimes disparagingly) as "Travellers". Many Travellers are freelance scholars, engineers or specialists, who travel between the worlds and stations of the Imperium selling their skills and experience to the highest bidder.

Other Travellers include freelance troubleshooters, mercenaries, smugglers, merchants, spies, criminals and adventurers. What they all have in common is that they travel - hence the name - and that they have a way of finding adventure wherever they go.

## A LITTLE HISTORY...

When the humans of Terra (now known as the Solomani) first ventured out into interstellar space, they encountered the Ziru Sirka, the Grand Empire of Stars. Now known as the First Imperium, the Ziru Sirka was ruled by another race of humans, the Vilani. Eventually it would come to light that many offshoot human races existed, seeded among the stars by the mysterious Ancients.

War flared up between the expansionist Terrans and the stagnant First Imperium. After decades of bloody conflict, the Ziru Sirka began to collapse from within. Deep in decay, the apparently stable First Imperium crumbled in an astonishingly short time.

The Terrans' mission to conquer the First Imperium became a crusade to save it, and for 400 years they almost succeeded. The Solomani created the Second Imperium out of the wreckage of the First, uniting both species of humans in what became known as the Rule of Man. Historians have another name for this period; they call it the Ramshackle Empire.

Unable to stop the decay of the old First Imperium, and having accelerated it by war and conquest, the Rule of Man slowly collapsed into what became known as the Long Night. The Long Night is rightly named: nearly 2000 years of darkness ensued. Star travel all but ceased. Worlds regressed or died if they could not support life without outside assistance.

Lights flickered here and there in the darkness. Pocket Empires sprang up and took the hope of dawn with them out into the wilderness. All of them failed, collapsing back to a tiny cluster or even a single world clinging to the remnants of its technology.

Finally, the lights came on again. The Sylean Federation somehow succeeded in defeating internal and external enemies to attain that critical mass needed for expansion. In time, the Sylean Federation became the Third Imperium, and brought civilization back to the stars. The current Imperial dating system is based on the founding of the Third Imperium in year 0. (This dating system uses the prefix IE, e.g. IE 782).

The Third Imperium is now a thousand years old. It has survived civil war, murdered Emperors, rebellions, border clashes and bloody conflict with human and alien states. The borders of the Imperium are more or less fixed, but expansion still takes place in some areas.

On the surface, it seems that the Imperium is enjoying a golden age of stability and peace. Yet peace is a fragile thing. It must be maintained by the vigilance and efforts of diplomats, covert agents and military personnel. However



## UNIDIGIT/HEXADECIMAL

Traveller uses a number of shorthand codes, for example UWP (Universal World Profile) and USP (Universal Ship Profile) codes. These are presented as a string of digits, e.g. A-573278-B.

For obvious reasons, it is not possible to use numbers above 10 in such a code, so Traveller uses a system based on Hexadecimal notation. This means that numbers of 10 and above are replaced with letters. A is 10, F is 15, etc.

Most codes use a 1-15 (1-F) range, but sometimes a larger number is required. For this reason, the hexadecimal notation is extended through the alphabet, missing out potentially confusing digits such as letters I and O.

Thus numbers in the Unidigit system are represented as follows:

Base 10 Number	Unidigit	Base 10 Number	Unidigit	Base 10 Number	Unidigit
1	1	12	C	23	P
2	2	13	D	24	Q
3	3	14	E	25	R
4	4	15	F	26	S
5	5	16	G	27	T
6	6	17	H	28	U
7	7	18	J	29	V
8	8	19	K	30	W
9	9	20	L	31	X
10	A	21	M	32	Y
11	B	22	N	Reserved	Z

Note that Z is undefined, and can be used to represent any number as needed.

placid things may seem from the cities of the core worlds, there is always someone at the sharp end, struggling to prevent a war or defuse a crisis.

And sometimes, they fail.

### DIRECTIONS IN CHARTED SPACE

North, south, east, west are insufficient terms for referring to directions within the galaxy. Instead, the following conventions have achieved widespread acceptance when referring to direction:

Toward the galactic core is Coreward; away from it, in the direction of the rim, is Rimward. In the direction in which the galaxy is rotating is Spinward, and the opposite direction is Trailing. In the OTU, these directions are widely used in describing Imperial features and businesses. For example, the Spinward Marches is a sector at the extreme Spinward fringe of the Imperium; Rimward Lines is an important interstellar transport company. The term Coreward is also used within the Imperium of the OTU to indicate the direction of Capital, the Imperial core. There is some potential for confusion if the term is accepted out of context.

### THE TRAVELLER'S AID SOCIETY

The Traveller's Aid Society (TAS) exists to help and support those who travel as part of their occupation (as opposed to those who make the occasional trip for a holiday or similar reasons). TAS maintains a network of hostels and other facilities, which are available at a preferential rate to members.

TAS facilities are renowned for their safety and security (though they are expensive for non-members.) TAS hostels are also good places to meet other travellers and share tales or conduct business. Many an adventure has begun with an encounter in the lounge of a Starport TAS hostel.

TAS also operates a news and advisory service, which is well known for its accuracy and impartiality (some would go so far as to say "arrogant nosiness"), and assigns "Travel Zone" ratings to worlds. Most worlds are unrated (or "Green"); this does not mean that they are totally safe, merely that no unusual or particularly dire threats exist. Amber zones are assigned to worlds where dangerous conditions (these can be natural, political, environmental etc) exist and caution is advised. Red Zones are not imposed by TAS, but are reported by them. Red Zones indicate worlds that are prohibited to unauthorized travellers. Visas are sometimes but not always available, but red zones are interdicted for a reason, so caution is necessary.

TAS membership is sometimes gained as a benefit upon mustering out of a service or career. It is also possible to purchase membership. This costs Cr 1,000,000 and runs a small risk of being "blackballed". Blackballed characters lose their fee and are denied entry, usually for life.

A character who is a member of TAS can use the facilities at a discounted rate, receives preferential treatment from the staff, and also has access to the members-only sections of TAS reports. This can give a TAS member a significant advantage over other travellers.

# CHARACTERS

2

Just as **Traveller** lends itself to almost any style of adventuring, so almost any character can find a place in a Traveller group.

- A burned-out Scout Service pilot on the edge of a breakdown...
- A young medical student, working passage aboard a Free Trader to earn enough for the rest of her medical degree...
- A tough ex-Marine searching for his missing brother...
- A smooth-talking merchant captain, charming but deadly with her twin gauss pistols...
- An unappreciated genius, ridiculed by the scientific community but determined to vindicate himself...
- An Ex-Navy officer with a dark secret...
- Or a professional adventurer, doing it for the thrill of it all.

**Traveller** characters are the heart and soul of the game. Any character you can conceive has a place in Traveller. Player-Characters (PCs) are individuals a little apart from the great mass of humaniti (a term that refers to the many human major and minor races) or whatever species they belong to. Travellers are skilled, resourceful individuals who are not afraid to face a little danger in the course of their endeavors. Each character brings unique skills and strengths to the group, depending upon their background and previous experience.

PCs are rarely first-level beginners, though there is no reason at all why a player should not choose to take on the role of a callow youth fresh from the agropod. More commonly, PCs have prior experience in education and/or a career, plus some life skills picked up along the way. 5th-7th level starting characters are not uncommon as a result of the previous experience system. Characters starting play can be very young, mature or even quite old if the player so desires. Such a highly experienced starting PC will have impressive skills, but may be a little frail.

Characters are shaped by certain factors. These are:

## ABILITIES (PG. 20)

Traveller characters possess the normal d20 attributes, plus others that measure two important factors. These are:

**Education:** A measure of learning from formal and informal education and academic reading.

**Social Standing:** A measure of a character's place in society. SOC can have important connotations for a character.

## RACE (PG. 21)

A character's species has a considerable effect upon his or her attributes. Most characters are humans of one sort or another, but a PC can belong to any intelligent

species. Vargr are popular player-characters, and other non-human races may be chosen depending upon the region of space the game is set in. Example races are presented later in this section.

## HOMEWORLD (PG. 30)

A character's homeworld is important in many ways. Physical conditions such as gravity, hydrographics or atmosphere can result in a character having special abilities or skills. Homeworld tech level is also important in determining what equipment a character knows how to operate. Some careers are only open to characters from a particular type of homeworld.

## CLASS (PG. 34)

T20 uses nine main character classes. A character's class represents his or her main field of activity but does not preclude a broad range of skills. Note that a character's class may have nothing to do with her current employment. A character belonging to the Academic class does not necessarily work in a university; he may be a merchant ship's purser or even a military administration officer. A member of the Mercenary class need not be a bounty hunter or soldier. She may be a security guard or actually work as a finance clerk, but obsessively train for combat in her free time.

The core T20 character classes are:

**Academic:** Scholars, researchers and scientists, those with a thirst for knowledge but little or no aptitude for physical activity or combat.

**Barbarian:** Hardy individuals from a rustic, low-tech background. Barbarians are usually pretty fair fighters with low-tech weapons.

**Belter:** Spacegoing miners and prospectors with good low-g and space skills.

**Mercenary:** Characters specializing in combat of one sort or another. A mercenary is likely to have served in the military or an organized security force at some point in his or her career.

**Merchant:** Starfaring traders working for large corporations or as Free Traders.

**Noble:** Powerful, rich individuals from important families. Nobles are leaders and diplomats.

**Professional:** The businessman, technician, dock-worker, and other common professions. Professionals are generally active individuals with little combat aptitude.

**Rogue:** People who go in harm's way and take risks, and may train a little for combat.

**Traveller:** Active, handy people who don't train specifically for combat but can handle themselves.





## PRIOR HISTORY (PG. 120)

A character's prior experience dictates his or her level, skills and feats.

**Traveller** characters gain prior experience by cycling through a series of "terms" served in various careers. Each term can have special results, determined randomly, and gives the character experience points as well as specific feats and skills. At the end of a period of service, characters roll for benefits gained upon "mustering out". Not all service is voluntary; characters who fail to enter a service may be drafted into another. Prior experience falls into the following categories:

**Education:** PCs often attend university or take courses to improve their skills and knowledge. Degrees and academic titles can be useful in their own right.

**Military Service:** Prior service in the Army, Marines or Navy may fit a character for a life of adventuring. Or she may be drafted during a period of crisis.

**Non-Military Service:** Many PCs come from the Merchant lines or Scout Service. Their skills include those required for starship crew, plus more general abilities.

**Career:** Many PCs have pursued or are still pursuing a civilian career. They may have been anything from a Belter (spacegoing prospector) to a freelance Xenobiologist.

**Other:** Some adventurers have a dark and shady past. Criminals, conmen and special agents fall into this category.

## ABILITIES

The basics of generating your character's ability scores are as detailed under the standard d20 rules, but Traveller adds two additional abilities to your character: Education and Social Standing.

### EDUCATION (EDU)

Education is a measure of a character's accumulated knowledge, both through life experience and/or formal education. Education can be an important attribute to all classes, since many skills depend upon education and general knowledge can be very useful to an adventurer. Note that EDU can represent general reading and a capacity to remember odd facts; the character need not be a university graduate to have a high EDU, though that it is the surest way to gain it.

You apply your character's Education modifier to:

- General knowledge checks, when attempting to recall information on a subject with no related formal Knowledge skill.
- All Knowledge skills of any type.

For quick reference, here are the standard Ability Score Modifiers:

### ABILITY SCORE MODIFIERS

Score	Modifier
0-1	-5
2-3	-4
4-5	-3
6-7	-2
8-9	-1
10-11	+/-0
12-13	+1
14-15	+2
16-17	+3
18-19	+4
20-21	+5
22-23	+6
24-25	+7
26-27	+8
28-29	+9
30-31	+10

All creatures that can think and learn begin with 0 points of Education. A creature with no Education score is an animal, operating on simple instincts. It will automatically fail Education checks.

An education of 0 means that the character has absolutely no formal schooling or education.

### EDUCATION SCORES

EDU	Equivalent Education Level
3	Elementary School
6	Middle School
10	High School
12	Bachelors Degree*
14	Masters Degree*
16	Doctorate Degree*

\* For reference only, does not imply the character holds an actual degree.

**Using Education:** Education acts as sort of a general repository of knowledge for a character that may be called upon in certain situations where the character might know the answers to general knowledge questions. Education covers everything that the Knowledge skills do not, such as general history and sociology, along with basic math and sciences. In real-world terms, if the answer might be available to someone with a basic high school education

use Education to determine if the character knows or can remember it.

## SOCIAL STANDING (SOC)

Social Standing denotes the social class and level of society from which a character (and his or her family) comes. A Social Standing of 16 or greater indicates a hereditary family title of nobility. Any creature living as part of a larger civilization will usually have at least 1 point of Social Standing. Anything with no Social Standing is fairly isolated from civilization, an animal, or an automaton. A social standing of 0 means that the character is from the lowest levels of society.

### SOCIAL STANDING SCORES

SOC	Title or Likely Social Level
0	No contact with civilization
1	Felon wanted for particularly repulsive crimes
3	Very Poor or Criminal
5	Unskilled Laborer or Very Poor
7	Semi-Skilled or Poor
9	Skilled Worker
12	Educated Professional
14	Highly Respected Professional or Executive
15	Untitled member of Noble family, or close member of Noble household
16	Knight, Knightess, Dame
18	Baron, Baroness, Baronet
20	Marquis, Marquesa, Marchioness
22	Count, Countess
24	Duke, Duchess
26	Archduke, Archduchess
28	Crown Prince, Crown Princess
30	Emperor

**Using SOC:** SOC determines the level of society the character is used to operating at, and without special training the individual will lapse into the speech habits, slang, and general behavior associated with that group. This should be roleplayed; a poor laborer (SOC 6) will likely have no idea how to address a Knight, and will embarrass himself at court. Someone from a corporate executive (SOC 13) background will simply not be able to pass for a street gang member without specific coaching or experience (perhaps represented by Connections/Streetwise feat) in how to do it believably.

Generally, high SOC is useful in that officials tend to react better to high-status individuals (who may be perceived as powerful). High SOC also is required to gain access to the world of the nobility and important military and government officials, who simply "don't deal with the proles".

Some low-SOC people resent the higher-ups, while others are respectful or even obsequious. On the other

hand, some high-SOC individuals are contemptuous of the "rabble" while others see themselves as serving the masses, and treat less privileged individuals with courtesy and respect. This depends upon the individual and local conditions, and the Referee may choose to modify reaction rolls when individuals with very different SOC scores meet.

**Cost of Living:** A character must spend a minimum of Cr100 per point of SOC per month to maintain the standard of living required for his or her social status. This will cover the character's basic expenses such as food, minimal clothing, and adequate shelter for the period. For each month a character is not able to monetarily maintain his Social Status, his effective SOC ability score is temporarily reduced by 1. If the next month a character is once again able to maintain the normal Social Status, their effective SOC ability score is returned to normal (no matter how low it had dropped). See Subsistence on a Long Term Basis (pg. 214) for more information.

## RACES

There are a multitude of sophont species in the Traveller universe. Some are widespread, some confined to a single world. Not all of them are properly understood. In addition there are many groups of humans that display sufficient cultural or physical variation from the norm as to seem "alien". Some such "alien-humans" are genetically-modified harsh-world settlers sent out by the Solomani or other civilizations, while others have been shaped over many years by conditions on their adopted homeworld. And some defy explanation.

While the non-human races described in the Player's Handbook could conceivably be used as alien races within the Traveller universe, those races are not wholly designed nor suited for use in a Traveller campaign.

### ALIEN LEVEL

Some alien races, particularly those whose ability scores are considerably above normal have a specific Alien Level. When these aliens acquire a character class, they follow the rules for multiclassing. The creature's character level equals the number of class levels it has, plus the number of alien levels for such beings. Thus a 1st level Ursa Rogue is a 2nd level character (1 class level + 1 alien level = 2 character levels) and begins play with 1000xp already accumulated. This will cause some alien PCs to advance more slowly than others, though this is usually offset by specific racial benefits.

## HUMANITI

Humans are the most commonly encountered race in Charted Space. When Terran humans reached the stars, they encountered dozens of distinct Human races (and that's not counting minor variations among colonists after a mere few hundreds of years on non-Terra-like worlds), some having developed rather unique racial characteristics. How this came to be is the subject of many debates, but it does appear that all owe their original genetic heritage to the Humans of Terra.

Most humans are of mixed blood. Some "racial" characteristics have survived through the ages, and the whole range of human variation can be encountered. On some worlds, the gene pool of the original colonists was such that a particular skin color or other characteristic dominated. In other cases a cultural characteristic came to dominance, creating a society with the flavor of, say, a Southeast Asian nation on Terra but very diverse physical characteristics among the populace. Some groups of colonists were shaped by their environment, coming to resemble one of the races of old Terra through adaptation to similar conditions.

### HUMAN SPECIES TRAITS

- Human base speed is 9 meters.
- Medium-size. Humans receive no special bonuses or penalties due to their size.
- 4 extra skill points at 1st level and 1 extra skill point at each additional level.
- 1 extra feat at 1st level.
- Automatic Languages: See Subrace information below.

## HUMAN SUBRACES

### VILANI HUMANS

Vilani are as mixed in physical characteristics as any other human group. Their culture is the remnant of an empire (the Ziru Sirka, or First Imperium) that once dominated thousands of worlds. The traditions of the Ziru Sirka remain a powerful force even today. Vilani society is built around guilds and Bureaus that run the various services needed to keep a society working; these too are holdovers from the First Imperium period.

Vilani view scientific and technological progress with disdain; stability is more important than progress. Pure-blooded members of the race tend to live very long lives. This trait is rapidly diluted by interbreeding. When selecting Vilani as their character's race, players should state whether the character is of mixed or full-blooded Vilani descent.

**Status:** Major Race

**Homeworlds:** Vland A967A9A-D

**Languages:** Galanglic and Vilani.

### SOLOMANI HUMANS

Originally known as Terrans or Earthlings among themselves, these humans of Terra (Earth) eventually adopted the title of Solomani or the Men of Sol as the designation for their race. Solomani or humans belonging to a Solomani-influenced culture are more innovative and inquisitive than their Vilani cousins. Solomani are explorers and tinkerers. Solomani societies tend to be more violent and unstable than their Vilani equivalents.

**Status:** Major Race

**Homeworlds:** Terra (Earth) A867A49-D

**Languages:** Galanglic.

### MIXED RACE HUMANS

The humans of Charted Space include some pure-blood Vilani and Solomani groups, but the majority are of mixed blood. Some regions are dominated by Solomani or Vilani cultural ideas (this has little to do with lineage, though pure-blood Vilani tend to maintain their traditional lifestyles). Most humans think of themselves first as citizens of their homeworld, then as citizens of any interstellar government. Cultural pollution has caused many worlds (especially those on major trade routes) to move towards a "standard-starfaring" culture, though even this is subject to local variations. Some worlds are very different to this starfaring-norm culture. Diversity (within limits) is more common than compliance.

**Status:** Major Race

**Homeworlds:** Numerous.

**Languages:** Galanglic and their own local homeworld languages (if any).

### ZHODANI HUMANS

The other major human group is the Zhodani, who rule a large area of space away to Coreward-Spinward. The Zhodani have embraced telepathy and other psionic talents and are ruled by a psionic nobility. Their society is stable and peaceable, but ready to defend its borders against aggression.

At the top of the Zhodani social order are the psionic nobles, either drawn from the most adept psionists among the Intendant class, or trained from birth when born of a noble family. Nobles in Zhodani society form the core of the elite business owners and managers, politicians and military leadership.

Below the nobility is the Intendant class. Intendants are psionically trained individuals born of an Intendant family, or selected from among the proles for their high psionic potential. Intendants act as the middle managers, bureaucrats, and functionaries of Zhodani society. Many are assigned as personal secretaries to individual Zhodani nobles.

The Proles, who greatly outnumber Nobles and Intendants, are typically not psionic, or are low strength



natural talents without any formal training. The Proles are the contented farmers, factory workers, scientists, technicians, dockworkers, supervisors, junior managers and enlisted members of the armed forces who make up the majority of Zhodani society.

All Zhodani characters with a Social Status of 16 or higher are nobles and are automatically considered to be a Natural Psionic Talent (see Psionics, pg. 186). All other Zhodani characters should automatically be checked to see if they are a Natural Psionic Talent. If the character is a natural talent with a PSI score of 10 or higher, he or she is considered to be an Intendant. If an Intendant's Social Status is below 10, it is automatically raised to 10.

**Status:** Major Race

**Homeworlds:** Zhdant A6547C8-D

**Languages:** Zdetl.

## OTHER HUMANS

Various groups of genetically engineered, adapted or pure-blood humans exist in Charted Space; some of them in strange places. Cultures vary widely; usually this is the result of local conditions. Not all of these offshoot species are capable of interbreeding with genetically "straight" humans, and some are very different from the "human" norm.

**Status:** Minor Race

**Homeworlds:** Numerous.

**Languages:** Galanglic and their own local homeworld languages (if any).

## VARGR

Of all the races of Charted Space, Vargr are the most similar to humans, though their biology and culture is quite different. Vargr have a pack mentality, which includes an obsession with status and "Prestige", and are known for their liberal attitude to laws. Vargr corsairs are notorious, and in some areas are the only contact humans have with Vargr. However, Vargr are part of human-dominated society in many regions.

The Vargr are an intelligent race descended from a carnivore/chaser stock that has a remarkable resemblance to the native Terran (Earth) animal known as the wolf.

### VARGR RACIAL TRAITS

- +2 Dexterity, -2 Strength, -2 Constitution.
- Vargr base speed is 12 meters.
- Medium-size. Vargr receive no special bonus or penalties due to their size.
- Eyesight is much sharper than human sight, but has a more limited range of color sensitivity. They receive a +2 on all Search checks.
- Hearing is excellent, extending into lower ranges beyond the level of human capability. They receive a +2 on all Listen checks.



- Vargr also possess a keen sense of smell, gaining them a +1 on all Spot checks.
- Vargr enjoy a +1 BAB when attacking with their claws or bite. An unarmed Vargr may make two claw attacks (1d4 + STR Modifier in damage each) as a full round action, a single claw attack (1d4 + STR modifier in damage) as a standard action, or may try to bite an opponent (1d6+3 damage) as a standard action each round.
- Vargr have a special characteristic known as Prestige that is based on the character's Charisma score, but works in place of Charisma when dealing with other Vargr. It measures a Vargr's status (not necessarily self-worth) among his or her peers. Initially the Prestige score is equal to the character's Charisma score divided by 3 (round down, minimum of 1). When a new level is achieved the Referee should determine if the character will gain or lose one point of Prestige (or remain at the same score) based on the actions of the character since they last gained a level. Actions of notoriety (good, bad or otherwise) are more likely to improve Prestige than actions that gain little or no publicity. Prestige-gaining actions include leadership of a mission, promotion to an impressive post or rank, particularly flamboyant execution of a task, defeat of a notorious foe or avoiding destruction at

the hands of such a foe while carrying out actions that diminish them. Prestige loss is likely when a character suffers public defeat or humiliation, is eclipsed by another character of lesser Prestige, or is forced to back down publicly. For high-Prestige characters, simply not gaining more Prestige implies that they have started "playing it safe". Prestige will be lost if the character stops trying to build their legend.

- Automatic Languages: Irilitok and Galanglic.

**Personality:** Vargr are frequently characterized as 'inconsistent' by outsiders, who see many of their behavior patterns as contradictory and strange. They are a gregarious people who take great joy in the company of one another, and seek the security and comfort of fellowship with other of their own kind. Yet at the same time Vargr engage in almost constant struggles to achieve prestige and dominance within their group. This frequently gives the appearance of a quarrelsome, sometimes even treacherous nature. Indeed, Vargr move from one group or association to another with such great regularity that they may seem to have no loyalty to any specific institution or purpose. This is not the case. Vargr are every bit as loyal to their cause, leader, or institution as a human would be, but they know that eventually the time will come to shift that allegiance. When that time comes, they will transfer their loyalty to some new focus, and remain true to that until it is time to move on. Exactly what criteria are needed to convince a given Vargr that it is time to change varies widely.

**Physical Description:** Physically, Vargr are slightly smaller and lighter than an average Human (1.6m, 60kg), upright, bipedal, and remarkably humanoid in development and appearance. They are covered with short fur, which is generally brown, black, or rust colored and frequently combines shading of these and other colors. Their tails are fairly long and generally end in a flaring brush. The muzzle is much shorter and less pronounced than in Terran canines, but is still quite evident. The fingers of a Vargr also retain sharp pointed, non-retractable nails that can function as claws in some close combat situations. On the whole their reactions are slightly faster than those of a human.

**Status:** Major Race

**Homeworld:** Lair A8859B9-D

**Languages:** The most common dialect spoken by Vargr in the Gateway region of space is Irilitok, though there are numerous other Vargr dialects spoken through charted space. Most all Vargr also speak Galanglic.

**Adventurers:** Vargr are well suited to the risk/reward nature of the ever-changing adventurer lifestyle. The inbuilt drive to better oneself produces many born adventurers, and thus ideal Traveller characters.



**Note:** Other versions of *Traveller* do not have a Charisma stat. Vargr Prestige is called Charisma in these versions. The change was made for T20 to avoid confusion. If using materials written for a different Traveller rules set, treat any reference to Charisma as Prestige.

## ASLAN

The first humans to encounter this alien race thought the humanoid Aslan to be vaguely "lion-like" in appearance and labeled them with an appropriate word from a Terran language. The resemblance is fairly minor (and Aslan certainly have no connection with Terran felines) but the name stuck. Aslan society is rigidly divided into male and female roles. Males are warriors and protectors; females are administrators and scientists. Male Aslan, who measure wealth in terms of land and prestige, have difficulty in surviving in human society. Concepts like "money" are alien to them, while humans seem to lack "honor". Females are more adept at organization, finance and business, and have far fewer problems interacting with non-Aslan.

Aslan are descended from four-limbed carnivorous pouncer stock that rose to the top of the food chain in the forests of their homeworld, Kusyu.

## ASLAN RACIAL TRAITS

- All Aslan: +2 Strength, -2 Dexterity
- Male Aslan: +1 BAB with all weapons (which makes +2 with dewclaw; see below), -2 Wisdom. May not take the Academic, Belter, Professional, Merchant, or TAS Field Reporter classes.
- Female Aslan: May not take the Big Game Hunter, Mercenary, Noble, Scout, or Ace Pilot classes.
- Medium-size. Aslan receive no special bonuses or penalties due to their size.
- Require 10-11 hours of sleep every 32 or will begin to suffer degradation of their abilities.
- Aslan base speed is 12 meters. However they are capable of short bursts of speed. In combat an Aslan has a movement of 18 meters.
- Aslan enjoy a +1 BAB when attacking with their dewclaws (see Physical Description, below). An unarmed Aslan may make two separate dewclaw attacks (1d6 + STR modifier in damage each) as a full round action or a single dewclaw attack (1d6 + STR modifier in damage) as a standard action each round.
- Hearing is superior to that of humans, giving all Aslan a +1 to Listen checks.
- Low Light Vision: Aslan can see twice as far as humans in starlight, moonlight, or other low light conditions.
- Automatic Languages: Aslan and Galanglic.

**Personality:** The Aslan are a warrior race, noble and proud. They are dedicated to those in authority above them and responsible for those who owe fealty from below. Their society is based around the family and its relationships. They are fairly touchy, and it is quite easy for Aslan to give or take offense. Dueling is a common way by which insults and slights are resolved (see the Tolerance feat pg. 110).

Aslan males have a territorial instinct to acquire and accumulate land. This is the male's primary goal in life, his status being determined by the amount of land he controls. In society most males (except the lowest classes) are found in the military or in politics. Aslan females are the ones that handle the trade, industry, and accumulation of knowledge within Aslan society.

Aslan measure SOC by how much land an individual or his kin can lay claim to. A low to moderate SOC (up to about 12) usually indicates that the Aslan has little or no land of his own - his SOC is due to the holdings of his clan (or a family within the clan). SOC of 12 or above usually indicates that the character has at least a small amount of land somewhere, and the more he has, the higher his SOC will be. This land may actually be pretty worthless - a few square miles of pasture or lonely moorland - but to the Aslan the ability to take land and keep others from taking it away is the measure of a male's importance.

**Physical Description:** Aslan are upright bipeds standing roughly of Human height (1.8-2m). They weigh on average 100kg. The Aslan hand has three fingers opposing a single medial placed thumb, and all have retractable claws. In addition, Aslan have a single highly specialized claw under each thumb. This 'dewclaw' folds back jack-knife fashion into a horny covering in the base of the thumb and palm. The presence of these claws and the general body structure of Aslan make them somewhat clumsy by human standards, but what they lack in dexterity they make up for in strength.

**Status:** Major Race

**Homeworld:** Kusyu A876986-C

**Languages:** Aslan all share a common language and culture. Most Aslan also speak Galanglic.

**Adventurers:** Male Aslan will likely be adventuring with the eventual goal of acquiring land. Female Aslan may be adventuring for business or personal reasons.

## THE OTHER MAJOR RACES

**Droyne:** The Droyne are bird-like, reptilian humanoids whose society is divided into six castes. They live on many worlds scattered throughout Charted Space, and seem not to have any large political groups. Many Droyne worlds are low-technology farming communities, but some possess technology different to (and perhaps in advance of) anything possessed by humans. Droyne often engage in incomprehensible activities, which they never explain. They thus seem very alien to humans.

**Hivers:** Hivers are strange, hexapod creatures resembling very large starfish. They are perhaps the most alien beings in Charted Space. Hivers are assumed to be physical cowards because they go to great lengths to avoid confrontation, though their penchant for clever manipulation of other beings (as individuals or even whole societies) is well known. Groups of Hivers sometimes wander through human-dominated space for their own reasons. Mostly they remain in their own large area of space. Several other races form part of the Hive Federation, and seem happy under Hiver rule.

**K'Kree:** The K'Kree (or Centaurs) resemble large herbivores with small grasping forelimbs sprouting from their forequarters. They are immensely claustrophobic, and being herd creatures tend to travel in large groups. K'Kree are militant vegetarians, and dream of the day that they will destroy all meat-eaters. Relations with humans can be rather strained, to say the least.

## MINOR RACES

There are many minor races - some very alien indeed - throughout Charted Space. Not all of them are what they seem. The Referee is free to develop his or her own minor races, both human and alien, as necessary. Some examples from the Official Traveller Universe are given below.





## LURIANI

The Luriani are an amphibious minor human race, apparently 'seeded' on their homeworld of Daramm roughly 300,000 years ago by the Ancients, in an (unfinished) attempt to breed a race of aquatic humans for some unknown purpose. Luriani constitute the third largest sub-race of humans in the region, second only to humans of Vilani or Solomani descent, and have long been an important part of the history and politics of the Domain.

### LURIANI RACIAL TRAITS

- +2 Constitution, -2 Wisdom.
- Luriani base speed is 9 meters.
- Medium-size. Luriani receive no special bonus or penalties due to their size.
- Can dive in water down to depths of 240 meters without artificial aid.
- +2 on all Will and Fortitude saves due to cold conditions
- +4 to all Swim checks.
- +2 to all Pilot checks.
- Rarely will a Luriani have a Social Standing greater than 15 (Referee discretion). Currently there are only 7 known hereditary Luriani nobles.
- Luriani do not receive the normal human skill point bonus at 1st and subsequent levels.
- Luriani do not automatically receive the extra starting bonus feat that normal human do.
- Automatic Languages: Standard Luriani, Galanglic, Old High Vilani.

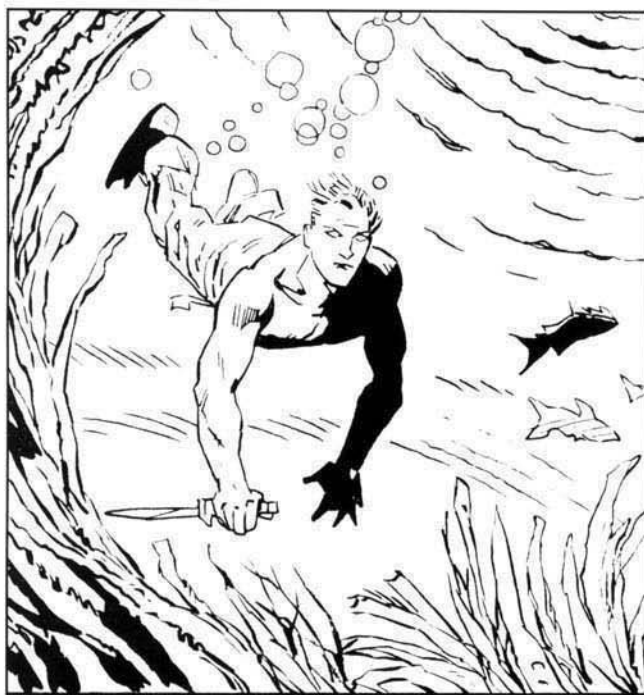
### Personality:

Because most Luriani are right-brain dominant (and thus left-handed), they have developed a highly passionate and artistically inclined society full of warm, uplifting music and sensual dance. Highly individualistic, most Luriani live as members of a large communal type family, in which the adults are members of a group marriage and all children are considered brothers and sisters, and all adults consider all the children their own.

To help quell what some outsiders might consider their 'hotblooded' nature the Luriani have evolved a Code of Honor when it comes to family and individual responsibilities. To a Luriani effort, hard work, and sincerity mean much more than the final results. When resolving matters of honor, this Luriani trait shows through. Instead of duels to settle the matter, Luriani engage in contests of skills and wit. As long as both sides put forth their best effort, they each walk away from the contest with the matter settled and their honor intact, no matter who actually wins.

### Physical Description:

At first glance, the Luriani appear to be fairly standard as humans go, although a bit heavier and more rounded. Upon closer inspection, two significant differences can be noted:- their hands and feet are webbed, and their skin has a slick appearance from the natural body oils they secrete to protect them from cold waters and climates. Much less apparent is the second eyelid, which protects their eyes from irritants as well as improving their vision underwater. To protect their ears from the pressures of deeper dives, they can voluntarily control the muscles of the inner ear and seal it off.



Internally the differences are more notable and remarkable. A subcutaneous layer of fat (causing their heavy, rotund appearance) acts as an insulating layer against the cold and helps store oxygen. Combined with an increased hemoglobin levels in their blood, this allows Luriani to collapse their lungs and make dives far deeper than any normal human, up to 240m. Because of this and other subtle difference in their biochemistry, Luriani tend to react unpredictably to drugs designed for standard humans.

Luriani are not interfertile with other humans, except via fairly intensive gene therapy treatments.

**Status:** Minor Race, human

**Homeworld:** Daramm A45AA76-E

**Languages:** Standard Luriani, Galanglic, Old High Vilani

**Adventurers:** Luriani adventure for the same reasons as any other human.

## SYDITES

The Sydites are a race of genetically altered humans believed to have been bred by the Ancients for work, rather than brains or looks. They make excellent mechanics, technicians and soldiers, but being a bit unimaginative (some would say slow-witted) in their approach, tend not to do well in positions of responsibility and authority. While not generally stupid, most tend to solve the problems they encounter by simple, direct means rather than careful planning and finesse.



## SYDITE RACIAL TRAITS

- +2 Strength, +2 Dexterity, +2 Constitution, -2 Intelligence, -2 Wisdom, -2 Charisma, -2 Social Standing.
- Sydite base speed is 9 meters.
- Medium-size. Sydites receive no special bonus or penalty due to their size.
- Even though they have 4 limbs, a Sydite may undertake actions with only one set at a time per round.
- Sydites do not receive the normal human skill point bonus at 1st and subsequent levels.
- Sydites do not automatically receive the extra starting bonus feat that normal humans do.
- Automatic Languages: Sopas, the native language of the Sydites.

**Personality:** Years of bigotry, stereotyping, and xenophobia have tended to portray the Sydites as a strong and fast but ugly, bumbling and inept sub-race of humans. The Sydites are quite aware of this and resent the image and the dismissal of their place in the history of the sector. As a race they are tired of being thought of as second-rate people. Despite their genetic limitations, the Sydites have developed an impressive culture, and once ruled a considerable empire in the Gateway Sector region.

**Physical Description:** Physically Sydites are quite a bit larger than an average human (2-2.5m tall, 130kg in weight). They are also rather ugly in comparison, having a more brutish and blockier facial structure. Their size and general appearance is not the most striking difference from the standard human form however. Sydites have two sets

of arms, the upper pair designed for heavy lifting, the second set designed for fine manipulatory work. The upper arms have an effective Dexterity equal to one-half the Sydite's Dexterity ability score, while the lower arms have an effective Strength equal to one-half the Sydite's Strength ability score.

**Status:** Minor Race, human

**Homeworld:** Khuur E959977-5 (Known as Sopater to its inhabitants)

**Languages:** All Sydites speak Sopas, their native tongue. Those living outside the Khuur league or those that deal with non-Sydites on a regular basis also typically speak Galanglic.

**Adventurers:** Outside of their own worlds, Sydites are often hired for mercenary work, as bodyguards or heavy manual labor, though their temperament also reduces their odds for gaining even these types of work with most employers.

## URSA

Ursa are a genetically-uplifted Terran animal species, like Dolphins and Orca. The Solomani corporation GenAssist, established to adapt Terran native lifeforms to alien climates, saw a need for creatures that could assist in colonizing and developing various types of worlds for the Rule of Man. To that end, GenAssist began research on a number of species that might prove to be of use. The Ursa were developed fairly late in the project. It was anticipated that they would be used on higher than normal gravity planets or worlds with many hostile and dangerous life-forms.

The project was declared a failure and dropped in favor of more promising species, and the experimental colonies were scheduled for extermination. The inhabitants of one Ursa colony succeeded in defeating the GenAssist death squads and seizing a number of starships. Rather than immediately making for safety, these brave few gambled the survival of their entire species by conducting a rescue of as many of their brethren as possible from other colonies. Only then did they flee into deep space. The Ursa managed to reach suitable worlds and established small colonies, some of which still exist. Ironically, their actions proved that far from being a failure, the Ursa Uplift Project had been an incredible success.

GenAssist hunted the Ursa for a time, but eventually found more productive activities to engage in. The whole incident was quietly forgotten about - at least by GenAssist and the Rule of Man.

Some humans, particularly those of strong Solomani background, still look at the Ursa and other uplifted races as inferior beings, not much above the animals they were engineered from, and who should be grateful to those who gave them the intelligence and station they now possess.



Such bigotry is one reason for Ursa clannishness.

## URSA RACIAL TRAITS

- +4 Strength, +2 Constitution, -2 Dexterity, -2 Intelligence, -4 Social Standing.
- All Ursa begin as 2nd level characters with 1000XP (1 Alien Level + their first class level)
- Constitution ability score x 2 = Starting Stamina points.
- 10 + Constitution score = Lifeblood points.
- Ursa base speed is 12 meters.
- Large-size. Ursa receive a -1 attack and AC penalty due to their size.
- +1 natural AC bonus
- Ursa have two natural methods of attack, the slap and the hug. Unless an Ursa has multiple attacks due to their level, they may only make one slap attack per round as a standard action. Ursa have a +1 BAB when making a slap attack and will inflict 1d8+2 damage if they hit. The hug requires a successful grapple attack, and will inflict 2d6+Str modifier in damage per round it is held.
- Low Light Vision: Ursa can see twice as far as humans in starlight, moonlight, or other low light conditions.
- +2 to all Listen and Spot checks
- +4 to Move Silent Checks
- Automatic Languages: Galanglic.

**Personality:** The Ursa are quite clannish, preferring their own company after centuries of persecution and big-



otry at the hands of some humans. Because this love of clan and race is so strong, and because their numbers compared to other races are so small, an Ursa will take extreme measures or perhaps even allow himself to be killed rather than take the life of a fellow Ursa. This does not mean the Ursa do not fight among themselves, but when such instances do occur they are ritualistic battles for show rather than an attempt to truly injure the opponent. While some injuries do occur in such battles, they tend to be non-life threatening.

Among non-Ursa, they tend to be reserved, speaking when spoken to or when needed. It is only with those whom an Ursa has come to trust that they will open up and reveal a much lighter and playful side. Such trust must be earned, and is not given easily.

**Physical Description:** Uplifted from the brown bear found on Terra, the Ursa stand erect some 2.5 to 3 meters tall, 1.2 to 1.5 meters when on all fours, and 2 to 2.5 meters when sitting. They typically walk on all fours, but are quite capable of bipedal movement when needed or desired. When dealing with races smaller than themselves, Ursa tend to sit on their rears (bringing them down to eye level with most humans) or stand on all fours. They do not typically wear pants or footgear (unless needed), but often sport tunics and body packs for their carrying capacity and (when needed) rank and identifying insignia.

**Status:** Uplifted animal race

**Homeworld:** Khush C998509-5

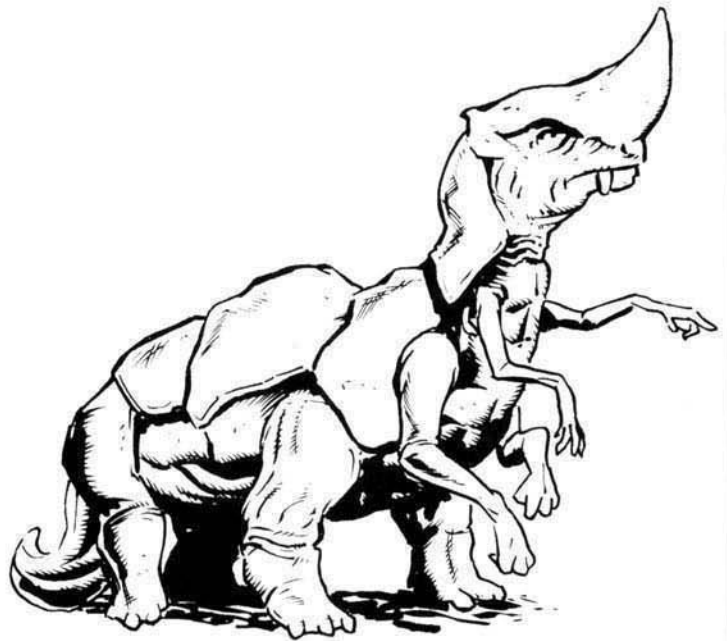
**Languages:** All Ursa speak Galanglic as their native tongue, being an uplifted race.

**Adventurers:** Most Ursa that venture beyond their adopted homeworld do so as bodyguards and mercenaries, jobs for which they are highly prized. A few may also be found traveling, satisfying an innate wanderlust and seeking to better understand the place of the Ursa in the universe.

## VIRUSHI

Despite their enormous size and nicknames such as 'centaurs with tank blood' or 'intelligent bulldozers', the Virushi are truly gentle giants. They are extremely polite and soft-spoken; indeed their voices are naturally weak and quiet in normal (for humans) atmospheres, having been evolved for use in a much denser atmosphere.

Because they were one of the larger lifeforms on their homeworld, the Virushi never came under serious threat from other species. Their society has thus not evolved much beyond the 'cooperative' stage, with most Virushi preferring to remain apart from their fellows. They will typically work together only on those projects that profit both the individuals involved and Virushi society as a whole. Thus the Virushi have ultimately become an almost utopian culture; contented, pastoral, highly supportive of individual



freedom. A Virushi will willingly cooperate on almost any task if so inclined, but it is almost impossible to order one to do anything he or she does not want to.

### VIRUSHI RACIAL TRAITS

- +10 Strength, +2 Dexterity, -2 Social Standing, -2 Charisma.
- All Virushi begin as 4th level characters with 6000XP (3 Alien Levels + their first class level)
- Constitution x 5 = Starting Stamina Points.
- 20 + Constitution = Starting Lifeblood Points
- Virushi base speed is 6 meters.
- Large-size. Virushi receive a -1 attack and AC penalty due to their size.
- +6 natural AC bonus
- -4 to all Listen and Spot checks
- Automatic Languages: Virush (native language) and Galanglic.
- May not select the Mercenary, Barbarian, Rogue, Army, Navy, Marine, Ace Pilot, or Big Game Hunter classes.
- May attack up to twice per round with their natural weapons, once using their lower arms as a pair of clubs (2d6 + Str modifier for damage), and once with their tail (3d6 + Str modifier for damage).

**Personality:** Virushi are a bit of a contrast in terms of personality. They are quite individualistic and very unlikely to obey orders, yet a Virushi is usually quite willing to 'lend a hand' when they see it is needed and would benefit not only themselves but others too. Virushi individualism appears to

create grounds for friction, yet causes surprisingly little. This is mainly a result of their polite willingness to accept differences rather than come into conflict over them.

Despite their calm and placid demeanor, Virushi will fight if necessary, for example to defend the lives of friends, family, or other charges. They do not seek out conflict and will not press a confrontation if the aggressor backs down. It is very difficult to make a Virushi angry as they are largely indifferent to pain even on the rare occasions when they are under serious threat of bodily harm. They will almost always calmly and rationally (at least to a Virushi) attempt to discuss and negotiate a non-violent solution to a situation. If violence proves necessary, this too will be administered in a calm and rational manner - though the distinction is likely to be irrelevant to the person on the receiving end!

**Physical Description:** Standing almost 1.8 meters at the shoulder and tipping the scales at close to 1000kg, the Virushi are one of the largest sophont races ever encountered. The high gravity, dense atmosphere, and heavy radiation on their homeworld have evolved the Virushi into the impressive lifeforms they are today.

These massive creatures are covered by overlapping plates of armor with a texture similar to hardened leather. They walk on four tree-thick legs, and are capable of extraordinary feats of dexterity with an upper pair of almost human sized arms, while their lower pair of arms are heavily muscled. These lower arms are designed for heavily lifting, making the upper pair look withered in comparison. Adding to their overall mass is a rather thick tail that makes a potent defensive weapon when needed. The upper arms have only one-half the strength of the lower arms, while the lower arms only have one-half the dexterity of the upper arms.

This immense size and strength is somewhat offset by very poor sensory perception. Virushi eyes, buried beneath massive brow ridges, are adapted to work in brilliant sunlight perform rather poorly under lower light conditions.

Their hearing is similarly degraded under normal atmospheric conditions, having evolved to hear sounds transmitted in a dense atmosphere. They find normal human speech very near the threshold limits of their hearing.

**Status:** Minor Alien Race

**Homeworld:** Virshash AA87901-D

**Languages:** Virush is the native language of the Virushi, but most Virushi are also fluent in Galanglic.

**Adventurers:** When Virushi are found away from their homeworld, they are usually employed in careers that stress service to others. Because of their great dexterity they make excellent doctors. Virushi surgeons are renowned throughout Charted Space. Despite their great size and strength, Virushi are not found in military or similarly structured organizations as Virushi do not take orders from anyone.

## HOMEWORLD

The environment and society of the world where a character grew up plays a large part in determining their starting capabilities. In game terms, the Home or Birth World rules give a character a few extra specific skills added to their basic class skills, based on the world they come from. These rules do not determine a specific world by name that a character hails from, but rather a general characterization of the world. This way the player or Referee is free to select an appropriate world from his or her specific campaign locale. Alternately, the Referee may assign a specific homeworld to each character as he or she sees fit, or allow the players to select their own homeworld from the campaign maps.

## DETERMINING THE HOMEWORLD

The first step is to determine the level of technological development available on the character's homeworld. This also gives an idea of the level of starport available to the world, and thus the level of offworld interaction the inhabitants are accustomed to. Characters from a world with a

### WORLD TECHNOLOGICAL LEVEL

1d6	Tech Level Group	TL	Starport	Prohibited Core (starting) Classes
1	Very Low Technology	1d4-1 (0-3)	+0 (Class D or E)	Belter, Traveller
2	Low Technology	1d3+3 (4-6)	+2 (Class C or D)	Belter, Traveller
3	Mid-Level Technology	1d3+6 (7-9)	+4 (Class B or C)	Belter
4	High Technology 1	1d3+9 (10-12)	+4 (Class B or C)	None
5	High Technology 2	1d3+9 (10-12)	+6 (Class A or B)	None
6	Very High Technology	1d3+12 (13-15)	+8 (Class A)	None

## WORLD TRADE CLASSIFICATIONS TABLE

2d6	Tech Level Group					
	Very Low	Low	Mid	High 1	High 2	Very High
2	Na Po	Na Ind HiPop Va	De	De LoPop	FI	Na In Po HiPop
3	Ni HiPop	Ag Ri	Na Va	HiPop FI	LoPop FI	Ind Wa HiPop
4	LoPop De	Ind HiPop	Ag Ni	Po	Ri	Ni Wa
5	Wa LoPop	Wa LoPop	HiPop	Ni Po De	Na In HiPop Va	Ni
6	Po LoPop	Ni	Po LoPop	Ni	Ast LoPop Va	LoPop Va
7	LoPop	Po LoPop	LoPop	LoPop Va	Na Va	LoPop
8	Ag Ni	Ag Ni	In HiPop	Wa LoPop	Ni Va	Ast LoPop Va
9	Ni	LoPop FI	Na Ni Va	Ni Po	Po De LoPop	In HiPop
10	Ag	Ag	Ic LoPop Va	Na In HiPop	Na Ni Ast Va	Na Va
11	Na Ni Po	HiPop	Na Va	Na Ni Po	Ag	Ag Ni Ri
12	Po	Na Ni Po De	Na Ni	Na Po De	Na Po HiPop	Na Po HiPop

**Agricultural (Ag)** Exports food. Imports manufactured goods, luxury goods, and raw materials.

**Asteroid Belt (Ast)** Not a world but a planetoid belt. Inhabitants live among domes and stations among the asteroids.

**Desert (De)** A dry world with little or no water available on its surface.

**Fluid Oceans (FI)** A world on which the oceans are a liquid other than water.

**High Population (HiPop)** The world has a billion or more inhabitants.

**Ice Capped (Ic)** A world with frozen polar ice caps.

**Industrial (In)** Exports manufactured goods and some luxury goods. Imports food and raw materials.

**Low Population (LoPop)** The world has fewer than ten thousand inhabitants.

**Non-Agricultural (Na)** Exports raw materials and some manufactured goods. Imports food and luxury goods. Often a pre-industrial world.

**Non-Industrial (Ni)** Exports raw materials and some food. Imports manufactured goods and luxury goods. Often a pre-agricultural world.

**Poor (Po)** Exports little. Imports everything. Significant areas may remain undeveloped or uninhabited.

**Rich (Ri)** Exports luxury goods. Imports little. These are very 'Terrestrial' worlds, well suited to human life.

**Water World (Wa)** The great majority (95%+) of the surface of the world is covered by water oceans.

**Vacuum (Va)** A world with no atmosphere at all.

Class A type starport will tend to be more sanguine about space travel and world hopping, whereas characters from a world with a lesser starport are bit more 'in awe' of the whole concept (at least initially). Roll 1d6 and consult the World Tech Level Table, pg. 30, to determine the technological group of the character's homeworld.

**TL Range:** The actual Technology Level rating for the character's homeworld has a significant bearing on the effectiveness of a character's education. For every 2 points a character's homeworld TL is below 11, he reduces his Education score by 1 (minimum score of 0). Conversely, for every two points a character's home TL is above 10, he may add 1 to his Education score. Any disadvantage a

character suffers from a low homeworld TL may be offset by attending University (see pg 122).

### EDUCATION MODIFIER

Homeworld TL	Education Modifier
0-1	-5
2-3	-4
4-5	-3
6-7	-2
8-9	-1
10-11	+/-0
12-13	+1
14-15	+2
16 or higher	+3





**Starport:** Roll 1d4 and add the starport modifier listed in the World Technological Level Table, pg. 30, to determine the type of starport that is available at the character's homeworld. For more information of starports see pg 377.

## HOMEWORLD STARPORT

Result	Starport Type
1-2	E
3-4	D
5-6	C
7-8	B
9+	A

**Prohibited Core Classes:** Characters from certain tech level worlds may be prohibited from selecting certain classes when first creating their character. These restrictions do not apply to any Service or Prestige classes introduced later in this book or future supplements, unless otherwise noted within the specific service or prestige class description.

## WORLD TRADE CLASSIFICATIONS

Once you have determined the Tech Level Group for the character's homeworld, you are ready to determine the basic characteristics of the world. Roll 2d6 on the World Skills table for Tech Level Group. For example, a character is from a Low tech level group and the player rolls a 7 on 2d6. This indicates that the character is from a Poor (Po) and Low Population (LoPop) world. These trade classifications have a direct bearing on the types of skills that are available to a character in the next step.

## WORLD SKILLS

Depending on the technological level of a character's homeworld, he or she will receive a number of additional class skills that may be added to the character's class skill list. A character automatically receives a K/Homeworld skill (rank 0) that provides knowledge of the history of the world, important figures, special landmarks, etc. Additional skills may be selected from any of the skills listed on the World Skills Table. These skills are always considered class skills for purposes of point cost.

A character may not take a skill that is higher than the technology level of their homeworld, but may select a skill that is up to two ranks lower than the technology of their homeworld. For example, a character from a High technology world, selecting a skill from the Non-Industrial list could select the T/Mechanical, Handle Animal, or Ride skill, but could not select the Survival or Knowledge skill for that trade classification.

The first time a skill is selected, if it is not an Untrained skilled (indicated by italics) the character has a skill rank of 0 with the new skill. If it is an Untrained skill, the character starts with a skill rank of 1 in the skill instead. A skill rank of zero will allow a character to use the skill as if it were an Untrained skill. The same skill may be selected more than once, in which case add +1 to their skill rank.

**Very High or High Tech:** Select 3 skills. Characters from a higher technology world generally have much more free time in which to pursue other interests beside work than at lower technology levels. Characters from these worlds automatically receive the T/Computer skill in addition to any other skills selected.

**Mid Tech:** Select 3 skills. Characters from a middle technology work manage to strike a better balance between work and the pursuit of other outside interests.

**Very Low or Low Tech:** Select 1 skill. Characters from lower technology worlds spend the vast majority of their time working and just trying to survive. Characters from these worlds automatically gain the Ride and Survival skill in addition to any other skill selected.

## SKILL AND FEAT ABBREVIATIONS

Some skills, such as Knowledge, Entertain and Technical are in fact "cascades" which contain several specific skills. These are normally abbreviated with the first letter of the cascade. For example Technical/Astrogation might be abbreviated T/Astrogation. This is explained more fully in Chapter 4: Skills.

## WORLD SKILLS

<i>Tech Group</i>	<i>Agricultural (Ag)</i>	<i>Non-Agricultural (Na)</i>	<i>Industrial (In)</i>
Very Low	Handle Animal	Survival	Handle Animal
Low	Ride	Navigation	T/Mechanical
Middle	Driving*	T/Mechanical	T/Communications
High	T/Mechanical	T/Communications	T/Electronics
Very High	Knowledge	P/Prospecting	T/Gravitics
<i>Non-Ind (Ni)</i>			
<i>Tech Group</i>	<i>LoPop (LoPop)</i>	<i>Asteroid Belt (Ast)</i>	<i>Fluid Ocean (Fi)</i>
Very Low	Survival	-	Survival
Low	Handle Animal	-	Driving**
Middle	Ride	T/Astrogation	Navigation
High	T/Mechanical	T/Communications	K/Chemistry
Very High	Knowledge	P/Prospecting	T/Communications
<i>Desert (De)</i>			
<i>Tech Group</i>	<i>Water World (Wa)</i>	<i>Rich (Ri)</i>	
Very Low	Survival	Swim	Craft
Low	Spot	Survival	Entertain
Middle	Intuit Direction	Driving**	Knowledge
High	Navigation	Navigation	Gambling
Very High	T/Communications	T/Communications	Liaison
<i>Poor (Po)</i>			
<i>Tech Group</i>	<i>High-Pop (HiPop)</i>	<i>Vacuum (Va)</i>	
Very Low	Intimidation	Leader	-
Low	Bluff	Trader	-
Middle	Gather Information	P/Administration	T/Mechanical
High	Forgery	K/Interstellar Law	T/Communications
Very High	P/Prospecting	Liaison	T/Astrogation

The trade classification Ic (Ice-capped) provides no specific World skills.

\* Automatically gains the Vessel/Wheeled feat if the character does not already possess it.

\*\* Automatically gains the Vessel/Watercraft feat if the character does not already possess it.

## WORLD FEATS

Characters may also start out with an automatic feat based on the technology level, and environment of their homeworld. Consult the chart below to see what feats your character qualifies for:

<i>World Tech Level or Environment</i>	<i>Automatic Feats</i>
Very Low Tech	Tracker and Trapping
Low Tech	Weapon Proficiency (Swordsman)
Mid Tech	Vessel/Wheeled*
High Tech	Vessel/Grav**
Very High Tech	Vessel/Grav**
Asteroid Belt or Vacuum World	Vac Suit and Zero-G/Low Gravity Adaptation

\* Automatically gains the Driving skill (cross-class unless otherwise noted as a class skill) at skill rank 0.

\*\* Automatically gains the Pilot skill (crossclass unless otherwise noted as a class skill) at skill rank 0.

# THE CLASSES

Rather than the basic classes found in the Core Rulebook, Traveller introduces 16 new classes in all, representing the vast majority of people inhabiting the universe. Some, such as the Rogue, are similar in nature to their counterparts available in the Core Rulebook but do have significant differences. The others are totally new classes specific to Traveller.

## CORE CLASSES

The classes detailed in this chapter represent the archetypical background and lifestyle a character leads. They are rather broad in scope but cover most general 'types' of people that will be encountered in the universe. A character may usually multiclass into these classes at any point in their lifetime, including during Prior History development unless otherwise indicated in the class description.

**Academic:** A character that believes in research, logic, reasoning and knowledge as the best tools for solving a problem.

**Barbarian:** Rugged individuals, used to coping without technological means and surviving in harsh and dangerous environments.

**Belter:** Asteroid miners or prospectors, in search of the motherlode or working a claim in deep space.

**Mercenary:** An individual who earns a living through the application of intimidation and/or violence. The Mercenary class does not include government soldiers, sailors, scouts, and marines.

**Merchant:** A member of the crew of a starfaring merchant ship, or a portside merchant factor.

**Noble:** A rich, powerful individual, often with good leadership skills.

**Professional:** A technically-minded individual with good practical skills who favors a hands-on approach.

**Rogue:** A wanderer and adventurer, willing to bend a few rules here and there.

**Traveller:** A professional adventurer and jack-of-all-trades.

## SERVICE CLASSES

The Army, Navy, Marines, and Scouts are exclusive classes representing a character on active full-time duty with the selected service. A player may choose to create a starting 1st level character in one of these service classes, but will be required to spend at least their first term of Prior History (see pg. 120) as a member of their respective service. Note that since a character can only gain levels in a service class (the one exception being Scouts) while active in Prior History in the appropriate career, the character will need to select another class to multiclass into upon mustering out.

Characters who do not start as a member may only multiclass into a Service Class during Prior History and, with the exception of the Scout service, levels may only be earned in these classes while the character is on active duty. See the chapter on Prior History (pg. 120) for more information.

**Army:** A member of Ground Force Command. Likely to be an infantryman, artilleryman, vehicle crewmember or a technical/support specialist.

**Navy:** A member of a starfaring navy or system defense force.

**Marines:** A soldier skilled in shipboard combat and assault operations.

**Scout:** An explorer or courier with a broad range of skills.

## PRESTIGE CLASSES

Prestige classes are not available to starting characters, having fairly high requirements before they may be taken as an additional class. They represent fairly unique types of people, very specialized in their specific field of endeavor. Four prestige classes have been introduced in this core Traveller rulebook; the Travellers' Aid Society (TAS) Field Reporter, the Big Game Hunter, the Ace Pilot, and the Psionicist. Details on each of these prestige classes and their requirements may be found in chapter 9 - Prestige Classes (pg. 180).

**TAS Field Reporter:** A fearless investigative journalist seeking the "real story" in dangerous places.

**Big Game Hunter:** A stalker of dangerous creatures.

**Ace Pilot:** A genius at the controls of a particular kind of vehicle.

## MULTICLASSING

Multiclassing is allowed in Traveller, and in many ways is encouraged. Multiclassing allows your character to earn improved combat capabilities, different ranges of skills, and new feats that might otherwise be unavailable to the character in their base class. Thus, if an Academic wanted to improve his or her combat capabilities they could multiclass as an Army Soldier, a Marine, or even a Mercenary. In the same manner a Mercenary might wish to multiclass as an Academic to improve the range of skills available to him. There are no experience penalties for multiclassing in T20 unless specifically noted within a class description. Players are encouraged to come up with a plausible reason for multiclassing. Examples include the Academic who serves as a reservist in her local defense regiment, or the Merchant who doubles as the ship's security officer and trains hard to maintain the skills he needs.

## CLASS DESCRIPTIONS

The remainder of this chapter is devoted to detailing each of the core classes available in Traveller. Beginning each class entry is a brief description about the class itself, the typical characteristics of this type of character, the backgrounds such people often come from, and why they might make a good adventurer.

## GAME RULE INFORMATION

The information needed to actually play a character using a selected class immediately follows the class description. Not all of the specific information below applies to every class.

**Class Type:** The type of class this is - Core, Service, or Prestige.



**Initial Requirements:** Any requirements that must be met before this class may be selected by a character.

**Multiclass Restrictions:** Any restrictions or limitations on multiclassing for the class.

**Abilities:** The most important ability scores for the class.

**Stamina:** The type of Stamina Die used by characters of the class determines the number of Stamina points gained per level.

**Starting Funds:** The amount of money in Credits that a 1st level character starts with. If multiclassing, these funds are not received. Additional funds may be acquired after completing any Prior History (see pg. 120).

## CLASS TABLE

This table details how a character improves as he or she gains experience levels. Class tables typically include the following:

**Level:** The character's level in that class.

**Base Attack Bonus:** The character's base attack bonus and number of attacks.

**Fort Save:** The base save bonus on Fortitude saving throws. The character's Constitution modifier also applies.

**Ref Save:** The base save bonus on Reflex saving throws. The character's Dexterity modifier also applies.

**Will Save:** The base save bonus on Will saving throws. The character's Wisdom modifier also applies.

**Special:** Level-dependent class abilities, each explained in the "Class Features" sections that follow.

## CLASS SKILLS

The number of skill points the character starts with at 1st level, the number of skill points gained each level thereafter, and the list of class skills.

## CLASS FEATURES

These are the special characteristics of the class. When applicable, this section also mentions restrictions and disadvantages of the class. Class features include some or all of the following:

**Starting Feats:** Which weapons and armor types the character is proficient with, along with any feats a character automatically earns when taking this class.

**Bonus Feats:** In place of a specific unique capability, a character may be allowed to select a feat from a list is specific to that class. Some of these bonus feats may be specific to a particular class, and otherwise unavailable to anyone else. In such cases, the feat will be described here.

**Ex-Members:** If, for some reason, a character is forced to give up this class, these are the rules for what happens.

## EXPERIENCE LEVELS

Character Level	XP	Max Class Skill Rank	Max Cross-Class Skill Rank	Special
1st	0	4	2	Feat*
2nd	1,000	5	2	
3rd	3,000	6	3	Feat
4th	6,000	7	3	Ability Increase
5th	10,000	8	4	
6th	15,000	9	4	Feat
7th	21,000	10	5	
8th	28,000	11	5	Ability Increase
9th	36,000	12	6	Feat
10th	45,000	13	6	
11th	55,000	14	7	
12th	66,000	15	7	Feat and Ability Increase
13th	78,000	16	8	
14th	91,000	17	8	
15th	105,000	18	9	Feat
16th	120,000	19	9	Ability Increase
17th	136,000	20	10	
18th	153,000	21	10	Feat
19th	171,000	22	11	
20th	190,000	23	11	Ability Increase

\* In addition to any class and racial starting feats

**Feat:** The character may select one additional feat from among any he is qualified for. This does not include feats specific to a character's class. For example, a Merchant character could not select Steward as one of these feats.

**Ability Increase:** The character may add one point to any ability score of his choice. This increase is permanent. This is often useful in offsetting aging penalties for older, but more experienced characters. A character may never increase his or her Social Standing to greater than 15. The Referee usually handles an increase in Social Standing over 15, typically as a reward during the course of play.

## THE ACADEMIC

	<i>Base Attack Bonus</i>	<i>Base Fort Bonus</i>	<i>Base Reflex Bonus</i>	<i>Base Will Bonus</i>	<i>Special</i>
1st	+0	+0	+1	+1	Starting Feats + Bonus Feat
2nd	+0	+0	+2	+2	Bonus Feat
3rd	+0	+1	+2	+2	
4th	+1	+1	+2	+2	
5th	+1	+1	+3	+3	Bonus Feat
6th	+1	+2	+3	+3	
7th	+1	+2	+4	+4	Bonus Feat
8th	+2	+2	+4	+4	
9th	+2	+3	+4	+4	
10th	+2	+3	+5	+5	Bonus Feat
11th	+2	+3	+5	+5	Bonus Feat
12th	+3	+4	+6	+6	
13th	+3	+4	+6	+6	Bonus Feat
14th	+3	+4	+6	+6	Bonus Feat
15th	+3	+5	+7	+7	
16th	+4	+5	+7	+7	
17th	+4	+5	+8	+8	Bonus Feat
18th	+4	+6	+8	+8	
19th	+4	+6	+8	+8	Bonus Feat
20th	+5	+6	+9	+9	

## ACADEMIC CLASS FEATURES

All of the following are class features of the Academic:

### Starting Feats:

Research Skill Focus (Knowledge)\*

\* A specialized class feat.

**Bonus Feats:** At 1st, 2nd, 5th, 7th, 10th, 11th, 13th, 14th, 17th and 19th level the Academic gains a bonus feat. These feats may be chosen from the list below. If the character already has all of the listed feats, they may select any other feat from the Feats chapter (pg. 100) that they are qualified for.

Academic Lecture*	Advanced Knowledge*	Advanced Research*	Geological Survey
Hacker	Legal Eagle	Medical Specialization	Mental Discipline*
Naval Architect	Pseudo-Eidetic Memory*	Related Field of Study*	Skill Focus (Knowledge)
Surgery	Xeno-Empathy	Xeno-Medicine	

\* A specialized class feat.

## ACADEMIC CLASS SKILLS

<i>Class Skill</i>	<i>Key Ability</i>	<i>Class Skill</i>	<i>Key Ability</i>
Craft (any)	Int	Driving	Dex
Decipher Script*	Int	Knowledge (any)	Edu
Gather Information	Cha	Professional (Knowledge Related)	Wis
Navigation	Edu	Speak Language	None
Read/Write Language	None	Use Alien Devices*	Wis
Technical (any)	Edu		

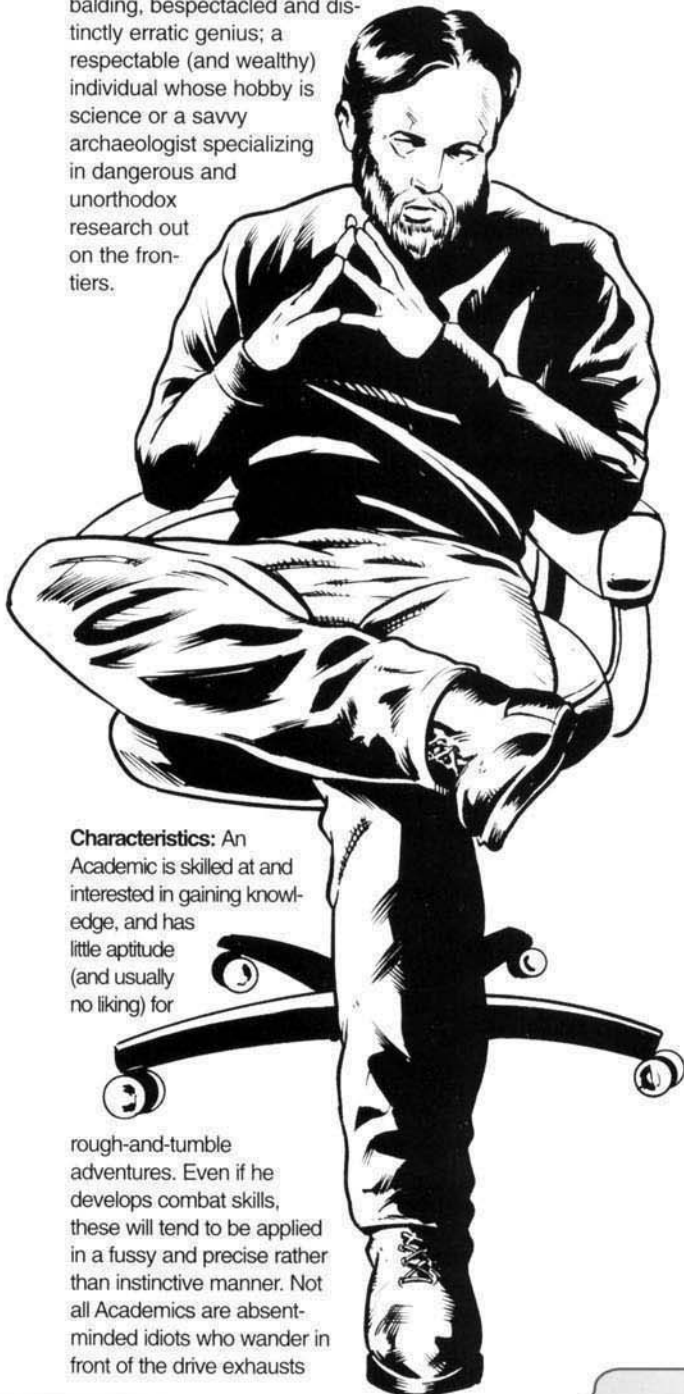
\* Exclusive Skill

**Starting Skill Points:** (8 + Int modifier) x 4. If you are taking Academic as a multiclass, you do not receive these starting skill points.

**Skill Points per Level:** 8 + Int modifier

## ACADEMIC CORE CLASS

The Academic is inclined towards sedentary and studious pursuits. Academics range from "true" academics - students and college professors - through accountants and bureaucrats to field scientists who may experience some danger and action in their daily work. This class covers anyone whose primary function is to collect and apply knowledge, usually from a comfortable chair. The Academic may be a scruffy teenage computer wizard; a balding, bespectacled and distinctly erratic genius; a respectable (and wealthy) individual whose hobby is science or a savvy archaeologist specializing in dangerous and unorthodox research out on the frontiers.



**Characteristics:** An Academic is skilled at and interested in gaining knowledge, and has little aptitude (and usually no liking) for

rough-and-tumble adventures. Even if he develops combat skills, these will tend to be applied in a fussy and precise rather than instinctive manner. Not all Academics are absent-minded idiots who wander in front of the drive exhausts

while examining a rare rock formation, but they all share a healthy interest in how and why things work, and have a great deal of curiosity.

**Background:** Academics typically come from a reasonably well-off background; people who can afford the time and the cost of going to college or studying at home. Possible careers for Academics include administrators, computer hackers, individuals trying to develop or investigate psionic powers, research scientists and starship engineers with a strong theoretical interest in how their engines work.

**Adventuring:** Not all problems can be solved by force or deception. The Academic may have knowledge or contacts that can help solve a problem (or create an adventure lead). Sometimes NPC scholars will be unwilling to talk to their "intellectual inferiors" and will need to be approached by someone respected in the academic community. In a high-tech society, knowledge can really be power - and it is amazing what you can achieve from a swivel chair if you have the right datanet codes....

### GAME RULE INFORMATION

**Class Type:** Core

**Initial Requirements:** A starting character must have an Education 14+ and Intelligence 12+, or must make a Wisdom check (DC5) to become an academic. Most Academics will usually (but not always) attend University before beginning play in a campaign, in an attempt to earn their degree (see University, pg. 122).

**Multiclass Restrictions:** To multiclass into the Academic class, a character must have earned at least a Bachelor's degree at University, or have Education 14+ and an Intelligence 12+

**Abilities:** Education, Intelligence

**Stamina:** 1d4 + Con modifier per level

**Starting Funds:** Cr1000

**Academic Lecture:** The academic may add a +4 synergy bonus when using a related Knowledge skill towards a Bluff skill check rather than the normal +2 synergy bonus, in an appropriate situation.

**Advanced Knowledge:** The Academic may select one skill from among their Education or Intelligence based class skills to have acquired Advanced Knowledge with. Advanced Knowledge increases the maximum possible skill rank in a selected Intelligence or Education based skill from character level +3 to character level +3 + Education Bonus (any penalty is considered +0 for purposes of this class feature). This class feature may be taken more than once, but each subsequent selection must specify a different skill.

**Advanced Research:** The Academic may add a +4 synergy bonus when using a related Knowledge skill towards a Gather Information skill check rather than the normal +2 synergy bonus.

**Mental Discipline:** With a highly trained and analytical mind, an Academic may add +2 to all Intelligence ability checks that require some form of mental agility or problem solving.

**Pseudo-Eidetic Memory:** Advanced training and practice allows an academic to develop a system of what can occasionally seem like near-total recall. Add a +2 synergy bonus to all Knowledge and Education checks when attempting to recall information that has previously been studied, learned, or otherwise become aware of by the character.

**Related Field of Study:** The Academic may select any one non-class Intelligence or Education based skill and make it a permanent class skill. Advanced Knowledge may only be taken once per individual skill.



# THE CLASSES: ARMY

## ARMY

	Base Attack Bonus	Base Fort Bonus	Base Reflex Bonus	Base Will Bonus	Special
1st	+0	+0	+2	+0	Starting Feats + Bonus Feat
2nd	+1	+0	+3	+0	Bonus Feat
3rd	+2	+1	+3	+1	
4th	+3	+1	+4	+1	
5th	+3	+1	+4	+1	Bonus Feat
6th	+4	+2	+5	+2	
7th	+5	+2	+5	+2	Bonus Feat
8th	+6/+1	+2	+6	+2	
9th	+6/+1	+3	+6	+3	
10th	+7/+2	+3	+7	+3	Bonus Feat
11th	+8/+3	+3	+7	+3	Bonus Feat
12th	+9/+4	+4	+8	+4	
13th	+9/+4	+4	+8	+4	Bonus Feat
14th	+10/+5	+4	+9	+4	Bonus Feat
15th	+11/+6/+1	+5	+9	+5	
16th	+12/+7/+2	+5	+10	+5	
17th	+12/+7/+2	+5	+10	+5	Bonus Feat
18th	+13/+8/+3	+6	+11	+6	
19th	+14/+9/+4	+6	+11	+6	Bonus Feat
20th	+15/+10/+5	+6	+12	+6	

## SERVICE SKILLS

Characters from a high-tech army may select as class skills anything under the High Tech Army list. Low-tech soldiers may only select as class skills those listed under Low-Tech Army. Soldiers from a mid-tech army may select as class skills from either High or Low tech lists, with the exception of the Technical skill. A mid-tech soldier may only select the T/Mechanical skill.

## HIGH/MD TECH ARMY SERVICE SKILLS

Class Skill	Key Ability	Class Skill	Key Ability
Bribery	Cha	Combat Engineering	Int
Demolitions	Dex	Driving	Dex
Forward Observer	Int	Gambling	Int
Gather Information	Cha	Gunnery	Wis
Leader	Int/Cha	Liaison	Cha
P/Administration	Wis	Pilot	Int/Dex
Recruiting	Edu	Sense Motive	Wis
Spot	Wis	Survival	Wis
Technical (any*)	Edu		

\* Communications, Computer, Electronics, Gravitics, Mechanical, Medical, or Sensors

Skill Points per Level: 4+ Int Modifier

## MID/LOW TECH ARMY SERVICE SKILLS

Class Skill	Key Ability	Class Skill	Key Ability
Bribery	Cha	Gambling	Int
Gather Information	Cha	Handle Animal	Cha
Leader	Int/Cha	Liaison	Cha
Recruiting	Edu	Ride	Dex
Spot	Wis	Survival	Wis

Skill Points per Level: 4 + Int modifier

## ARMY SERVICE FEATURES

All of the following are class features of the Army:

**Starting Feats:** The Armsoldier begins play with the following feats:

Low Tech	Mid Tech	High Tech
Weapon Proficiency (Swordsman)	Weapon Proficiency (Marksman)	Weapon Proficiency (Marksman)
Armor Proficiency (Light)	Weapon Proficiency (Combat Rifleman)	Weapon Proficiency (Combat Rifleman)
	Armor Proficiency (Light)	Armor Proficiency (Light)
		Armor Proficiency (Medium)
		Armor Proficiency (Vac Suit)

**Bonus Feats:** At 1st, 2nd, 5th, 7th, 10th, 11th, 13th, 14th, 17th and 19th level Army personnel gain a bonus feat. These feats may be chosen from the list below. If the character already has all of the listed feats, they may select any other feat from the Feats chapter (pg. 100) that they are qualified for.

Low Tech	Mid Tech	High Tech
Brawling	Armor Proficiency (Vac Suit)	Armor Proficiency (Battledress)
Command Presence*	Brawling	Brawling
Mounted Combat	Command Presence*	Command Presence*
Tactics I*	Heavy Metal	Heavy Metal
Ride-By Attack	Mounted Combat	Tactics I*
Shield Proficiency	Tactics I*	Tactics II*
Spirited Charge	Tactics II*	Strategy*
Trample	Ride-By Attack	Vessel (Aircraft)
Vessel (Watercraft)	Vessel (Aircraft)	Vessel (Grav)
Weapon Specialization*	Vessel (Ground)	Vessel (Ground)
	Vessel (Watercraft)	Vessel (Watercraft)
	Weapon Proficiency (Field Artillery)	Weapon Proficiency (Field Artillery)
	Weapon Proficiency (Lasers)	Weapon Proficiency (High Energy)
	Weapon Specialization*	Weapon Proficiency (Lasers)
		Weapon Specialization*

\* A specialized class feat.

## ARMY SERVICE CLASS

Most worlds maintain Ground Forces for their own defense. Characters who have served in the Army will have gained experience in one of the three main combat arms (Infantry, Artillery, Cavalry) or the support formations (Technical, Logistics, Intelligence etc). Most characters are likely to have served in the infantry. Army characters (of all arms) learn how to operate infantry weapons plus some specialist skills, for example dealing with vehicle operations, hostile-environment survival or combat engineering.

**Characteristics:** Military personnel are trained to act. They have a tendency to engage problems rather than stand about wondering what to do. This does not guarantee the ex-soldier will come up with the best solution to a problem; merely that he or she will do something. Military personnel are usually very proud of whatever unit they served with. They will be familiar with military equipment and weapons of their own and other cultures.

**Background:** The Army requires its personnel to be in reasonably good physical shape (even for desk jobs at the supply bases). Highly technical jobs such as Combat Engineering or Electronic Warfare require a good education and familiarity with high-tech equipment, but almost anyone can be trained to be a skilled infantryman, so ex-army characters may come from any background. Those with a high social standing, intelligence or education often become technical specialists and/or officers.

**Adventuring:** Military personnel are a great asset to any adventuring group. Their training and weapons skills are an asset in a fight, and many ex-soldiers have other useful skills such as T/Electronics or survival which can assist a group in reaching its goal.

### GAME RULE INFORMATION

**Class Type:** Service

**High Tech Army (H):** Tech Level 9+

**Mid Tech Army (M):** Tech Level 5-8

**Lo Tech Army (L):** Tech Level 1-4

**Initial Requirements:** The character must be from a world with some form of military or paramilitary ground forces. Strength 10+ and Dexterity 8+ are also required.

**Multiclass Restrictions:** Only a character actively working in the Army prior history may multiclass into the Army class.

**Stamina:** 1d8 + Con modifier per level

**Starting Funds:** Acquired as part of the mustering out benefits after prior history.

**Command Presence:** The art of using presence and voice to inspire confidence and leadership. Add a +2 synergy bonus to all Leader skill checks. This bonus does stack with the Natural Born Leader feat.

**Strategy:** Requires the Tactics II class feature. With this feat, the soldier may add his Wisdom or Intelligence bonus (whichever is higher) to any initiative rolls or saving throws made by units under his command. Treat any negative ability modifier as +0 for purposes of this feat.

**Tactics I:** With this feat, the soldier may add his Wisdom or Intelligence bonus (whichever is higher) to any small-unit initiative rolls or saving throws. Treat any negative ability modifier as +0 for purposes of this feat. A small unit is a team of combatants numbering from 2 to 12 troops.

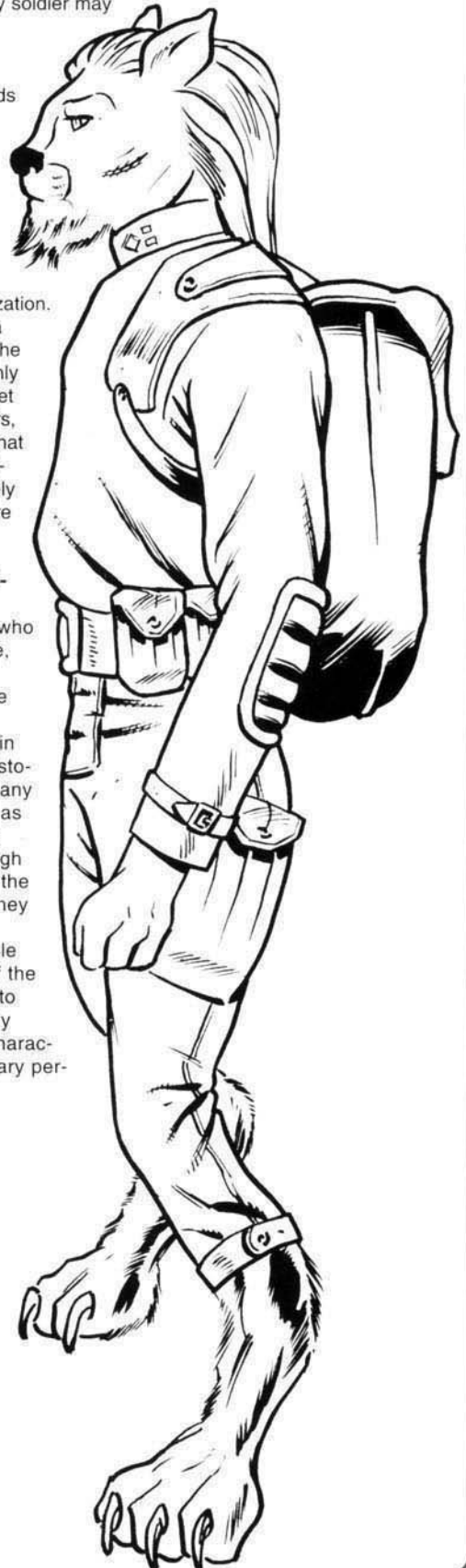
**Tactics II:** Requires the Tactics I class feature. The soldier has developed an insight into the tactics involved in maneuvering larger sized battlefield units including both manpower and vehicle assets ranging from platoon to battalion size. The soldier may add his Wisdom or Intelligence bonus (whichever is higher) to the initiative rolls or saving throws for these assets. Treat any negative ability modifier as +0 for purposes of this feat.

**Weapon Specialization:** On achieving 2nd level or higher, as a feat the army soldier may

take Weapon Specialization. Weapon Specialization adds a +2 damage bonus with a chosen weapon. The soldier must have Weapon Focus with that weapon to take Weapon Specialization. If the weapon is a ranged weapon, the damage bonus only applies if the target is within 10 meters, because only at that range can the soldier strike precisely enough to hit more effectively.

### EX-ARMY PERSONNEL

Army personnel who muster-out, retire, are otherwise released from the service and not actively working in the army prior history, may not take any additional levels as a member of the Army class, though they retain all of the skills and feats they have already acquired. This rule may be waived if the Referee intends to run an active duty campaign with characters playing military personnel.



# THE CLASSES: BARBARIAN

3

## BARBARIAN

	Base Attack Bonus	Base Fort Bonus	Base Reflex Bonus	Base Will Bonus	Special
1st	+1	+2	+0	+1	Starting Feats + Bonus Feat
2nd	+2	+3	+0	+2	Bonus Feat
3rd	+3	+3	+1	+2	
4th	+4	+4	+1	+2	
5th	+5	+4	+1	+3	Bonus Feat
6th	+6/+1	+5	+2	+3	
7th	+7/+2	+5	+2	+4	Bonus Feat
8th	+8/+3	+6	+2	+4	
9th	+9/+4	+6	+3	+4	
10th	+10/+5	+7	+3	+5	Bonus Feat
11th	+11/+6/+1	+7	+3	+5	Bonus Feat
12th	+12/+7/+2	+8	+4	+6	
13th	+13/+8/+3	+8	+4	+6	Bonus Feat
14th	+14/+9/+4	+9	+4	+6	Bonus Feat
15th	+15/+10/+5	+9	+5	+7	
16th	+16/+11/+6/+1	+10	+5	+7	
17th	+17/+12/+7/+2	+10	+5	+8	Bonus Feat
18th	+18/+13/+8/+3	+11	+6	+8	
19th	+19/+14/+9/+4	+11	+6	+8	Bonus Feat
20th	+20/+15/+10/+5	+12	+6	+9	

## BARBARIAN CLASS FEATURES

**Starting Feats:** The Barbarian begins play with the following feats:

Armor Proficiency (Light)      Technophobia

Shield Proficiency

Weapon Proficiency (Archer)

Weapon Proficiency (Swordsman)

**Bonus Feats:** At 1st, 2nd, 5th, 7th, 10th, 11th, 13th, 14th, 17th and 19th level the Barbarian gains a bonus feat. These feats may be chosen from the list below. If the character already has all of the listed feats, they may select any other feat from the Feats chapter (pg. 100) that they are qualified for.

Animal Whisperer*	Athletic	Brawling
Dodge	Endurance	Great Fortitude
Improved Initiative	Iron Will	Lightning Reflexes
Mobility	Natural Born Leader	Natural Compass
Natural Medicine*	Run	Skill Focus (Outdoor Survival)*
Stealthy	Toughness	Tracker
Trapping	Weapon Focus	Weapon Specialization*

\* A specialized class feat.

## BARBARIAN CLASS SKILLS

Class Skill	Key Ability	Class Skill	Key Ability
Animal Empathy*	Cha	Climb	Str
Craft (any**)	Int	Entertain (any**)	Cha
Handle Animal	Cha	Hide	Dex
Intuit Direction	Wis	Jump	Str
Listen	Wis	Move Silently	Dex
Ride	Dex	Spot	Wis
Swim	Str	Technosavvy*	Int
Tumble	Dex	Survival	Wis

\* Exclusive Skill

\*\* As appropriate for a TL0-3 society.

**Starting Skill Points:** (2 + Int modifier) x 4.

**Skill Points per Level:** 2 + Int modifier



## BARBARIAN CORE CLASS

The Barbarian hails from a rural low-tech society. This may be the outback of a developed world or the towns of a low-tech planet. Not all Barbarians are muscular sword-wielding heroes. Many are craftsmen, merchants or professionals such as priests or scribes, but for the most part Barbarian characters will be familiar with outdoor life and will possess survival, hunting or low-tech combat skills. Barbarians are not stupid; they are merely uneducated in the technological marvels of the universe and unfamiliar with life in the big city.

**Characteristics:** Barbarians are rugged individuals, used to coping without technological means. They are self-reliant and usually slow to trust others. Coming from a world without trauma centers and social services, barbarians tend to be prudent about risk-taking but at the same time willing to stake a great deal on their own competence. Some Barbarians may shun or actually be afraid of technology; most are likely to see it as a useful tool but one that can make the user forget about his own capabilities in favor of quick and easy technological crutches. Such individuals may be willing to use technology but will be careful not to become reliant on it.

**Background:** A Barbarian character might be a stone-age savage rescued from wild animals on his homeworld, a backwoods hunter from a mid-tech society, or a chainmail-armored swordsman recruited from the royal guard of his TL2 homeworld.

**Adventuring:** Barbarians usually have excellent "woodcraft" skills and can be a big asset when out in the wilds, acting as scouts and hunters. They are also skilled at fighting, and can learn how to use modern weapons if they choose to. Sometimes the simplistic "barbarian" outlook can provide a direct answer to problems that elude more sophisticated individuals.

### GAME RULE INFORMATION

**Class Type:** Core

**Initial Requirements:** A starting character must usually be from a Very Low technology homeworld (TL 0-3) to become a Barbarian, though the Referee may choose to allow Barbarian characters to hail from higher technology worlds if desired. Barbarians begin as a young adult (age 14 for most races) rather than an adult (age 18 for most races), and must take at least one term of Barbarian Prior History before taking a term of Prior History in any other service or profession.

**Multiclass Restrictions:** You cannot multiclass into the Barbarian class.

**Abilities:** Dexterity, Wisdom

**Stamina:** 1d12 + Con modifier per level

**Starting Funds:** Cr100

**Animal Whisperer:** While a Barbarian cannot exactly talk to animals, their ability to deal with them sometimes makes it almost appear to be true. In non-combat situations, a barbarian with an Animal Empath skill rank of 5 or more may add a +4 skill synergy bonus to all Handle Animal or Ride skill checks rather than the standard +2 synergy bonus.

**Natural Medicine:** While not technologically advanced, Barbarians do tend to have a fair amount of herbal lore and natural remedies available to them when they must deal with injuries and ailments. This feat is similar to the First Aid feat available to anyone, allowing a barbarian to function as if he had a T/Medical skill rank of 0. In addition, it also allows a barbarian to use this skill in a wilderness environment as if he had a proper basic TL5-7 field medical kit at all times. This feat requires a K/Herbal Lore skill rank of 5 or greater.

**Outdoor Survival:** A Barbarian may add +2 to all Survival skill checks on Thin, Standard, or Dense atmosphere worlds. In addition they may treat the following skills as Untrained skills: Animal Empathy, Handle Animal, Intuit Direction, and Tumble.

**Weapon Specialization:** At 2nd level and higher, the Barbarian may take Weapon Specialization. Weapon Specialization adds a +2 damage bonus with a chosen weapon. The barbarian must have Weapon Focus with that weapon to take Weapon Specialization. If the weapon is a ranged weapon, the damage

bonus only applies if the target is within 10 meters, because only at that range can the soldier strike precisely enough to hit more effectively. This feat may be taken more than once, but each time it must be applied to a different weapon.

**Technophobia:** Because of their unfamiliarity with technology, Barbarians are often wary of and all have difficulty with items of a technology level of 4 or better, or when using technology related skills (any technical skills, combat engineering, demolitions, driving, forward observer, all knowledge skills, and pilot).

When attempting to use technology related skills, a Barbarian suffers a -2 penalty to all checks.

When attempting to use a technological item, a Barbarian suffers a -4 penalty to all checks. If someone has shown him how to use the item or he has used the item previously, the penalty is only -2.

**Technosavvy Skill:** Technosavvy is a skill available only to the Barbarian class. Its sole purpose is to allow a Barbarian to offset the penalties incurred because of Technophobia. This skill is developed like any other skill, and is considered a class skill for point costs. Advancement in this skill represents the character's increasing familiarity with technology. A Technosavvy skill check may be made (DC20) whenever the Barbarian character would normally be penalized for Technophobia. If the skill check is successful, the character may reduce any Technophobia penalties by 2 points.

### EX-BARBARIANS

A Barbarian who becomes too technologically sophisticated is no longer a true barbarian. If his Technosavvy skill rank ever equals or exceeds 10, the character may no longer earn levels as a barbarian. Furthermore, if a Barbarian who is multiclassed ever improves another class level by more than one level above his current Barbarian class level, he may never again raise his Barbarian level, though he retains all of his Barbarian abilities. For example, a character with Barbarian level 2 and army level 2 could take a new level in army and still earn levels as a Barbarian at the next level increase, because his army class level would still only be 1 greater than his Barbarian class level. If the character decided to take another level in army next time, he would no longer be able to earn levels as a barbarian because his army level (4th) is now two levels higher than his Barbarian class level. An ex-Barbarian keeps all abilities previously earned, and no longer suffers a -2 penalty when attempting to use technology related skills.



## BELTER

	Base Attack Bonus	Base Fort Bonus	Base Reflex Bonus	Base Will Bonus	Special
1st	+0	+0	+0	+2	Starting Feats + Bonus Feat
2nd	+1	+0	+0	+3	Bonus Feat
3rd	+1	+1	+1	+3	
4th	+2	+1	+1	+4	
5th	+2	+1	+1	+4	Bonus Feat
6th	+3	+2	+2	+5	
7th	+3	+2	+2	+5	Bonus Feat
8th	+4	+2	+2	+6	
9th	+4	+3	+3	+6	
10th	+5	+3	+3	+7	Bonus Feat
11th	+5	+3	+3	+7	Bonus Feat
12th	+6/+1	+4	+4	+8	
13th	+6/+1	+4	+4	+8	Bonus Feat
14th	+7/+2	+4	+4	+9	Bonus Feat
15th	+7/+2	+5	+5	+9	
16th	+8/+3	+5	+5	+10	
17th	+8/+3	+5	+5	+10	Bonus Feat
18th	+9/+4	+6	+6	+11	
19th	+9/+4	+6	+6	+11	Bonus Feat
20th	+10/+5	+6	+6	+12	

## BELTER CLASS FEATURES

All of the following are class features of the Belter:

**Starting Feats:** The Belter begins play with the following feats:

Armor Proficiency (Light)	Armor Proficiency (Vac Suit)
Weapon Proficiency (Marksman)	Zero-G/Low Gravity Adaptation

**Bonus Feats:** At 1st, 2nd, 5th, 7th, 10th, 11th, 13th, 14th, 17th and 19th level the Belter gains a bonus feat. These feats may be chosen from the list below. If the character already has all of the listed feats, they may select any other feat from the Feats chapter (pg. 100) that they are qualified for.

3D Spatial Awareness*	Dumb Luck	Gearhead
Geological Survey	Imp Zero-G/Low Gravity Adaptation	Junkyard Dog*
Jury Rig	Midas Touch*	Miracle Worker
Self-Reliance*	Ship Tactics	Skill Focus (Prospecting)
Vessel (Ship's Boat)	Vessel (Starships)	Weapon Proficiency (Ship's Weapons)

\*A specialized class feat.

## BELTER CLASS SKILLS

Class Skill	Key Ability	Class Skill	Key Ability
Appraise	Int	Bluff	Cha
Demolitions	Dex	Forward Observer	Int
Gambling	Int	Gunnery	Dex
K/Mining	Wis	K/Geology	Wis
Astrogation	Edu	Pilot	Dex
P/Prospecting	Wis	Search	Int
Technical (Any)	Edu		

**Starting Skill Points:** (6 + Int modifier) x 4

**Skill Points per Level:** 6 + Int modifier

## BELTER CORE CLASS

Belters are asteroid miners or prospectors. Many operate small starships while others live and work in small, close-knit communities. Belters have a wide range of skills from starship operations to engineering and working in hostile environments. Belters range from scruffy "one-mule" prospectors who spend months at a time alone in space to highly-educated mining engineers with impressive degrees.

**Characteristics:** A Belter's livelihood and his life depend upon his equipment and his colleagues. Belters are thus unwilling to trust either until it or they have been proven worthy. They tend to be close-mouthed and rather dour in the working environment, and extremely intolerant of waste or incompetence. Belters often show another side of their character when away from work, and may party riotously to let off steam. Some Belters are avid scholars, fascinated by new techniques and ways to wring a little more utility out of their equipment. The great majority are rule-of-thumb engineers using techniques learned from Old Uncle Bob and getting along just fine, thank you very much.

**Background:** Most Belters are the children of Belters or are adopted into the Belting community. Such individuals tend to have a rather rough-and-ready upbringing and education, but are often experts on equipment maintenance and safety. Some "Belters" are actually "Asteroid Miners"; highly-skilled engineers in shiny starships. Such individuals are scorned by "true" Belters, and treated as "rich kids playing at Belting".

**Adventuring:** Belters are self-reliant and skilled with machinery, especially at jury-rigging and adapting old gear to new applications. They can fill many positions aboard a starship and have a good broad set of skills that suit them to freewheeling adventure among the stars.

### GAME RULE INFORMATION

**Class Type:** Core

**Initial Requirements:** Must be from a High Technology world (TL 10+). Belters begin as a young adult (age 14 for most races) rather than an adult (age 18 for most races), and must take at least one term of Belter Prior History before taking a term of Prior History in any other service or profession.

**Multiclass Restrictions:** You cannot multiclass into the Belter class.

**Abilities:** Education, Intelligence

**Stamina:** 1d6 + Con modifier per level

**Starting Funds:** Cr200

**3D Spatial Awareness:** Due to a Belter's years in low or zero gravity environments, the ability to maneuver in three dimensions has become second nature to them. Add a +2 circumstance bonus when making Reflex saves in such an environment, and a +1 circumstance bonus to all Pilot skill checks while operating in space. Requires both the Zero-G/Low Gravity Adaptation feat and the Improved Zero-G/Low Gravity Adaptation feat.

**Junkyard Dog:** Some Belters prefer to deal in salvage work rather than prospecting for mineral wealth. With this feat, a Belter automatically earns a 1d8+2 percent 'finders fee' when returning salvaged items owned by a government rather than having to barter for the additional cash as per the normal Salvage rules (see pg. 344). When selling salvaged items for scrap, a Belter with this

feat is able to command a price equal to 2d6% of the original value of the item rather than just 1d10%. This feat will also impart a +2 bonus when using the Appraise skill to attempt to determine the possible value of a salvaged item.

#### Self-Reliance:

When you tend to work out in the middle of nowhere, hours or days from contact with other people, and something goes wrong a certain amount of self-reliance develops. This feat allows a Belter may treat any Technical skill as an Untrained skill.

#### Midas

**Touch:** Some Belters (they more prosperous ones at least) tend to develop a knack for locating potentially lucrative spots for prospecting. If a strike is made, the Belter may increase the level of the discovery by 1 level of value as per the Prospecting rules (pg. 84) if desired.

#### EX-BELTERS

A Belter must always have a P/Prospecting skill rank equal to or higher than his current Belter level. If a Belter's class level would ever exceed his P/Prospecting skill rank, he may not take another level in the Belter class until his P/Prospecting skill rank is improved sufficiently.





# THE CLASSES: MARINES

## MARINE

	Base Attack Bonus	Base Fort Bonus	Base Reflex Bonus	Base Will Bonus	Special
1st	+1	+2	+0	+1	Starting Feats + Bonus Feat
2nd	+2	+3	+0	+2	Bonus Feat
3rd	+3	+3	+1	+2	
4th	+4	+4	+1	+2	
5th	+5	+4	+1	+3	Bonus Feat
6th	+6/+1	+5	+2	+3	
7th	+7/+2	+5	+2	+4	Bonus Feat
8th	+8/+3	+6	+2	+4	
9th	+9/+4	+6	+3	+4	
10th	+10/+5	+7	+3	+5	Bonus Feat
11th	+11/+6/+1	+7	+3	+5	Bonus Feat
12th	+12/+7/+2	+8	+4	+6	
13th	+13/+8/+3	+8	+4	+6	Bonus Feat
14th	+14/+9/+4	+9	+4	+6	Bonus Feat
15th	+15/+10/+5	+9	+5	+7	
16th	+16/+11/+6/+1	+10	+5	+7	
17th	+17/+12/+7/+2	+10	+5	+8	Bonus Feat
18th	+18/+13/+8/+3	+11	+6	+8	
19th	+19/+14/+9/+4	+11	+6	+8	Bonus Feat
20th	+20/+15/+10/+5	+12	+6	+6	

## MARINE SERVICE FEATURES

All of the following are class features of the Marine:

**Starting Feats:** The Marine begins play with the following feats:

Weapon Proficiency (Marksman)      Weapon Proficiency (Combat Rifleman)

Weapon Proficiency (Swordsman)      Weapon Focus (Cutlass)

Armor Proficiency (Light Armor)      Armor Proficiency (Medium Armor)

Armor Proficiency (Vac Suit)

**Bonus Feats:** At 1st, 2nd, 5th, 7th, 10th, 11th, 13th, 14th, 17th and 19th level the Marine gains a bonus feat. These feats may be chosen from the list below. If the character already has all of the listed feats, they may select any other feat from the Feats chapter (pg 100) that they are qualified for.

Armor Proficiency (Battledress)	Brawling	Command Presence*
Heavy Metal	High Morale*	Improved Zero-G/Low Gravity Adaptation
Second Wind*	Tactics I*	Tactics II*
Toughness	Vessel (Aircraft)	Vessel (Grav)
Vessel (Ground)	Vessel (Ship's Boat)	Weapon Proficiency (High Energy)
Weapon Proficiency (Lasers)	Weapon Proficiency (Ship's Weapons)	Weapon Specialization
	Zero-G Combat	Zero-G/Low Gravity Adaptation

\* A specialized class feat.

## MARINE SERVICE SKILLS

Class Skill	Key Ability	Class Skill	Key Ability
Bribery	Cha	Combat Engineering	Int
Demolitions	Dex	Driving	Dex
Forward Observer	Int	Gambling	Int
Gather Information	Cha	Gunnery	Wis
Leader	Int/Cha	Liaison	Cha
P/Administration	Wis	Pilot	Int/Dex
Recruiting	Edu	Sense Motive	Wis
Spot	Wis	Survival	Wis
Technical (any*)	Edu		

\* Communications, Computer, Electronics, Gravitics, Mechanical, Medical, or Sensors

**Skill Points per Level:** 2 + Int modifier

## MARINES SERVICE CLASS

The Marine Corps is a specialized fighting force. Its troopers gain impressive combat skills and some shipboard experience. Marines are adept at fighting in zero-g and other hostile environments.

**Characteristics:** Marines are tough and team-oriented. They are sometimes a little contemptuous of the Army, and claim not to be able to comprehend the Navy's way of doing things. Marines are exceptionally proud of their unit and of the Marine Corps in general. The Marines are often used as a hammer to smash the government's problems, and many Marines retain the "break it now, let someone else worry about questions and stuff" attitude.

**Background:** Marines are generally recruited on mid to high tech worlds. Physical standards are high, and trained higher. As close cousins to the Navy, the Marines have a higher proportion of Noble officers than the Army (the Scouts have almost none!). Marines also tend to be intelligent and flexible, since they have to operate complex weapon systems in highly fluid combat environments.

**Adventuring:** A Marine is an impressive one-person fighting force, and may have useful secondary skills like T/Electronics or Gunnery. A Marine uniform is less well regarded than a Naval one, but ex-Marines are generally treated with respect wherever they go.

### GAME RULE INFORMATION

**Class Type:** Service

**Initial Requirements:** The character must be from a world with some form of spacefaring or starfaring military forces. Strength 10+, Dexterity 10+ and Intelligence 8+ are also required.

**Multiclass Restrictions:** Only a character actively working in the marines prior history may multiclass into the marines class.

**Stamina:** 1d10 + Con modifier per level

**Starting Funds:** Acquired as part of the mustering out benefits after prior history.

**Command Presence:** The art of using presence and voice to inspire confidence and leadership. Add +2 bonus to all Leader skill checks. This bonus can be stacked with the Natural Born Leader feat.

**Tactics I:** With this feat, the character may add his Wisdom or Intelligence bonus (whichever is higher) to any small-unit initiative rolls or saving throws. Treat any negative ability modifier as +0 for purposes of this feat. A "small unit" is a team of combatants numbering from 2 to 12 troops.

**Tactics II:** Requires the Tactics I class feature. The character has developed an insight into the tactics involved in maneuvering larger sized battlefield units including both manpower and vehicle assets ranging from platoon to battalion size. The soldier may add his Wisdom or Intelligence bonus (whichever is higher) to the initiative rolls or saving throws for these assets. Treat any negative ability modifier as +0 for purposes of this feat.

**High Morale:** Marines are known for their high morale and esprit de corps, thus marines with this feat earn a +2 to all Will saving throws.

**Second Wind:** Once per day the character may make a Will saving throw in place of a failed Fortitude saving throw. If the Will save is successful, the character is considered to have made the original Fortitude saving throw anyway. This class feat may be taken more than once, with each subsequent selection adding +1 to the number of times per day this feat may be used.

**Weapon Specialization:** Weapon Specialization adds a +2 damage bonus with a chosen weapon. The character must have Weapon Focus with that weapon to take Weapon Specialization. If the weapon is a ranged weapon, the damage bonus only applies if the target is

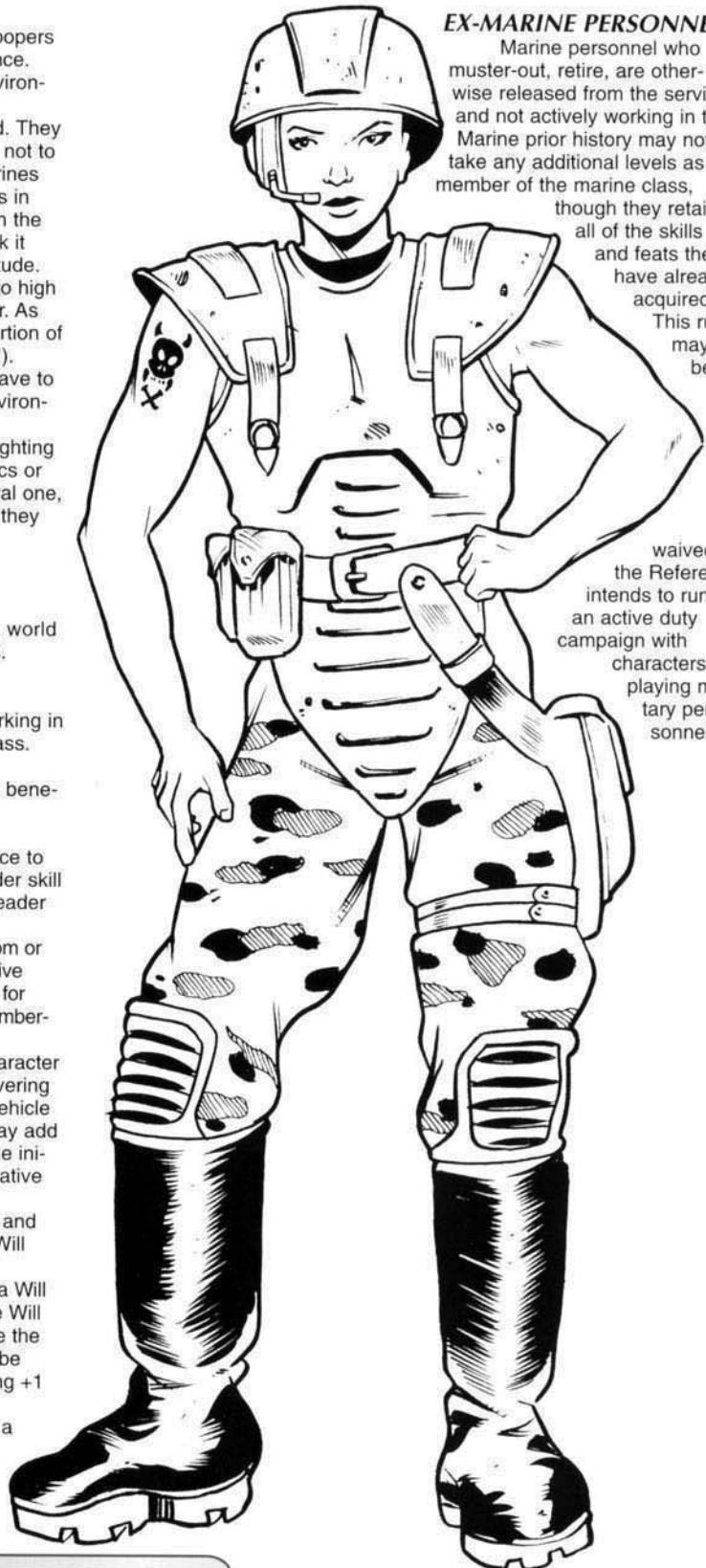
within 10 meters, because only at that range can the character shoot precisely enough to hit more effectively. The marine may take this feat as a bonus feat or as a regular one.

### EX-MARINE PERSONNEL

Marine personnel who muster-out, retire, are otherwise released from the service and not actively working in the Marine prior history may not take any additional levels as a member of the marine class,

though they retain all of the skills and feats they have already acquired. This rule may be

waived if the Referee intends to run an active duty campaign with characters playing military personnel.



# THE CLASSES: MERCENARY

## MERCENARY

	Base Attack Bonus	Base Fort Bonus	Base Reflex Bonus	Base Will Bonus	Special
1st	+1	+2	+0	+1	Starting Feats + Bonus Feat
2nd	+2	+3	+0	+2	Bonus Feat
3rd	+3	+3	+1	+2	
4th	+4	+4	+1	+2	
5th	+5	+4	+1	+3	Bonus Feat
6th	+6/+1	+5	+2	+3	
7th	+7/+2	+5	+2	+4	Bonus Feat
8th	+8/+3	+6	+2	+4	
9th	+9/+4	+6	+3	+4	
10th	+10/+5	+7	+3	+5	Bonus Feat
11th	+11/+6/+1	+7	+3	+5	Bonus Feat
12th	+12/+7/+2	+8	+4	+6	
13th	+13/+8/+3	+8	+4	+6	Bonus Feat
14th	+14/+9/+4	+9	+4	+6	Bonus Feat
15th	+15/+10/+5	+9	+5	+7	
16th	+16/+11/+6/+1	+10	+5	+7	
17th	+17/+12/+7/+2	+10	+5	+8	Bonus Feat
18th	+18/+13/+8/+3	+11	+6	+8	
19th	+19/+14/+9/+4	+11	+6	+8	Bonus Feat
20th	+20/+15/+10/+5	+12	+6	+6	

## MERCENARY SERVICE FEATURES

All of the following are class features of the Mercenary:

**Starting Feats:** The Mercenary begins play with the following feats:

Armor Proficiency (Light)	Armor Proficiency (Medium Armor)
Armor Proficiency (Vac Suit)	Weapon Proficiency (Marksman)

**Weapon Proficiency (Combat Rifleman)**

**Bonus Feats:** At 1st, 2nd, 5th, 7th, 10th, 11th, 13th, 14th, 17th and 19th level the Mercenary gains a bonus feat.

These feats may be chosen from the list below. If the character already has all of the listed feats, they may select any other feat from the Feats chapter (pg. 100) that they are qualified for.

Alertness	Armor Proficiency (Heavy)	Brawling
Cross Training*	Defensive Roll*	Dodge
Evasion*	Far Shot	Heavy Metal
Improved Critical	Improved Initiative	Improved Unarmed Strike
Opportunist*	Point Blank Shot	Precise Shot
Quick Draw	Rapid Shot	Shot on the Run
Sneak Attack*	Tactics I*	Toughness
Uncanny Dodge*	Weapon Focus	Weapon Specialization
Vessel/Ground Vehicles	Vessel/Watercraft	Zero-G/Low Grav Adaptation

\* A specialized class feat

## MERCENARY CLASS SKILLS

Class Skill	Key Ability	Class Skill	Key Ability
Bluff	Cha	Gambling	Int
Driving	Dex	Intimidate	Cha
Hide	Dex	Move Silently	Dex*
Leader	Int	Technical	Edu
Spot	Wis		

**Starting Skill Points:** (2 + Int modifier) \* 4. If you are taking Mercenary as a multiclass, you do not receive these starting skill points.

**Skill Points per Level:** 2 + Int modifier



## MERCENARY CORE CLASS

The Mercenary is inclined towards combat and violence. Some are actual mercenary soldiers, while others are barfighters, gunmen, bouncers, martial artists, security officers and so on. The Mercenary finds it easy to learn about combat and related matters such as stealth and hostile-environment skills.

**Characteristics:** The Mercenary may be a simple thug, a realist willing to accept violence as a fact of life, or some kind of "enlightened warrior" who seeks truths and inner peace while battling all comers. Most Mercenaries are often willing to take a direct and sometimes brutal approach to problems, and to accept risk or even casualties in order to achieve their goals. Very few are murderous, sociopathic thugs and most have a healthy respect for the consequences of violent action.

**Background:** Mercenaries have been exposed to violence at various times, and usually have some formal combat training. Service in the interstellar or planetary armed forces is a common route. Others might have trained with a mercenary unit or a mega-corporation's security arm, or may have learned their skills in a martial arts dojo or on the streets of a rough neighborhood.

**Adventuring:** Some problems require force to overcome, and these are the people to supply it. Mercs have the skills to use personal weapons effectively, and often have the ability to operate military equipment such as secure communications gear, combat vehicles and explosives.

### GAME RULE INFORMATION

**Class Type:** Core

**Initial Requirements:** A starting character must have Strength 12+ and Dexterity 8+ to become a Mercenary.

**Multiclass Restrictions:** To multiclass into the Mercenary class a character must have served at least one term in the Army, Marines, or Navy prior history (see Prior History, pg.120).

**Abilities:** Dexterity, Intelligence

**Stamina:** 1d10 + Con modifier per level

**Starting Funds:** Cr2000

**Cross Training:** The character may select one class feat from the Army, Marine, or Navy class. This class feat may be selected a maximum of two times.

**Defensive Roll:** Once per day, a Mercenary may attempt to roll with an incoming blow to take less damage from it. She makes a Reflex save (DC=stamina damage dealt) and if successful, she only takes half damage (stamina and lifeblood) from the blow. She must be aware of the attack and able to execute this maneuver. If she would normally be denied her Dexterity bonus to AC, she can't try it. Note that the Mercenary's Evasion feature does not apply when attempting a Defensive Roll.

**Evasion:** If exposed to any effect that normally allows a character to attempt a Reflex saving throw for half damage (such as a grenade), she takes no damage with a successful saving throw. Evasion can only be used if the Mercenary is wearing light armor or no armor.

**Opportunist:** Once per round, the Mercenary can make an attack of opportunity against an opponent that has just been hit for at least 1 point of lifeblood damage. This attack counts as the Mercenary's attack of opportunity for this round. Even a Mercenary with the Combat Reflexes feat may not make more than one Opportunist attack per round.

**Sneak Attack:** If a Mercenary can catch an opponent unaware or unable to defend himself (i.e. without their normal Dexterity bonus to AC; attacking from behind, a flank attack, etc.), she may strike for extra damage by targeting a vital spot. If the attack is successful, the mercenary will inflict one extra die of damage. If a critical hit occurs, this extra damage is not multiplied. Ranged attacks can only be a sneak attack if the target is within 9 meters. This class feature may be selected more than once. Each

subsequent selection will add 1 extra die of damage to the effects of a successful sneak attack.

**Tactics I:** With this feat, the character may add his Wisdom or Intelligence bonus (whichever is higher) to any small-unit initiative rolls or saving throws. Treat any negative ability modifier as +0 for purposes of this feat. A "small unit" is a team of combatants numbering from 2 to 12 troops.

**Uncanny Dodge:** The Mercenary gains the ability to react to danger before her senses would normally allow her to do so. She retains her Dexterity bonus to AC (if any) regardless of being caught flat-footed or unaware.



# THE CLASSES: MERCHANT

## MERCHANT

	Base Attack Bonus	Base Fort Bonus	Base Reflex Bonus	Base Will Bonus	Special
1st	+0	+1	+0	+1	Starting Feats + Bonus Feat
2nd	+0	+2	+0	+2	Bonus Feat
3rd	+0	+2	+1	+2	
4th	+1	+2	+1	+2	
5th	+1	+3	+1	+3	Bonus Feat
6th	+1	+3	+2	+3	
7th	+1	+4	+2	+4	Bonus Feat
8th	+2	+4	+2	+4	
9th	+2	+4	+3	+4	
10th	+2	+5	+3	+5	Bonus Feat
11th	+2	+5	+3	+5	Bonus Feat
12th	+3	+6	+4	+6	
13th	+3	+6	+4	+6	Bonus Feat
14th	+3	+6	+4	+6	Bonus Feat
15th	+3	+7	+5	+7	
16th	+4	+7	+5	+7	
17th	+4	+8	+5	+8	Bonus Feat
18th	+4	+8	+6	+8	
19th	+4	+8	+6	+8	Bonus Feat
20th	+5	+9	+6	+9	

## MERCHANT CLASS FEATURES

All of the following are class features of the Merchant:

**Starting Feats:** The Merchant begins play with the following feats:

**Armor Proficiency (Light)**      **Armor Proficiency (Vac Suit)**

**Barter**      **Weapon Proficiency (Marksman)**

**Bonus Feats:** At 1st, 2nd, 5th, 7th, 10th, 11th, 13th, 14th, 17th and 19th level the Merchant gains a bonus feat. These feats may be chosen from the list below. If the character already has all of the listed feats, they may select any other feat from the Feats chapter (pg. 100) that they are qualified for.

<b>Calculating Eye*</b>	<b>Carousing</b>	<b>Chief Steward*</b>
<b>Connections (Merchants)</b>	<b>Fast Talk</b>	<b>Gearhead</b>
<b>Jury Rig</b>	<b>Market Analyst*</b>	<b>Miracle Worker</b>
<b>Narrow Escape*</b>	<b>Ship Tactics</b>	<b>Steward*</b>
<b>Vessel (Ship's Boat)</b>	<b>Vessel (Starship)</b>	<b>Zero-G/Low Gravity Adaptation</b>

\* A specialized class feat.

## MERCHANT CLASS SKILLS

Class Skill	Key Ability	Class Skill	Key Ability
<b>Appraise</b>	Int	<b>Bluff</b>	Cha
<b>Bribery</b>	Cha	<b>Broker</b>	Int
<b>Driving</b>	Dex	<b>Gambling</b>	Int
<b>Gather Information</b>	Cha	<b>K/Trade &amp; Commerce Law</b>	Edu
<b>Liaison</b>	Cha	<b>Astrogation</b>	Edu
<b>Pilot</b>	Int/Dex	<b>Professional</b>	Wis
<b>Technical (Any)</b>	Edu	<b>Trader</b>	Int

**Starting Skill Points:** (7 + Int modifier) \* 4. If you are taking Merchant as a multiclass, you do not receive these starting skill points.

**Skill Points per Level:** 7 + Int modifier

## MERCHANTS CORE CLASS

The Merchant is usually a trader rather than a shopkeeper. He or she may be a highly-paid corporate factor or a member of the crew of a beat-up old merchant starship. Merchants are adept at thinking on their feet, seeking out new business opportunities, and at talking or shooting their way out of situations their business sense has got them into.

**Characteristics:** Merchants tend to have good interpersonal skills (the exception being arrogant high-powered brokers or those who do their business via data transfer in high-tech cities) and related skills like Gather Information or K/Interstellar Law that help get the deal done. The sort of merchant who becomes a player-character tends to be a risk-taker and is often willing to venture into seedy, dangerous places in order to make a profit. These characters can usually take care of themselves with fists or firearms.

**Background:** Merchants (especially those that own or crew starships) are often from a well-off or educated background. Others may have signed on as part of a Free Trader crew and gradually acquired trading skills as they served aboard in a technical capacity.

**Adventuring:** With their broad and general skillset, Merchants make excellent adventurers. They are good at getting information and finding adventure leads and can usually obtain hard-to-get equipment. Merchants often also have shipboard skills, making them doubly useful to a party with a starship.

### GAME RULE INFORMATION

**Class Type:** Core

**Initial Requirements:** A starting character must have Strength 12+ and Intelligence 14+, or must make a Wisdom check (DC8) to become a Merchant. Once you have finished creating a Merchant character you are obligated to spend at least one term (4 years) serving in the Merchant prior history (see Prior History, pg. 120). You may choose to defer the enlistment term and attend University first if desired (see University pg. 122).

**Multiclass Requirements:** To multiclass into the Merchant class a character must be actively working as a merchant in prior history (see Prior History, pg.120), or must be an active crewmember of a working starship of any type.

**Abilities:** Education, Intelligence, Dexterity

**Stamina:** 1d6 + Con modifier per level

**Starting Funds:** Cr1000

**Narrow Escape:** Some Merchants (particularly those of somewhat less than sterling reputations) develop a knack for sensing trouble and avoiding it before it spots them, whether it be pirates, local customs frigates, or a navy destroyer. When an encounter with these types of ships occurs, the merchant may attempt to avoid the encounter before it happens. The Merchant will roll 1d20 and add +1 for every 5 or more Merchant class levels he has attained against a DC of 17. If successful, the encounter does not occur.

**Calculating Eye:** Merchants make their living through the art of the deal, and knowing the potential value of various items and cargo is a large part of the process. Some merchants manage to develop a very Calculating Eye towards this task, and may add a +2 synergy bonus to their Appraise skill checks when attempting to appraise the value of common objects and equipment ranging from poor to masterful quality. This does not apply to rare items such as works of art, artifacts, antiques, etc.

Merchants with this feature may also Take10 when using their Broker skill to negotiate the price of a speculative trade good or cargo.

**Steward:** Adds 1d3 Middle and 1d6 Low passengers requesting travel aboard ship.

**Chief Steward:** Adds 1d3 High, 1d6 Middle, and 1d6+3 low passengers to the number requesting travel aboard ship. Requires the Steward class feature first.

**Market Analyst:** This feature of the Merchant class bestows knowledge of base market values for trade goods, and the ability to predict general sale trends for a specific world. A successful Broker skill check (DC15) allows the first die of the 3d6 to be thrown on the

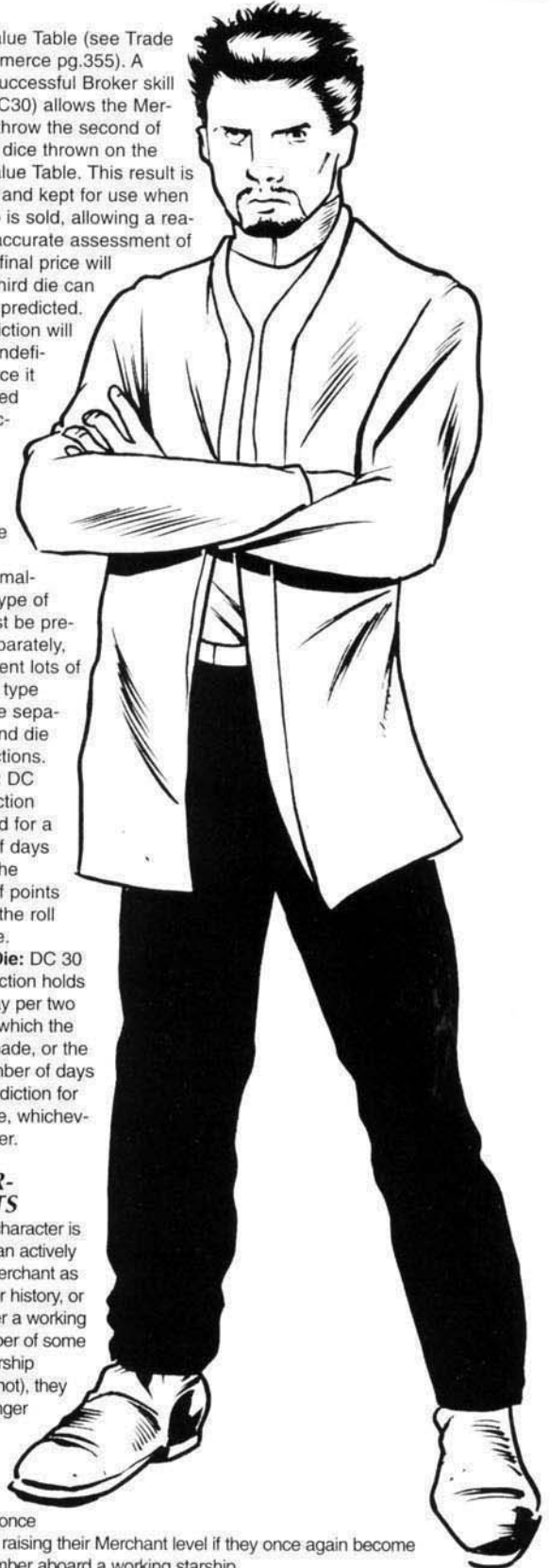
Actual Value Table (see Trade and Commerce pg.355). A second successful Broker skill check (DC30) allows the Merchant to throw the second of the three dice thrown on the Actual Value Table. This result is recorded and kept for use when the cargo is sold, allowing a reasonably accurate assessment of what the final price will be. The third die can never be predicted. The prediction will not hold indefinitely. Once it has expired the prediction is invalid and all Actual Value dice will be rolled normally. Each type of good must be predicted separately, and different lots of the same type must have separate second die roll predictions.

**First Die:** DC 15. Prediction holds valid for a number of days equal to the number of points by which the roll was made.

**Second Die:** DC 30. This prediction holds for one day per two points by which the roll was made, or the same number of days as the prediction for the first die, whichever is shorter.

### EX-MER- CHANTS

If a character is no longer an actively working Merchant as part of prior history, or is no longer a working crewmember of some type of starship (owner or not), they may no longer raise their level as a Merchant. The character may once again start raising their Merchant level if they once again become a crewmember aboard a working starship.





# THE CLASSES: NAVY

## NAVY

	Base Attack Bonus	Base Fort Bonus	Base Reflex Bonus	Base Will Bonus	Special
1st	+0	+0	+0	+2	Starting Feats + Bonus Feat
2nd	+1	+0	+0	+3	Bonus Feat
3rd	+1	+1	+1	+3	
4th	+2	+1	+1	+4	
5th	+2	+1	+1	+4	Bonus Feat
6th	+3	+2	+2	+5	
7th	+3	+2	+2	+5	Bonus Feat
8th	+4	+2	+2	+6	
9th	+4	+3	+3	+6	
10th	+5	+3	+3	+7	Bonus Feat
11th	+5	+3	+3	+7	Bonus Feat
12th	+6/+1	+4	+4	+8	
13th	+6/+1	+4	+4	+8	Bonus Feat
14th	+7/+2	+4	+4	+9	Bonus Feat
15th	+7/+2	+5	+5	+9	
16th	+8/+3	+5	+5	+10	
17th	+8/+3	+5	+5	+10	Bonus Feat
18th	+9/+4	+6	+6	+11	
19th	+9/+4	+6	+6	+11	Bonus Feat
20th	+10/+5	+6	+6	+12	

## NAVY CLASS FEATURES

All of the following are class features of the Navy:

**Starting Feats:** The Navy begins play with the following feats:

Armor Proficiency (Light)	Armor Proficiency (Vac Suit)
Weapon Proficiency (Marksman)	Weapon Proficiency (Laser)

**Bonus Feats:** At 1st, 2nd, 5th, 7th, 10th, 11th, 13th, 14th, 17th and 19th level Naval personnel gain a bonus feat.

These feats may be chosen from the list below. If the character already has all of the listed feats, they may select any other feat from the Feats chapter (pg 100) that they are qualified for.

Armor Proficiency (Battle Dress)	Brawling	Carousing
Command Presence*	Cross Training*	Damage Control
EW Specialist	Fleet Tactics	Gearhead
Heavy Metal	Interrogation	Jury Rig
Natural Born Leader	Miracle Worker	Naval Architect
Ship's Tactics	Vessel (Starships)	Vessel (Ship's Boat)
Weapon Proficiency (Ship's Weapons)	Weapon Proficiency (Swordsman)	

\* A specialized class feat.

## NAVY SERVICE SKILLS

Class Skill	Key Ability	Class Skill	Key Ability
Bribery	Cha	Driving	Int/Dex
Forgery	Int/Dex	Forward Observer	Int
Gambling	Int	Gather Information	Cha
Gunnery	Wis	Leader	Int/Cha
Liaison	Cha	Navigation	Edu
Pilot	Int/Dex	P/Administration	Wis
Recruiting	Edu	Survival	Wis
Technical (any)	Edu		

**Skill Points per Level:** 6 + Int modifier

## NAVY SERVICE CLASS

The Navy and the various system defense squadrons require educated, intelligent personnel to operate technical systems and weapons, or to fly and navigate the spacecraft and starships of the service. Naval service is very prestigious. Ex-Navy characters will have basic skills in routine shipboard tasks and vacc suit operations, plus the skills of their specialist department. This is most likely to be Engineering, Gunnery, Flight or "Crew". The latter are general personnel who fulfill many jobs aboard ships and at installations. Highly educated characters or those from a good family are likely to be officers.

**Characteristics:** Naval personnel are generally intelligent and well-educated. Like the Army, the Navy instills a fierce pride in its crews. Many ex-Navy personnel remain on the "reserve" list ready to be called up for service. Their dress uniform will come out for formal occasions. Naval personnel know that they are held in high regard as defenders of the stars. Some are rather contemptuous of the Army.

**Background:** Naval personnel are drawn from high-tech worlds. They are usually well educated and should be reasonably dexterous (for low-g maneuvering). Naval officers are often drawn from among the Nobility. This is especially true of ship commanders and flight branch officers. Others (gunnery and engineering, for example) are likely to be well-educated commoners.

**Adventuring:** Naval personnel have excellent shipboard skills, and may also have contacts in the service. They will have taken liberty in many ports across charted space, and should have a decent set of interpersonal skills too. While less skilled at combat than Army characters, the Navy does train its people with weapons in addition to their technical skill.

### GAME RULE INFORMATION

**Class Type:** Service

**Initial Requirements:** The character must come from a world with some form of starfaring or spacefaring military forces. Intelligence 12+ and Dexterity 12+ are also required.

**Multiclass Restrictions:** Only a character actively working in the Navy prior history may multiclass into the Navy class.

**Stamina:** 1d6 + Con modifier per level

**Starting Funds:** Acquired as part of the mustering out benefits after prior history.

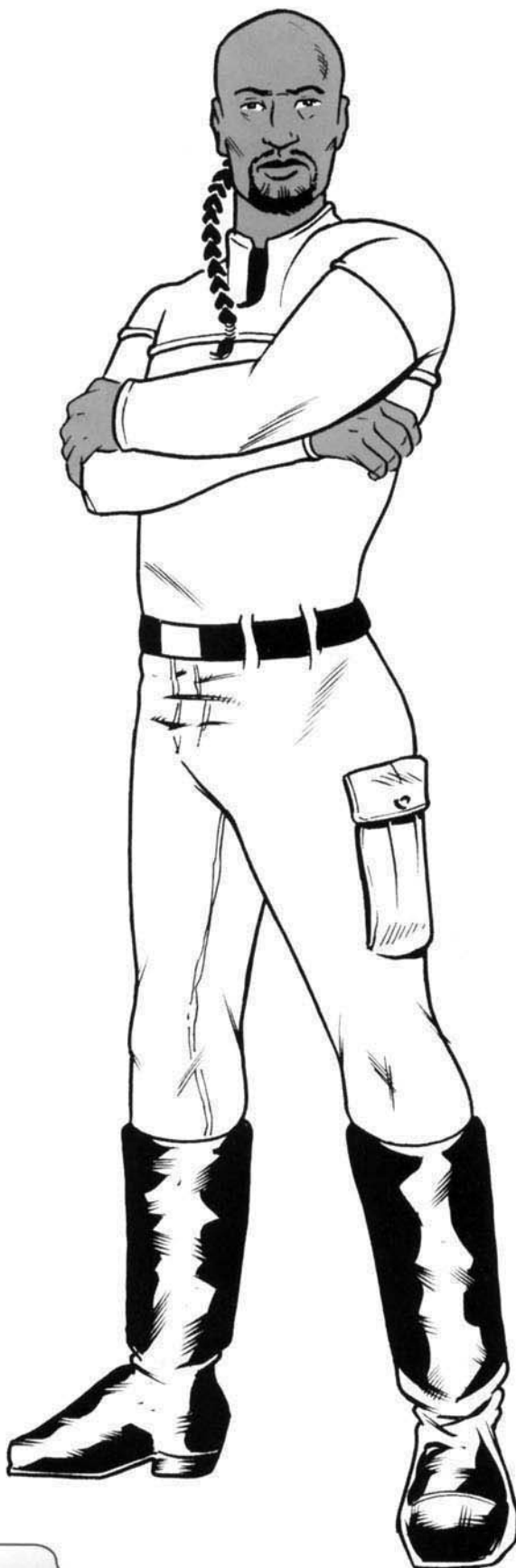
**Command Presence:** The art of using presence and voice to inspire confidence and leadership. Add a +2 synergy bonus to all Leader skill checks. This bonus does stack with the Natural Born Leader feat.

**Cross Training:** The Navy believes in training its sailors with at least some familiarity of a variety of tasks allowing for more flexibility of personnel in the event of the loss of other crewmembers during a battle. Any Technical skills the character is not currently trained in may be treated as if it were an 'untrained' skill. This means the character may attempt to use the skill as if they had a skill rank of 0. This feat may only be taken once by Naval personnel.

**Damage Control:** Being aboard a fighting naval vessel will usually impart some level of knowledge on the art of damage control, or quickly and effectively instituting temporary but critical repairs when needed. When a character or NPC leading a repair crew has the damage control feat, they may add x2 to the Repair Point multiplier for the team each round.

### EX-NAVY PERSONNEL

Navy personnel who muster-out, retire, are otherwise released from the service and not actively working in the Navy prior history, may not take any additional levels as a member of the Navy class, though they retain all of the skills and feats they have already acquired. This rule may be waived if the Referee intends to run an active duty campaign with characters playing military personnel.



## NOBLE

	Base Attack Bonus	Base Fort Bonus	Base Reflex Bonus	Base Will Bonus	Special
1st	+0	+0	+0	+2	Starting Feats + Bonus Feat
2nd	+1	+0	+0	+3	Bonus Feat
3rd	+1	+1	+1	+3	
4th	+2	+1	+1	+4	
5th	+2	+1	+1	+4	Bonus Feat
6th	+3	+2	+2	+5	
7th	+3	+2	+2	+5	Bonus Feat
8th	+4	+2	+2	+6	
9th	+4	+3	+3	+6	
10th	+5	+3	+3	+7	Bonus Feat
11th	+5	+3	+3	+7	Bonus Feat
12th	+6/+1	+4	+4	+8	
13th	+6/+1	+4	+4	+8	Bonus Feat
14th	+7/+2	+4	+4	+9	Bonus Feat
15th	+7/+2	+5	+5	+9	
16th	+8/+3	+5	+5	+10	
17th	+8/+3	+5	+5	+10	Bonus Feat
18th	+9/+4	+6	+6	+11	
19th	+9/+4	+6	+6	+11	Bonus Feat
20th	+10/+5	+6	+6	+12	

## NOBLE CLASS FEATURES

All of the following are class features of the Noble:

**Starting Feats:** The Noble begins play with the following feats:

Armor Proficiency (Light)

Weapon Proficiency (Swordsman)

Weapon Proficiency (Marksman)

**Bonus Feat:** At 1st, 2nd, 5th, 7th, 10th, 11th, 13th, 14th, 17th and 19th level the Noble receives a bonus feat that may be selected from any of the open or combat related feats or from the list below. If the character already has all of the listed feats, they may select any other feat from the Feats chapter (pg 100) that they are qualified for.

Carousing	Noble Presence*	Connections
Fast Talk	Hobby	Interrogation
Iron Will	Legal Eagle	Natural Born Leader
Noble Indignance*	Patronage*	Trustworthy
Trust Fund*	Vessel (any)	

\*A specialized class feat.

## NOBLE CLASS SKILLS

Class Skill	Key Ability	Class Skill	Key Ability
Appraise	Int	Bluff	Soc/Cha
Bribery	Soc/Cha	Craft (any)	Int
Entertain (any)	Cha	Gather Information	Cha
Innuendo	Wis	Intimidate	Soc/Cha
Knowledge (any)	Edu	Leader	Int
Liaison	Soc/Cha	Profession (any*)	Wis
Read/Write Language	None	Sense Motive	Wis
Speak Language	None		

\* As appropriate for a noble.

**Starting Skill Points:** (6 + Int modifier) \* 4 If you are taking Noble as a multiclass, you do not receive these starting skill points.

**Skill Points per Level:** 6 + Int modifier



## NOBLE CORE CLASS

Nobles generally move in high-powered circles, meeting rich, powerful or well-respected individuals in the course of their activities. They often serve as diplomats or act as representatives for interest groups. Many Nobles have a specific vocation, such as Naval Officer or Diplomat, while others are freelance troubleshooters or members of a higher noble's household or court.

**Characteristics:** While some Nobles are rich playboys, most are skilled and dedicated, either born into a tradition of service or elevated to their rank in recognition of their past deeds. Either way, Nobles tend to be skilled at leading and directing people and have a get-things-done mentality. The vast majority of nobles would be very reluctant to act against the interests of the government or the people it represents.

**Background:** A character can be a member of the nobility in two general ways. They can be born into a noble family or elevated for exceptional service. This can be military or diplomatic service or in recognition of scientific or artistic brilliance. Nobles tend to be well educated and cultured individuals, or are expected to become so after their elevation.

**Adventuring:** Having a Noble in the party opens doors. Red tape tends to vanish and officials are often more polite and efficient than towards other characters. A Noble will tend to get better results than a commoner when trying to take charge of a situation, however good their respective ideas may be. A Noble's skills are primarily in leadership and diplomacy, but many Nobles develop proficiency with weapons - particularly the dueling sword - and may have high combat skill levels due to a previous career, for example in the Navy.

### GAME RULE INFORMATION

**Class Type:** Core

**Initial Requirements:** A starting character must have Social Standing 16+ to become a Noble.

**Multiclass Restrictions:** To multiclass into the Noble class, a character must have Social Standing 16+

**Abilities:** Social Standing, Education, Intelligence

**Stamina:** 1d6 + Con modifier per level

**Starting Funds:** Cr5,000

**Noble Presence:** The art of using presence and voice to inspire confidence and leadership. With this feat a noble may use their Social Standing in place of their Charisma as the key ability for the Leader and Liaison skills.

**Noble Indignance:** Many Nobles are quite adept at using their titles to browbeat and intimidate those of lesser social status into temporary compliance. With this feat a Noble may use their Social Standing in place of their Charisma as the key ability for the following skills: Bluff, Bribery, and Intimidate.

**Patronage:** Some Noble families are known for their patronage of the arts or sciences, and tend to impart such an interest in their offspring and focus much of their schooling in these directions. This class feature may only be selected once, and the noble must choose between the following two options:

A Patron of the Arts is raised with an appreciation and eye for the fine arts, and may attempt to use any Entertain or Craft skill that they have NO skill ranks in, as if they had a skill rank of 1 instead. This does not mean the noble actually has a rank of 1 in the skill; the first two skill ranks will still have to be bought if the noble wishes to actually learn and develop such a skill. In addition, they may apply a +4 rather than a +2 synergy bonus when using an art, craft, or entertainment related Knowledge skill or a Technical skill to aid another skill check.

A Patron of the Sciences is broadly schooled in the various fields of science and technology, and may treat any Technical skill, as if it were an Untrained skill. In addition, they may apply a +4 rather than a +2 synergy bonus when using a science related Knowledge skill or a Technical skill to aid another skill check.

**Trust Fund:** A modest trust fund is awarded as part of the noble's title that may be drawn upon as needed. This fund is set up in such a way as to allow the noble to draw up to Cr200 X their SOC score in funds per month. For large purchases on credit, the noble's family will usually be willing to guarantee such loans, up to MCr1 X her SOC score, provided she has handled her finances in a reasonable manner previously.



## PROFESSIONAL

	Base Attack Bonus	Base Fort Bonus	Base Reflex Bonus	Base Will Bonus	Special
1st	+0	+0	+0	+2	Starting Feats + Bonus Feat
2nd	+0	+0	+0	+3	Bonus Feat
3rd	+0	+1	+1	+3	
4th	+1	+1	+1	+4	
5th	+1	+1	+1	+4	Bonus Feat
6th	+1	+2	+2	+5	
7th	+1	+2	+2	+5	Bonus Feat
8th	+2	+2	+2	+6	
9th	+2	+3	+3	+6	
10th	+2	+3	+3	+7	Bonus Feat
11th	+2	+3	+3	+7	Bonus Feat
12th	+3	+4	+4	+8	
13th	+3	+4	+4	+8	Bonus Feat
14th	+3	+4	+4	+9	Bonus Feat
15th	+3	+5	+5	+9	
16th	+4	+5	+5	+10	
17th	+4	+5	+5	+10	Bonus Feat
18th	+4	+6	+6	+11	
19th	+4	+6	+6	+11	Bonus Feat
20th	+5	+6	+6	+12	

## PROFESSIONAL CLASS FEATURES

All of the following are class features of the Professional:

**Starting Feats:** The Professional Starts play with the following feats:

**Armor Proficiency (Light)** **Professional Speciality**

**Bonus Feats:** At 1st, 2nd, 5th, 7th, 10th, 11th, 13th, 14th, 17th and 19th level the Professional gains a bonus feat.

These feats may be chosen from the list below. If the character already has all of the listed feats, they may select any other feat from the Feats chapter (pg. 100) that they are qualified for.

Acrobatics	Acting Prodigy	Armor Proficiency (Vacc Suit)
Athletic	Barter	Brawling
Carousing	Connections	Credit Line
EW Specialist	Fast Talk	Gearhead
Hacker	Hobby	Interrogation
Jury Rig	Legal Eagle	Miracle Worker
Naval Architect	Research	Tracker
Trapping	Trustworthy	Vessel (any but starship)
Vessel Specialization	Weapon Proficiency (Swordsman)	

\*A specialized class feat.

## PROFESSIONAL CLASS SKILLS

Class Skill	Key Ability	Class Skill	Key Ability
Appraise	Int	Craft (any)	Int
Driving	Dex	Entertain (any)	Cha
Gambling	Cha	Knowledge (any)	Edu
Leader	Int/Cha	Liaison	Cha
Astrogation	Edu	Pilot	Int/Dex
Profession (any)	Wis	Survival	Wis
Technical (any)	Edu	Trader	Int
Speak Language	None		

**Starting Skill Points:** (7 + Int modifier) \* 4 If you are taking Professional as a multiclass, you do not receive these starting skill points.

**Skill Points per Level:** 7 + Int modifier

## PROFESSIONAL CORE CLASS

Professionals are individuals whose job is highly skilled and technical but essentially hands-on. This includes many engineers, medical professionals and scientists. Note that a scientist may be either an Academic or a Professional depending on how inclined to field work he or she is. Professionals are better able to handle themselves in the field than Academics, but otherwise have similar skills.

**Characteristics:** Professionals are usually highly intelligent and well educated, with good technical skills rather than academic ones. Used to working in the field, they are practical individuals who are likely to have picked up good interpersonal, leadership and even some combat skills while working in frontier environments. They are more interested in how rather than why, which is seen as the Academics' preserve.

**Background:** Professionals are well trained and/or educated. This usually requires that they come from a mid-tech or higher background, or have either spent some time in the services or attended an offworld university. Many professional engineers or field scientists started their career with a stint in a highly technical service such as the Navy.

**Adventuring:** The Professional is a highly useful individual in a high-tech environment. Professionals may include starship personnel, engineers of various sorts and medical experts, all of whom can be highly useful in an adventuring group.

### GAME RULE INFORMATION

**Class Type:** Core

**Initial Requirements:** Any starting character may become a Professional.

**Multiclass Restrictions:** To multiclass into the Professional class, a character must have at least 4 skill ranks in at least one Craft, Professional, or Technical skill, or 4 skill ranks in Pilot, Navigation, or Driving skill.

**Abilities:** Education, Intelligence

**Stamina:** 1d6 + Con modifier per level

**Starting Funds:** Cr2500

**Professional Speciality:** A Professional may select a specific Entertain, Profession or Technical skill that represents a facet of their profession or how they are most likely to make their living. This class feature may only be selected once.

**Profession or Technical Skills:** When using this skill, the Professional may always elect to Take10, even in situations where they normally could not.

**Entertain Skills:** A Professional with 3 or more ranks in an Entertain skill can cause a single person to become fascinated with him. The person to be enthralled must be able to see and hear the performance and must be within 30 meters. The Professional must also see the person. The person must be able to pay attention to the performance. The distraction of a nearby combat or other dangers prevents the ability from working. The professional makes an Entertain check, and the target can negate the effect with a Will saving throw equal to or greater than the Professional's check result. If the saving throw succeeds, the character cannot attempt to enthrall that person again for 24 hours. If the saving throw fails, the person sits quietly and watches and listens to the Performance for up to 1 round per level of the professional. While fascinated, the target's Spot and Listen checks suffer a -4 penalty. Any potential threat (such as an ally of the Professional moving behind the fascinated person) allows the enthralled person a second saving throw against a new Entertain check result. Any obvious threat, such as drawing or aiming a weapon, automatically breaks the effect.

While performing, the professional must concentrate and may take no other actions. This may be attempted once per day per level of the professional.

**Skill Focus:** Beginning at 4th level, and every 4 levels after

that, the Professional gains an extra Skill Focus feat. The skill selected to focus upon must be the same as the type of skill selected as the character's Professional Speciality class feature. If the Professional Speciality skill is an Entertain type, this class feature may only be applied to Entertain skills. If it is a Profession skill, this class feature applies only to Profession skills, and if it is a Technical skill, this class feature only applies to Technical skills. The Professional may not select the same skill twice.





## ROGUE

	Base Attack Bonus	Base Fort Bonus	Base Reflex Bonus	Base Will Bonus	Special
1st	+0	+0	+2	+0	Starting Feats + Bonus Feat
2nd	+1	+0	+3	+0	Bonus Feat
3rd	+2	+1	+3	+1	
4th	+3	+1	+4	+1	
5th	+3	+1	+4	+1	Bonus Feat
6th	+4	+2	+5	+2	
7th	+5	+2	+5	+2	Bonus Feat
8th	+6/+1	+2	+6	+2	
9th	+6/+1	+3	+6	+3	
10th	+7/+2	+3	+7	+3	Bonus Feat
11th	+8/+3	+3	+7	+3	Bonus Feat
12th	+9/+4	+4	+8	+4	
13th	+9/+4	+4	+8	+4	Bonus Feat
14th	+10/+5	+4	+9	+4	Bonus Feat
15th	+11/+6/+1	+5	+9	+5	
16th	+12/+7/+2	+5	+10	+5	
17th	+12/+7/+2	+5	+10	+5	Bonus Feat
18th	+13/+8/+3	+6	+11	+6	
19th	+14/+9/+4	+6	+11	+6	Bonus Feat
20th	+15/+10/+5	+6	+12	+6	

## ROGUE CLASS FEATURES

All of the following are class features of the Rogue:

**Starting Feats:** The Rogue begins play with the following feats:

Armor Proficiency (Light)

Armor Proficiency (Medium)

Weapon Proficiency (Swordsman)

Weapon Proficiency (Marksman)

**Bonus Feats:** At 1st, 2nd, 5th, 7th, 10th, 11th, 13th, 14th, 17th and 19th level the Rogue gains a bonus feat. These feats may be chosen from the list below. If the character already has all of the listed feats, they may select any other feat from the Feats chapter (pg. 100) that they are qualified for.

Alertness

Dumb Luck

Brawling

Carousing

Fast Talk

Fence Stolen Goods \*

Hacker

Improved Search \*

Sixth Sense

Smuggling \*

Spot Trouble\*

Stealthy

Toughness

Tracker

\*A specialized class feat.

## ROGUE CLASS SKILLS

Class Skill	Key Ability	Class Skill	Key Ability
Appraise	Int	Bluff	Cha/Soc
Bribery	Cha	Disguise	Cha
Driving	Dex	Forgery	Int/Dex
Gambling	Int	Gather Information	Cha
Hide	Dex	Innuendo	Wis
Intimidate	Cha/Soc	Listen	Wis
Move Silently	Dex*	Search	Int
Sense Motive	Wis	Spot	Wis
T/Mechanical or Electronics		Edu	

**Starting Skill Points:** (4 + Int modifier) \* 4. If you are taking Rogue as a multiclass, you do not receive these starting skill points.

**Skill Points per Level:** 4 + Int modifier

## ROGUE CORE CLASS

Rogues vary, from out-and-out criminals to those who live by their wits on the edge of the law or like to take an unconventional, indirect approach to a problem. Some are conmen, swindlers or bank raiders, while others are smugglers and thugs. However, many Rogues actually have quite legal occupations including soldiers, merchants, bodyguards, martial artists and even certain kinds of archaeologist.

**Characteristics:** Not all Rogues are criminals, and most would stop short of murder and other serious crimes. However, most are willing to take a liberal approach to laws and conventions. It is wise not to ask the ship's assistant engineer where the spares came from, nor to inquire closely how those weapons permits came to be issued so quickly. Rogues exist in all walks of life. What they all have in common is a certain streetwise savvy and a willingness to use whatever methods seem likely to get a result. Some Rogues are slimy weasels, some are thugs and bullies. Others are charming individuals or just ordinary people who are willing to bend the rules a little.

**Background:** Anyone can be a Rogue. Some have a career, such as starship crew, military personnel, or even scientist. Others weasel their way from one scam to another or make a shady living doing whatever pays the bills. Violence is often an integral part of the Rogue's world, and combat skills tend to get picked up along the way.

**Adventuring:** The Rogue is the classic adventurer. A wide range of skills makes the character highly useful to any group. Stealth and interpersonal skills, coupled with some weapons proficiency, makes the Rogue a go-anywhere, do-anything individual.

### GAME RULE INFORMATION

**Class Type:** Core

**Initial Requirements:** Any starting character may become a Rogue.

**Multiclass Restrictions:** To multiclass into the Rogue class, a character must have the Connections/Underworld feat.

**Abilities:** Dexterity, Intelligence

**Stamina:** 1d8 + Con modifier per level

**Starting Funds:** Cr2500

**Fence Stolen Goods:** The Rogue knows how to locate buyers for stolen or otherwise illegal goods and products, with a reduced chance of getting caught. An Appraisal check must first be made on the item(s) to determine their value. How quickly the item(s) sell, and how much they bring are all dependent upon one another. The faster an item sells, the less it will likely bring. The higher the asking price for an item, the harder it will be to find a buyer. When checking to see if a buyer has been found willing to pay the asking price, the character must make a Gather Information check vs. the appropriate DC. If the check fails by 10 or more, the legal authorities have learned of the attempt to fence the goods and will try to arrest the character.

% Actual Value	Check for Buyer	Find Buyer DC
0-10%	1 per day	5
11-20%	1 every 2 days	10
21-30%	1 every 3 days	15
31-50%	1 per week	20
41-75%	1 every 2 weeks	25
76-100%	1 per month	30

**Improved Search:** The Rogue is adept at locating the likely spots that someone would tend to hide their valuables and other items of importance, add +2 to all Search checks.

**Smuggling:** The Rogue has learned numerous tricks and techniques for hiding contraband and other illegal goods from law enforcement officials and customs officials. Add a +2 circumstance

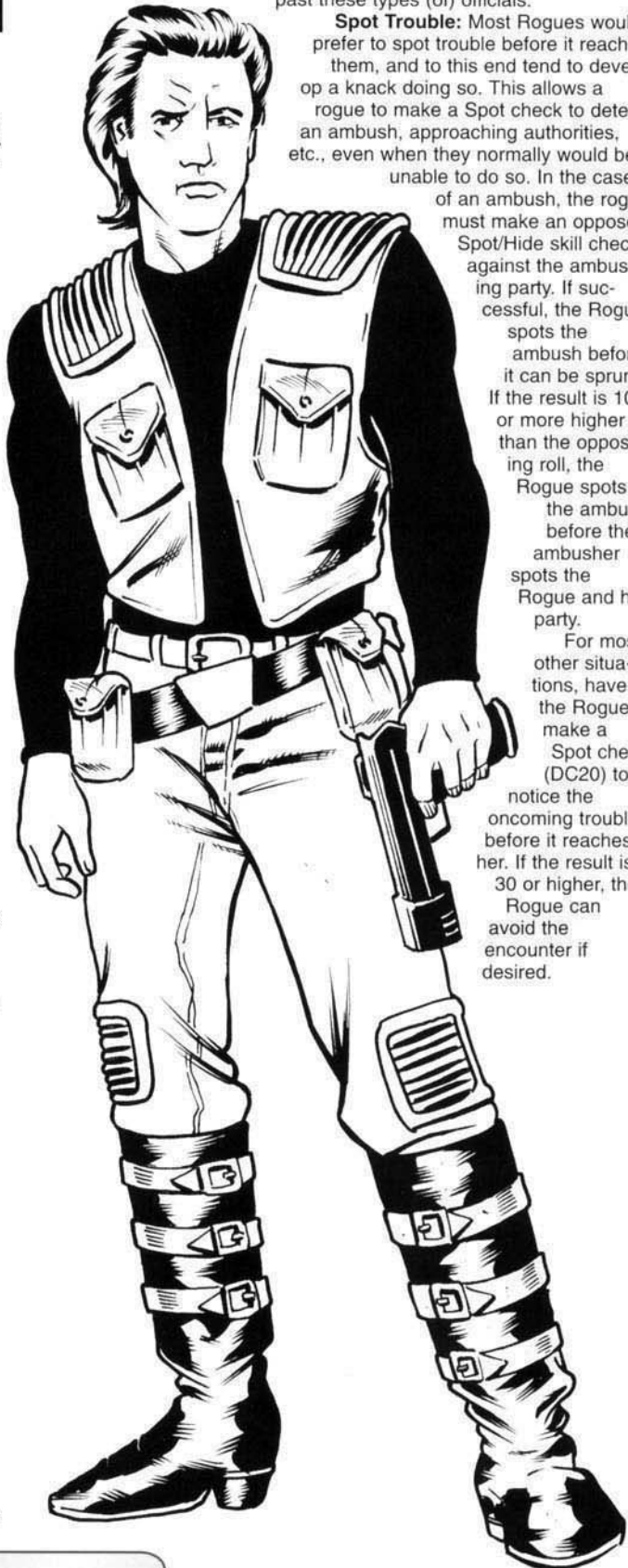
bonus to all Hide checks when attempting to smuggle anything past these types (of) officials.

**Spot Trouble:** Most Rogues would prefer to spot trouble before it reaches them, and to this end tend to develop a knack doing so. This allows a rogue to make a Spot check to detect an ambush, approaching authorities, etc., even when they normally would be unable to do so. In the case

of an ambush, the rogue must make an opposed Spot/Hide skill check against the ambushing party. If successful, the Rogue

spots the ambush before it can be sprung. If the result is 10 or more higher than the opposing roll, the Rogue spots the ambush before the ambusher spots the Rogue and her party.

For most other situations, have the Rogue make a Spot check (DC20) to notice the oncoming trouble before it reaches her. If the result is 30 or higher, the Rogue can avoid the encounter if desired.



# THE CLASSES: SCOUTS

## SCOUT

	Base Attack Bonus	Base Fort Bonus	Base Reflex Bonus	Base Will Bonus	Special
1st	+0	+0	+1	+1	Starting Feats + Bonus Feat
2nd	+1	+0	+2	+2	Bonus Feat
3rd	+2	+1	+2	+2	
4th	+3	+1	+2	+2	
5th	+3	+1	+3	+3	Bonus Feat
6th	+4	+2	+3	+3	
7th	+5	+2	+4	+4	Bonus Feat
8th	+6/+1	+2	+4	+4	
9th	+6/+1	+3	+4	+4	
10th	+7/+2	+3	+5	+5	Bonus Feat
11th	+8/+3	+3	+5	+5	Bonus Feat
12th	+9/+4	+4	+6	+6	
13th	+9/+4	+4	+6	+6	Bonus Feat
14th	+10/+5	+4	+6	+6	Bonus Feat
15th	+11/+6/+1	+5	+7	+7	
16th	+12/+7/+2	+5	+7	+7	
17th	+12/+7/+2	+5	+8	+8	Bonus Feat
18th	+13/+8/+3	+6	+8	+8	
19th	+14/+9/+4	+6	+8	+8	Bonus Feat
20th	+15/+10/+5	+6	+9	+9	

## SCOUT SERVICE FEATURES

All of the following are class features of the Scout:

**Starting Feats:** The Scout begins play with the following feats:

Armor Proficiency (Vac Suit)      Armor Proficiency (Light)

Weapon Proficiency (Marksman)

**Bonus Feats:** At 1st, 2nd, 5th, 7th, 10th, 11th, 13th, 14th, 17th and 19th level the Scout gains a bonus feat. These feats may be chosen from the list below. If the character already has all of the listed feats, they may select any other feat from the Feats chapter (pg 100) that they are qualified for.

Barter	Brawling	Carousing
Contact Specialist*	EW Specialist	Hacker
Gearhead	Geological Survey	Imp Zero-G/Low Gravity Adaptation
Jack of all Trades*	Naval Architecture	Negotiator*
Obscure Knowledge*	Ship's Tactics	Vessel (Starships)
Vessel (Ship's Boat)	Vessel (Grav)	Vessel (Water)
Vessel (Ground)	Weapon Proficiency (Lasers)	Weapon Proficiency (Ship's Weapons)
Xeno-Medicine	Zero-G Combat	Zero-G/Low Gravity Adaptation

\* A specialized class feat.

## SCOUT SERVICE SKILLS

Class Skill	Key Ability	Class Skill	Key Ability
Bribery	Int	Driving	Dex
Forgery	Int/Dex	Gambling	Int
Gather Information	Cha	Gunnery	Wis
Leader	Int/Cha	Liaison	Cha
Navigation	Edu	P/Administration	Wis
P/Survey	Wis	Pilot	Int/Dex
Ride	Dex	Spot	Wis
Survival	Wis	Technical (any)	Edu
Trader	Int		

Skill Points per Level: 4 + Int modifier



## SCOUTS SERVICE CLASS

The Interstellar Scout Service is an excellent place to gain experience as an adventurer. The Scouts train their personnel in a wide range of skills ranging from starship operations to planetary survival. Most personnel will have served in Communications, Survey or Exploration and will have specialist skills to match the office they served in.

**Characteristics:** Scouts are resourceful generalists used to having a great deal of personal latitude in order to complete their mission. They are trained to operate in a wide range of environments and to deal with almost anyone from any part of charted space. They are highly motivated problem-solvers with a cosmopolitan outlook.

**Background:** The Scouts recruit people from all walks of life. Whatever background they have will be broadened and deepened by training and experience. The only real requirements are intelligence and integrity.

**Adventuring:** Scouts are excellent adventurers with a broad range of skills. They are also a source of adventure leads, as they can be brought back into service at any time.

### GAME RULE INFORMATION

**Class Type:** Service

**Initial Requirements:** The character must come from a world with some form of interstellar or spacefaring capability. Intelligence 10+ and Dexterity 8+ are also required.

**Multiclass Restrictions:** Only a character actively working in the Scout prior history may multiclass into the scouts class.

**Abilities:** Education, Dexterity

**Stamina:** 1d8 + Con modifier per level

**Starting Funds:** Acquired as part of the mustering out benefits after prior history.

**Contact Specialist:** The Scout has been trained in the art of first contact, and making a good impression. Add a +4 circumstance bonus to all initial Liaison or reaction checks when dealing individuals for the first time.

**Jack of all Trades:** Any class skill (from any class the character has multiclassed into) the character is not currently trained in may be treated as if it were an 'untrained' skill. This means the character may attempt to use these class skills as if they had a skill rank of 0. Each subsequent selection of this class feature improves the character's effective skill rank in these untrained class skills by +1. So a character with JoT +3 would make such skill checks as if he had a skill rank of 3.

Cross class skills may similarly be used, but at a skill rank equal to JoT rank -1.

**Negotiator:** The Scout is a born negotiator. Add a +2 synergy bonus to all Liaison and Administration checks.

**Obscure Knowledge:** A character may make a special obscure knowledge check with a bonus equal to his level + his Intelligence modifier to see whether he knows some relevant information about local world, unusual technology, alien race, or similar type of information. This check will not reveal any specific information, but may give a clue as to where to find more data on the subject, or other lead. The scout may not Take 10 or Take 20 on this check; this sort of knowledge is essentially random. The Referee will determine the Difficulty Class of the check by referring to the table below.

DC Type of Knowledge

- 10 Common, known by at least a substantial minority of people.
- 20 Uncommon but available, known by only a few people.
- 25 Obscure, known by very few, hard to come by.
- 30 Extremely obscure, known by an elite few, possibly forgotten by most who once knew it, possibly known only by those who don't understand the significance of the knowledge.

### EX-SCOUT PERSONNEL

There is really no such thing as a retired Scout. All Scouts who 'retire' or muster-out from the Scout Service are placed on inactive reserve status (usually known as "Detached Duty", though some Scouts are detached for other reasons than retirement) and subject to recall and activation at any time for any duration and for any purpose the Scout Service deems necessary. Because of this, unlike other services (Army, Navy, and Marines), Scouts may continue to earn additional levels as a Scout even when not on active-duty.



## THE TRAVELLER

	Base Attack Bonus	Base Fort Bonus	Base Reflex Bonus	Base Will Bonus	Special
1st	+0	+0	+1	+1	Starting Feats + Bonus Feat
2nd	+1	+0	+2	+2	Bonus Feat
3rd	+1	+1	+2	+2	
4th	+2	+1	+2	+2	
5th	+2	+1	+3	+3	Bonus Feat
6th	+3	+2	+3	+3	
7th	+3	+2	+4	+4	Bonus Feat
8th	+4	+2	+4	+4	
9th	+4	+3	+4	+4	
10th	+5	+3	+5	+5	Bonus Feat
11th	+5	+3	+5	+5	Bonus Feat
12th	+6/+1	+4	+6	+6	
13th	+6/+1	+4	+6	+6	Bonus Feat
14th	+7/+2	+4	+6	+6	Bonus Feat
15th	+7/+2	+5	+7	+7	
16th	+8/+3	+5	+7	+7	
17th	+8/+3	+5	+8	+8	Bonus Feat
18th	+9/+4	+6	+8	+8	
19th	+9/+4	+6	+8	+8	Bonus Feat
20th	+10/+5	+6	+9	+9	

## TRAVELLER CLASS FEATURES

All of the following are class features of the Traveller:

**Starting Feats:** The Traveller begins play with the following feats:

Armor Proficiency (Light)

Armor Proficiency (Medium)

Weapon Proficiency (Marksman)

**Bonus Feats:** At 1st, 2nd, 5th, 7th, 10th, 11th, 13th, 14th, 17th and 19th level the Traveller gains a bonus feat. These feats may be chosen from the list below. If the character already has all of the listed feats, they may select any other feat from the Feats chapter (pg. 100) that they are qualified for.

Alertness

Brawling

Carousing

EW Specialist

Fast Talk

Gearhead

Hacker

Hobby

Improved Zero-G/Low Gravity Adaptation

Jack of all Trades\*

Jury Rig

Linguist\*

Miracle Worker

Obscure Knowledge\*

Ship Tactics

Sixth Sense

Tactics I\*

Toughness

Trustworthy

Vessel (any)

Weapon (Ship's Weapons)

Well Connected\*

Xeno-Empathy

Zero-G/Low Gravity Adaptation

\* A specialized class feat.

## TRAVELLER CLASS SKILLS

Class Skill	Key Ability	Class Skill	Key Ability
Bribery	Cha/Soc	Craft	Int
Driving	Dex	Entertain	Cha
Liaison	Cha	Driving	Dex
Gambling	Int	Gather Information	Cha
Gunnery	Dex	Innuendo	Wis
Knowledge	Edu	Leader	Int
Liaison	Cha/Soc	Navigation	Edu
Pilot	Int/Dex	Profession	Wis
Read/Write Language	None	Speak Language	None
Technical	Edu	Trader	Int
Use Alien Devices*	Wis		

\* Exclusive Skill

**Starting Skills:** (6 + Int modifier) x 4. If you are taking Traveller as a multi-class, you do not receive these starting skill points.

**Skill Points per Level:** 6 + Int modifier

## TRAVELLER CORE CLASS

The Traveller is someone who makes his or her living away from home. Travellers need a balance of abilities - specialist career skills and enabling skills in the interpersonal or combat fields, to allow them to get the job done without interference. Travellers may be starship crew, corporate employees, particularly rugged field scientists or freelancers such as engineers or journalists.

**Characteristics:** Usually a Traveller has a job that takes them out into the wider universe. Travellers tend to be resourceful individuals who have met and survived many unusual situations. Their other characteristics are usually dictated by their profession.

**Background:** Anyone can be a Traveller. Most are from mid-tech or higher worlds, and tend to have a prior history in one of the services. Many members of the Scout Service are Travellers.

**Adventuring:** The Traveller is another excellent adventurer class. Travellers have a wide range of skills and aptitudes and can tackle many situations.

### GAME RULE INFORMATION

**Class Type:** Core

**Initial Requirements:** Any starting character may become a Traveller.

**Multiclass Restrictions:** None.

**Abilities:** Education, Intelligence, Dexterity

**Stamina:** 1d6 + Con modifier per level

**Starting Funds:** Cr5000

**Jack of all Trades:** Any class skills (from any class the character has multiclassed into) the character is not currently trained in may be treated as if it were an 'untrained' skill. This means the character may attempt to use these class skills as if they had a skill rank of 0. Each subsequent selection of this class feature improves the character's acting skill rank in these untrained class skills by +1. So a character with JoT +3 would make such skill checks as if he had a skill rank of 3.

Cross class skills may similarly be used, but at a skill rank equal to JoT rank -1.

**Linguist:** Exposure and interaction with numerous cultures and societies has imbued the Traveller with a gift for languages. In situations where a Traveller needs to communicate with another, but is unfamiliar with the local language he may still attempt to get a point or question across.

**DC Type of Language**

10 Subtongue or closely related to a known language

20 Obscurely related to a known language.

25 Archaic or earlier version of a known language (100s of years old)

30 Ancient root tongue of a known language (1000s of years old)

#### Modifiers

- Simple questions or phrases (hello, what are you called, etc.) +0
- Moderately complex questions and phrases (where are we, what happened) +2
- Difficult and highly involved questions and phrases (local history, questions about society) +5
- Highly advance scientific and technical concepts +10

**Obscure Knowledge:** A Traveller may make a special Obscure Knowledge check with a bonus equal to his level + his Intelligence modifier to see whether he knows some relevant information about a local world, unusual technology, alien race, or similar type of information. This check will not reveal any specific information, but may give a clue as to where to find more data on the subject, or other lead. The Traveller may not Take 10 or Take 20 on this check as this sort of knowledge is essentially random. The Referee will determine the Difficulty Class of the check by referring to the table below.

**DC Type of Knowledge**

10 Common, known by at least a substantial minority of people.

20 Uncommon but available, known by only a few people.

25 Obscure, known by very few, hard to come by.

30 Extremely obscure, known by an elite few, possibly forgotten by most who once knew it, possibly known only by those who don't understand the significance of the knowledge.

**Tactics I:** With this feat, the character may add his Wisdom or Intelligence bonus (whichever is higher) to any small-unit initiative rolls or saving throws. Treat any negative ability modifier as +0 for purposes of this feat. A "small unit" is a team of combatants numbering from 2 to 12 troops.

**Well Connected:** The years spent traveling across space by a Traveller has resulted in a multitude of contacts, acquaintances, and friends spread across numerous worlds. Once per visit to a world, the character may roll 1d20 + 1 for every Traveller class level vs a DC equal to 30 - the world's Population UWP digit. If successful, the Traveller has remembered someone on the current world

that might be able to help in some way (provide accommodation, learn of news and rumors, etc.).

This feature only provides for 'remembering' such a contact. Actually locating them and talking them into actually helping are another set of tasks altogether. A 'single' visit begins when a character arrives via Jump into the world's starsystem and ends when the character leaves the starsystem by Jumping to another starsystem.





# SKILLS

## OPEN GAME CONTENT

4

Skills represent the capabilities of a character beyond his or her combat ability. Detailed for each class is a list of skills that are its "class skills". Any skill not listed for the class is considered a "cross-class skill". Class skills represent those skills that a member of the class will usually spend the most time using. Cross-class skills are everything else.

### SKILL RANK

A character's ability with a skill is measured in "ranks". A skill may have a rank ranging from 0 to a maximum of 23, with the exception of the Academic class and Advanced Knowledge (see pg. 37). When a skill check is made, a character's rank in that skill is added to the roll. The maximum number of ranks a character can have in a class skill is equal to that character's level +3. The maximum ranks a character can have in a cross-class skill is half that number (do not round up or down).

### SKILL POINTS

Characters have a number of skill points based on their race and their class levels. Class skills require 1 skill point per rank; cross-class skills require 2 skill points per rank.

### CASCADE SKILLS

Some skills, specifically Craft, Entertain, Knowledge, Profession, and Technical are "cascade skills" meaning that they can represent more than one specific field of endeavor. When a cascade skill is selected, the character must immediately decide on the specific field of endeavor for that skill. Each cascade skill will list one or more example fields of endeavor that may be chosen from, or the character may come up with a new appropriate endeavor with the approval of the Referee.

In this book and throughout T20 products, all cascade skills will be written in the following format: First Letter of the Cascade Skill Type (C, E, K, P, or T) / The Specific Field of Endeavor. For example, a character with the Technical skill chooses Electronics as his field of endeavor with the skill. This would be written as T/Electronics. If he had the Craft skill and selected Pottery, it would be written as C/Pottery.

### USING SKILLS

When the character uses a skill, the character makes a skill check to determine how successful they are. The higher the result on the character's skill check, the better outcome. Based on the circumstances, the character's result must match or beat a Difficulty Class (DC) to use the

skill successfully. The harder the task, the higher the DC, i.e. the higher the number the character needs to roll.

To make a skill check, roll 1d20 and add the character's skill modifier for that skill. The skill modifiers include:

- 1) The character's rank with the skill
- 2) The character's ability modifier for that skill's key ability
- 3) Any racial bonuses with the skill
- 4) Any armor check penalty
- 5) Any other miscellaneous modifiers that may be applicable. See the skill description for details.

If the result of the 1d20 roll + the modifiers equals or exceeds the DC, the test is successful. Any other result is a failure. A "natural 20" on the die roll is not an automatic success. A "natural 1" on the die roll is not an automatic failure.

### DIFFICULTY CLASS

The Difficulty Class or DC is the number that the character must equal or exceed when attempting a skill check roll for the task to be successful.

Type	DC	Example
Simple	0	Walk across the floor
Very Easy	5	Climb a ladder
Easy	10	Climb a knotted rope
Average	15	Plot a course to a familiar star system
Hard	20	Jump a horse over an obstacle while riding
Difficult	25	Swim in churning, storm driven water
Formidable	30	Remove a bullet from a victim.
Challenging	35	Plot a course to an uncharted star, while under fire and without a computer.
Incredible	40	Convince the judge that a pardon scrawled on the back of a cocktail napkin really is from the planetary governor
Nearly Impossible	45	Perform brain surgery with a low-tech field surgical kit, under fire, in the rain, while wounded



## DEGREE OF SUCCESS

A character's degree of success is determined by how much better than the DC the roll turns out to be.

*DC or higher Success*

**DC+10 or higher** Great Success

**DC+20 or higher** Incredible Success

## OPPOSED CHECKS

An opposed check is used when another character or NPC directly opposes a skill check. For example a character attempting to Bluff her way past a customs officer would be an opposed skill check against the custom officer's Sense Motive check. The character makes her Bluff

skill check roll and the Referee makes a Sense Motive skill check roll for the customs officer. If the character's Bluff skill check roll is higher than the customs officer's Sense Motive check roll, the custom officer believes the character's bluff.

In the case of a tie, the side with the higher appropriate ability scores for their skill wins. If there is still a tie, both sides roll the skill checks again.

## RETRYING

In general, the character can try a skill check again if it fails, and can keep trying indefinitely. Some skills, however, have consequences of failure that must be taken into account. Some skills are virtually useless once a character

has failed on an attempt to accomplish a particular task. For most skills, when a character has succeeded once at a given task, additional successes are meaningless.

If a skill carries no penalties for failure, the player can choose to can Take 20 and assume that the character keeps at it long enough to succeed eventually.

## UNTRAINED SKILL CHECKS

Generally, if a character attempts to use a skill they don't possess any skill ranks in, the character makes a skill check as normal. The character does get to add all modifiers other than skill rank though, such as the ability modifier for the skill's key ability.

However, many skills can only be used if the character is trained in the skill. Skills that cannot be used untrained are marked with a "No" in the "Untrained" column on Table: Skills.

## FAVORABLE AND UNFAVORABLE CONDITIONS

Some situations may make a skill easier or harder to use, resulting in a bonus or penalty added into the skill modifier for the skill check or a change to the DC of the skill check.

The Referee can alter the odds of success in four ways to take into account exceptional circumstances:

1. Give the skill user a +2 bonus to represent circumstances that improve performance.
2. Give the skill user a -2 penalty to represent conditions that hamper performance.
3. Reduce the DC by 2 to represent circumstances that make the task easier.
4. Increase the DC by 2 to represent circumstances that make the task harder.

A bonus to the character's skill modifier and a reduction in the check's DC have the same result: they create a better chance that the character will succeed. But they represent different circumstances, and sometimes that difference is important.

## TIME AND SKILL CHECKS

Using a skill might take a round, take no time, or take several rounds or even longer. Most skill uses are standard actions, move-equivalent actions, or full-round actions. Types of actions define how long activities take to perform within the framework of a combat round (6 seconds) and how movement is treated with respect to the activity. Some skill checks are instant and represent reactions to an event, or are included as part of an action. These skill checks are not actions. Other skill checks represent part of movement. The distance the character jumps when making a Jump check, for example, is part of the character's movement.

Some skills take more than a round to use, and the skill descriptions often specify how long these skills take to use.

**Taking 10:** When the character is not in a rush and is not being threatened or distracted, the character may choose to Take 10. Instead of rolling 1d20 for the skill check, calculate the character's result as if the character had rolled a 10.

**Taking 20:** When the character has plenty of time (generally 2 minutes for a skill that can normally be checked in 1 round, one full-round action, or one standard action), and when the skill being attempted carries no penalties for failure, the character can Take 20. Instead of rolling 1d20 for the skill check, calculate the character's result as if the character had rolled a 20. Taking 20 means the character is trying until he or she finally gets it right. Taking 20 takes about twenty times as long as making a single check would take.

## COMBINING SKILL CHECKS

When more than one character tries the same skill at the same time and for the same purpose, their efforts may overlap.

**Individual Events:** Often, several characters attempt some action and each succeeds or fails on her own. An example of this would be a group of characters climbing up a rope. All are performing the same action at the same time, but each must make a separate Climb skill check to see if they succeed or fail.

**Teamwork:** Sometimes the individual PCs are essentially reacting to the same situation, but they can work together and help each other out. In this case, one character is considered the leader of the effort and makes a skill check, while each team member makes a separate skill check against DC 10 (Taking 10 is not permitted on this check). For each team member who succeeds, the leader gets a +2 circumstance bonus (as per the rule for favorable conditions). In many cases, a character's help will not be beneficial, or only a limited number of characters can help at once. The Referee may limit cooperation as seems fitting for the conditions.

**Skill Synergy:** It is also possible for a character to have two skills that work well together. In general, having 5 or more ranks in one skill gives the character a +2 synergy bonus on skill checks with its synergistic skills, as noted in the skill description.

## ABILITY CHECKS

Sometimes a character tries to do something to which no specific skill really applies. In these cases, the character makes an ability check. An ability check is the roll of 1d20 plus the appropriate ability modifier. Essentially, the character is making an untrained skill check. The Referee assigns a Difficulty Class depending upon the circumstances and the task being carried out.



# INHABITANTS IMPERIUM



*Serving aboard a Free Trader as an assistant engineer, this Academic ponders ways to make the ship's drive more efficient.*



*An Aslan Infantry lieutenant prepares to lead a tough cross-country exercise. Physical fitness and initiative are vital to effective infantry soldiers.*



*This resourceful Belter keeps her ancient and jury-rigged equipment in working order through constant tinkering. Maybe the next strike will enable her to get some new gear. Until then, she'll make do with what she has.*

*Uneducated but not dumb, this Barbarian makes his living as a cargo handler aboard a free trader. His keen senses and skill with hand weapons are an asset when trading in dubious frontier ports.*





*After learning her trade as an Imperial Army sniper, this Big Game Hunter now pits her skills against the most deadly creatures in Charted Space.*



*Out of her vac suit and into the boardroom; a mineralogist prepares to present her findings to the mine directorate. Professionals work in hazardous field conditions as often as in comfortable offices.*





*This Ex-Imperial Marine corporal now heads a security team on a frontier highport. It's a job that requires tact, diplomacy and the capacity for sudden, intense violence.*



*Mercs come in many kinds. This flamboyant pistoleer hires out as a bodyguard to the rich and famous, who see him as a status symbol as much as a security asset.*



*This Merchant is owner-aboard of a small trading ship. The Port Authority has just told him his ship's departure slot has been reallocated, and he's not impressed.*



*This Petty Officer serves in his homeworld's System Defense Force. Not as prestigious as the Imperial Navy, the SysDef squadrons nevertheless play a vital role.*





*This Imperial Knight is a member of the Archduke's court. This year's court fashion includes elements of early Terran and Vilani styles.*



*A Marine Assault Pilot reports for flight duty. Wherever there are vehicles to drive or fly, there will be those for whom speed becomes a way of life.*





*Set a thief to catch one. This rogue makes his living as a Skip Tracer, a bounty hunter specializing in the recovery of stolen starships. Skip Tracer is one of the most hazardous occupations in Charted Space.*



*Been there, done that. This scout is assigned to the Exploration Office, where no duty shift is ever the same as the last one.*



Holocamera in hand, this **TAS Reporter** checks that her friends are on hand in case this impromptu interview turns nasty. TAS reporters have a habit of getting the big story—and getting into trouble.

This Vargr Traveller is a generalist, a jack of all trades, an adventurer born. he goes where he pleases, does what he likes.



## CORE CLASS SKILLS

Skill	Aca	Bbn	Blt	Mry	Mct	Nbl	Prf	Rog	Trv	Untrained	Key Ability
Animal Empathy	X	C	X	X	X	X	X	X	X	No	Cha
Appraise	.	.	C	.	C	C	C	C	.	Yes	Int
Balance	.	.	.	.	.	.	.	.	.	Yes	Dex*
Bluff	.	.	C	C	C	C	.	C	.	Yes	Cha
Bribery	.	.	.	.	C	C	.	C	C	Yes	Cha
Broker	.	.	.	.	C	.	.	.	.	Yes	Int
Climb	.	C	.	.	.	.	.	.	.	Yes	Str*
Combat Engineering	.	.	.	.	.	.	.	.	.	No	Int
Craft [cascade]	C	C	.	.	.	C	C	.	C	Yes	Int/Dex
Decipher Script	C	X	X	X	X	X	X	X	X	No	Int
Demolitions	.	.	C	.	.	.	.	.	.	No	Dex
Disguise	.	.	.	.	.	.	.	C	.	Yes	Cha
Driving	C	.	.	C	C	.	C	C	C	Yes	Dex
Entertain [cascade]	.	C	.	.	.	C	C	.	C	Yes	Cha
Forgery	.	.	.	.	.	.	.	C	.	Yes	Int/Dex
Forward Observer	.	.	C	.	.	.	.	.	.	No	Int
Gambling	.	.	C	C	C	.	C	C	C	Yes	Int
Gather Information	C	.	.	.	.	C	.	C	C	Yes	Cha
Gunnery	.	.	C	.	.	.	.	.	C	No	Wis
Handle Animal	.	C	.	.	.	.	.	.	.	Yes	Cha
Hide	.	C	.	C	.	.	.	C	.	Yes	Dex*
Innuendo	.	.	.	.	.	C	.	C	C	No	Wis
Intimidate	.	.	.	C	.	C	.	C	.	Yes	Cha
Intuit Direction	.	C	.	.	.	.	.	.	.	No	Wis
Jump	.	C	.	.	.	.	.	.	.	Yes	Str*
Knowledge [cascade]	C	.	.	.	.	C	C	.	C	No	Edu
K/Geology	C	.	C	.	.	.	C	.	C	No	Edu
K/Interstellar Law	C	.	.	.	C	.	C	.	C	No	Edu
K/Mining	C	.	C	.	.	.	C	.	C	No	Edu
Leader	.	.	.	C	.	C	C	.	C	Yes	Int/Cha
Liaison	.	.	.	.	C	C	C	.	C	Yes	Cha
Listen	.	C	.	.	.	.	.	C	.	Yes	Wis
Move Silently	.	C	.	C	.	.	.	C	.	Yes	Dex*
Navigation	C	.	.	.	.	.	.	.	C	No	Edu
Pilot	.	.	C	.	C	.	C	.	C	No	Int/Dex
Profession [cascade]	.	.	.	.	C	C	C	.	C	No	Wis
P/Hunting	.	.	.	.	C	C	C	.	C	No	Wis
P/Journalist	.	.	.	.	C	C	C	.	C	No	Wis
P/Knowledge Related	C	.	.	.	C	C	C	.	C	No	Wis
P/Prospecting	.	.	C	.	C	C	C	.	C	No	Wis
P/Survey	.	.	.	.	C	C	C	.	C	No	Wis
Read/Write Language	C	.	.	.	.	C	.	.	C	No	n/a
Recruiting	.	.	.	.	.	.	.	.	.	Yes	Edu
Ride	.	C	.	.	.	.	.	.	.	Yes	Dex
Search	.	.	C	.	.	.	.	C	.	Yes	Int
Sense Motive	.	.	.	.	.	C	.	.	.	Yes	Wis
Speak Language	C	.	.	.	.	C	C	.	C	No	n/a
Spot	.	C	.	C	.	.	.	C	.	Yes	Wis
Survival	.	C	.	.	.	.	C	.	.	Yes	Wis
Swim	.	C	.	.	.	.	.	.	.	Yes	Str
Technical [cascade]	C	.	C	C	C	.	C	.	C	No	Edu
T/Astrogration	C	.	C	C	C	.	C	.	C	No	Edu
T/Communications	C	.	C	C	C	.	C	.	C	No	Edu
T/Computer	C	.	C	C	C	.	C	.	C	No	Edu
T/Electronics	C	.	C	C	C	.	C	C	C	No	Edu
T/Gravitics	C	.	C	C	C	.	C	C	C	No	Edu
T/Mechanical	C	.	C	C	C	.	C	C	C	No	Edu
T/Medical	C	.	C	C	C	.	C	.	C	No	Edu
T/Sensors	C	.	C	C	C	.	C	.	C	No	Edu
Technosavvy	X	C	X	X	X	X	X	X	X	No	Int
Trader	.	.	.	.	C	.	C	.	C	Yes	Wis
Tumble	.	C	.	.	.	.	.	.	.	No	Dex*
Use Alien Devices	C	X	X	X	X	X	X	X	C	No	Wis

C = Class Skill      . = Cross-Class Skill X = You can't buy this skill because it's exclusive to another class  
 \* = Armor check penalty, if any, also applies.

Academic (Aca)      Belter (Blt)      Barbarian (Bbn)      Mercenary (Mry)      Merchant (Mct)      Noble (Nbl)      Professional (Prf)  
 Rogue (Rog)      Traveller (Trv)

NOTE: Only those cascade skills that are specific to certain classes (and thus differ from their parent cascade) are listed here. The characteristics of all other cascade skills are identical to those for the parent cascade. (e.g. T/Computer and T/Electronic are identical in characteristics to all other T/ cascade skills).



## SERVICE AND PRESTIGE CLASS SKILLS

Skill	Aht	Amt	Alt	Mar	Nav	Sct	Ace	Bgh	Tfr	Untrained	Key Ability
Animal Empathy	X	X	X	X	X	X	X	C	X	No	Cha
Appraise	.	.	.	.	.	.	.	.	.	Yes	Int
Balance	.	.	.	.	.	.	.	.	.	Yes	Dex*
Bluff	.	.	.	.	.	.	.	.	C	Yes	Cha
Bribery	C	C	C	C	C	C	.	.	C	Yes	Cha
Broker	.	.	.	.	.	.	.	.	.	Yes	Int
Climb	.	.	.	.	.	.	.	.	.	Yes	Str*
Combat Engineering	C	C	C	.	.	.	.	.	.	No	Int
Craft [cascade]	.	.	.	.	.	.	.	.	.	Yes	Int/Dex
Decipher Script	X	X	X	X	X	X	X	X	X	No	Int
Demolitions	C	C	.	C	.	.	.	.	.	No	Dex
Disguise	.	.	.	.	.	.	.	.	.	Yes	Cha
Driving	C	C	.	C	C	C	C	.	.	Yes	Dex
Entertain [cascade]	.	.	.	.	.	.	.	.	.	Yes	Cha
Forgery	.	.	.	.	C	C	.	.	.	Yes	Int/Dex
Forward Observer	C	C	.	C	C	.	.	.	.	No	Int
Gambling	C	C	C	C	C	C	C	C	.	Yes	Int
Gather Information	C	C	C	C	C	C	C	.	C	Yes	Cha
Gunnery	C	C	.	C	C	C	C	.	.	No	Wis
Handle Animal	.	C	C	.	.	.	.	C	.	Yes	Cha
Hide	.	.	.	.	.	.	.	C	.	Yes	Dex*
Innuendo	.	.	.	.	.	.	.	.	.	No	Wis
Intimidate	.	.	.	.	.	.	.	.	C	Yes	Cha
Intuit Direction	.	.	.	.	.	.	.	C	.	No	Wis
Jump	.	.	.	.	.	.	.	C	.	Yes	Str*
Knowledge [cascade]	.	.	.	.	.	.	C	C	C	No	Edu
K/Geology	.	.	.	.	.	.	C	C	C	No	Edu
K/Interstellar Law	.	.	.	.	.	.	C	C	C	No	Edu
K/Mining	.	.	.	.	.	.	C	C	C	No	Edu
Leader	C	C	C	.	C	C	C	C	.	Yes	Int/Cha
Liaison	C	C	C	.	C	C	.	C	C	Yes	Cha
Listen	.	.	.	.	.	.	.	C	C	Yes	Wis
Move Silently	.	.	.	.	.	.	.	C	.	Yes	Dex*
Navigation	.	.	.	.	C	C	.	C	.	No	Edu
Pilot	C	C	.	C	C	C	C	.	.	No	Int/Dex
Profession [cascade]	.	.	.	.	.	.	.	.	.	No	Wis
P/Administration	C	C	.	C	C	C	.	.	C	No	Wis
P/Hunting	.	.	.	.	.	.	.	.	.	No	Wis
P/Journalist	.	.	.	.	.	.	.	.	C	No	Wis
P/Prospecting	.	.	.	.	.	.	.	.	.	No	Wis
P/Survey	.	.	.	.	.	C	.	.	.	No	Wis
Read/Write Language	.	.	.	.	.	.	.	.	C	No	n/a
Recruiting	C	C	C	C	C	.	C	.	.	Yes	Edu
Ride	.	C	C	.	.	C	.	C	.	Yes	Dex
Search	.	.	.	.	.	.	.	C	.	Yes	Int
Sense Motive	C	C	.	C	.	.	.	.	C	Yes	Wis
Speak Language	.	.	.	.	.	.	.	.	C	No	n/a
Spot	C	C	C	C	.	C	C	C	.	Yes	Wis
Survival	C	C	C	C	C	C	C	C	.	Yes	Wis
Swim	.	.	.	.	.	.	.	.	.	Yes	Str
Technical [cascade]	.	.	.	.	C	C	.	.	.	No	Edu
T/Astrogation	.	.	.	.	C	C	.	.	.	No	Edu
T/Communications	C	.	.	C	C	C	C	.	C	No	Edu
T/Computer	C	.	.	C	C	C	C	.	C	No	Edu
T/Electronics	C	.	.	C	C	C	C	.	.	No	Edu
T/Gravitics	C	.	.	C	C	C	.	.	.	No	Edu
T/Mechanical	C	C	.	C	C	C	C	.	.	No	Edu
T/Medical	C	.	.	C	C	C	.	C	.	No	Edu
T/Sensors	C	.	.	C	C	C	.	.	.	No	Edu
Technosaavy	X	X	X	X	X	X	X	X	X	No	Int
Trader	.	.	.	.	.	C	.	.	.	Yes	Wis
Tumble	.	.	.	.	.	.	.	.	.	No	Dex*
Use Alien Devices	X	X	X	X	X	X	X	X	X	No	Wis

Key

C = Class Skill

. = Cross-Class Skill

X = You can't buy this skill because it's exclusive to another class.

\* = Armor check penalty, if any, also applies.

Army, High-Tech (Aht)  
Scout (Sct)

Army, Mid-Tech (Amt)  
Ace Pilot (Ace)

Army, Low-Tech (Alt) Marine (Mar)  
Big Game Hunter (Bgh)

Navy (Nav)  
TAS Field Reporter (Tfr)

## SKILL DESCRIPTIONS

Each skill description is typically detailed in the following format. If a section does not apply to a skill, it will not appear in the description format.

### SKILL NAME (KEY ABILITY)

*Trained Only; Armor Check Penalty; [Class Name] Only*

The skill name line includes the following information:

**Key Ability:** The abbreviation of the ability whose modifier applies to the skill check. Some skills have two key abilities listed, in which case the character may choose to use the ability they have the higher score in. Exceptions: Speak Language has "None" listed as its key ability because the use of this skill does not require a check.

**Trained Only:** If "Trained Only" is included in the skill name line, the character must have at least 1 rank in the skill to use it. If it is omitted, the skill can be used untrained (with a rank of 0). If any special notes apply to trained or untrained use, they are covered in the Special section (see below).

**Armor Check Penalty:** Apply any armor check penalty to skill checks for this skill.

**[Class Name] Only:** The skill is exclusive to a certain class or classes. Only characters of the named classes may learn or use the skill. If it is omitted, the skill is not exclusive and may be used by a character of any class.

The skill name line is followed by a general description of what using the skill represents. After the description are three other types of information:

**Check:** What the character can do with a successful skill check, how much time it takes to make a check, and the DC of the check.

**Retry:** Any conditions that apply to successive attempts to use the skill successfully. If this paragraph is omitted, the skill can be retried without any inherent penalty other than consuming additional time.

**Special:** Any extra facts that apply to the skill, such as rules regarding untrained use, or if this skill has a synergistic relationship with other skills, or benefits that certain characters receive because of class or race.

### ANIMAL EMPATHY (CHA)

*Trained Only; Barbarians and Big Game Hunters Only*

The character has the ability to influence the reactions of animals such as calming a barking dog, or soothing a stalking carnivore before it pounces.

**Check:** The character can improve the attitude of an animal with a successful check. To use the skill, the character and the animal must be able to study each other, noting each other's body language, vocalizations, and general demeanor. This means that the character must be within

10 meters under normal conditions.

Generally, influencing an animal in this way takes 1 minute, but it might take more or less time.

**Retry:** As with attempts to influence people, retries on the same animal generally don't work (or don't work any better), whether the character has succeeded or not.

### APPRAISE (INT)

The character is adept at determining the value of an object, from artwork dating back to the Ziru Sirka to rare artifacts plucked from the shifting sands of Saanshakase.

**Check:** The character can appraise common or well-known objects within 10% of their value (DC 12). Failure means the character estimates the value at 50% to 150% of actual value. The Referee secretly rolls 2d6+3, multiplies by 10%, multiplies the actual value by that percentage, and tells the character that value for the item.

Rare or exotic items require a successful check against DC 15, 20, or higher. If successful, the character estimates the value at 70% to 130% of its actual value. The Referee secretly rolls 2d4+5, multiplies by 10%, multiplies the actual value by that percentage, and tells the character that value for the item. Failure means the character cannot estimate the item's value.

An electronic or optical magnifying aid such as a jeweler's lens or an electronic equivalent gives a +2 circumstance bonus to Appraise checks involving any item that is small or highly detailed, such as a gem. A merchant's scale or similar device gives a +2 circumstance bonus to Appraise checks involving any items that are valued by weight, including anything made of precious metals. These bonuses stack.

Appraising an item takes 1 minute.

**Retry:** Not on the same object, regardless of success.

**Special:** The check may be made untrained. For common items, failure means no estimate. For rare items, success means an estimate of 50% to 150% (2d6+3 times 10%).

### BALANCE (DEX)

*Armor Check Penalty*

The character is skilled at keeping his or her balance in precarious situations such as walking the ledge on the outside of a building, a slippery or unstable surface or any similar environment.

**Check:** The character can walk on a precarious surface as a move-equivalent action. A successful check lets the character move at half the character's speed along the surface for 1 round. A failure means that the character cannot move for 1 round. A failure by 5 or more means that the character falls.



The difficulty varies with the surface:

Surface	DC
18-30 cm wide	10
5-17 cm wide	15
Less than 5 cm wide	20
Uneven Floor	10
Surface Angled	+5*
Surface Slippery	+5*

\*Cumulative; if both apply, use both.

**Being Attacked while Balancing:** Attacks against the character are made as if the character were off balance: They gain a +2 attack bonus, and the character loses any Dexterity bonus to AC. If the character has 5 or more ranks in Balance, then the character can retain the Dexterity bonus to AC (if any) in the face of attacks. If the character takes damage, the character must make a check again to stay balanced.

**Accelerated Movement:** The character can try to walk a precarious surface more quickly than normal. If the character accepts a -5 penalty, the character can move at normal speed as a move-equivalent action. (Moving twice the character's speed in a round requires two checks.)

**Special:** If the character has 5 or more ranks in Tumble, the character gets a +2 synergy bonus on Balance checks.

## BLUFF (CHA)

The character has the ability to convince others of even the most outrageous of stories through a combination of fast-talking, body language, misdirection and other tricks of the trade.

**Check:** A Bluff check is opposed by the target's Sense Motive check. Favorable and unfavorable circumstances weigh heavily on the outcome of a bluff. Two circumstances can weigh against the character: The bluff is hard to believe, or the action that the target is to take goes against the target's self-interest, nature, personality, orders, etc. If it is important, the Referee can distinguish between a bluff that fails because the target doesn't believe it and one that fails because it just asks too much of the target. For instance, if the target gets a +10 bonus because the bluff demands something risky of them, and the Sense Motive check succeeds by 10 or less, then the target didn't so much see through the bluff as prove reluctant to go along with it. If the target succeeds by 11 or more, he has seen through the bluff (and would have done so even if it had not entailed any demand on him).

A successful Bluff check indicates that the target reacts as the character wishes, at least for a short time



(usually 1 round or less) or believes something that the character wants him to believe.

A bluff requires interaction between the character and the target. Creatures unaware of the character cannot be bluffed. A bluff always takes at least 1 round (and is at least a full-round action) but can take much longer if the character tries something elaborate.

**Feinting in Combat:** The character can also use Bluff to mislead an opponent in combat so that he cannot dodge the character's attack effectively. Doing so is a miscellaneous standard action that does not draw an attack of opportunity. If the character is successful, the next attack the character makes against the target does not allow him to use his Dexterity bonus to Armor Class (if any). This attack must be made on or before the bluffing character's next turn. Feinting in this way against an alien is difficult because it is harder to read a strange creature's body language; the character suffers a -4 penalty. Against a creature of animal Intelligence (1 or 2) bluffing is even harder; the character suffers a -8 penalty. Against a non-intelligent creature, bluffing is impossible.

**Creating a Diversion to Hide:** The character can use Bluff to help the character hide. A successful Bluff check can give the character the momentary diversion the character needs to attempt a Hide check while people are aware of the character.

**Retry:** Generally, a failed Bluff check makes the target too suspicious for a bluffer to try another ruse in the same circumstances. For feinting in combat, the character may retry freely, though each feint attempt is a new miscellaneous standard action.

**Special:** Having 5 or more ranks in Bluff gives the character a +2 synergy bonus on Intimidate checks and a +2 synergy bonus on Innuendo checks to transmit a message. Also, if the character has 5 or more ranks of Bluff, they get a +2 synergy bonus on Disguise checks when they act "in character" to fit the disguise and a +2 synergy bonus on P/Administration checks when attempting to get past customs or other situations requiring paperwork or similar bureaucratic hassles.

Nobles with the Noble Indignance class feature may use their Social Standing in place of Charisma as the key ability for this skill.

## BRIBERY CHECK

Offense	DC	Minimum Bribe
Petty Crime or Infraction	5 + World Law Level	Cr10 per level of official
Misdemeanor, Minor Infraction	10 + World Law Level	Cr50 per level of official
Serious Crime, Serious Infraction	15 + World Law Level	Cr100 per level of official
Major Felony, Grievous Infraction	20 + World Law Level	Cr500 per level of official
<i>Modifiers</i>	<i>DC Modifier</i>	
No skill ranks	+5	
Per doubling of bribe amount	-1	

## BRIBERY (CHA)

The character has experience in bribing petty and not-so-petty officials in order to circumvent regulations or ignore cumbersome laws.

**Check:** If the bribe is less than the minimum bribe required, the attempt will automatically fail. Characters may offer more than the minimum bribe required and receive a -1 on the DC for each multiple of the bribe offered. For example, a character trying to bribe a 4th level official to ignore a minor smuggling infraction would have to offer a minimum bribe of Cr200. If the character offered Cr400 instead the character could subtract -1 from the task DC. If Cr600 were offered, the character could subtract -2 from the task DC, etc.

**Retry:** If the first offer is refused, a character may make a second attempt at twice the previous value of the bribe.

**Special:** If both attempts are refused (failed), the Referee should have the character make an opposed Charisma ability check vs the World Law Level (1d20 + Law Level). If this also fails, the NPC will bring the character up on charges of attempted bribery.

Nobles with the Noble Indignance class feature may use their Social Standing in place of Charisma as the key ability for this skill.

## BROKER (INT)

A broker is skilled in facilitating the purchase and resale of commercial goods, as per the Trade and Commerce rules (pg. 355).

**Check:** A character may apply their Broker skill whenever they must consult the Trade and Commerce Actual Value Table (pg. 359).

## CLIMB (STR)

*Armor Check Penalty*

The character is proficient at traversing many types of surfaces, including ropes, rock faces, building facades, etc, with and without tools and other climbing equipment.

## CLIMBING CHECK CONDITIONS

DC	Example Wall or Surface
0	A slope too steep to walk up. A knotted rope with a wall to brace against.
5	A rope with a wall to brace against, or a knotted rope.
10	A surface with ledges to hold on to and stand on, such as a very rough wall or a sailing ship's rigging.
15	Any surface with adequate handholds and footholds (natural or artificial), such as a very rough natural rock surface or an unknotted rope.
20	An uneven surface with some narrow handholds and footholds, such as a typical wall in a ruined structure.
25	A rough surface, such as a natural rock wall or a brick wall.
25	Overhang or ceiling with handholds but no footholds.
	A perfectly smooth, flat, vertical surface cannot be climbed.

### Modifiers

-10*	Climbing a chimney (artificial or natural) or other location where one can brace against two opposite walls (reduces DC by 10).
-5*	Climbing a corner where the character can brace against perpendicular walls (reduces DC by 5).
+5*	Surface is slippery (increases DC by 5).

\*These modifiers are cumulative; use any and all that apply.

**Check:** With each successful Climb check, the character can advance up, down, or across a slope or a wall or other steep incline (or even a ceiling with handholds) at one-half the character's speed as a miscellaneous full-round action. The character can move half that far (one-fourth of the character's speed) as a miscellaneous move-equivalent action. A slope is considered to be any incline of less than 60 degrees; a wall is any incline of 60 degrees or steeper.

A failed Climb check means that the character makes no progress, and a check that fails by 5 or more means that the character falls from whatever height he has already attained.

A climber's kit gives a +2 circumstance bonus to Climb checks.

The DC of the check depends on the conditions of the climb.

Since the character can't move to avoid a blow while climbing, enemies can attack as if the character were stunned: An attacker gets a +2 bonus, and the character loses any Dexterity bonus to Armor Class.

It is not possible to use a shield while climbing.

Any time the character takes damage while climbing, make a Climb check against the DC of the slope or wall. Failure means the character falls from his current height and sustains the appropriate falling damage.

**Accelerated Climbing:** The character tries to climb more quickly than normal. As a miscellaneous full-round action, the character can attempt to cover the character's full speed in climbing distance, but suffers a -5 penalty on

Climb checks AND the character must make two checks each round. Each successful check allows the character to climb a distance equal to one-half the character's speed. By accepting the -5 penalty, the character can move this far as a move-equivalent action rather than as a full-round action.

### Making the character's Own Handholds and

**Footholds:** The character can make his or her own handholds and footholds by pounding pitons into a wall. Doing so takes 1 minute per piton, and one piton is needed per 1 meter. As with any surface with handholds and footholds, a wall with pitons in it has a DC of 15. In the same way, a climber with a handaxe or similar implement can cut holds in an ice wall.

**Catching One's Self When Falling:** It is practically impossible to catch one's self on a wall or other vertical surface while falling. Make a Climb check (DC = wall's DC + 20) to do so. A slope is a lot easier to catch one's self on (DC = slope's DC + 10).

## COMBAT ENGINEERING (INT)

### Trained Only

The individual has practical experience as well as training in a variety of combat engineering skills.

Combat engineering involves the rapid construction of field fortifications, their camouflage, the assessment of their ability to withstand enemy fire, mine and sensor placement and clearance, temporary bridge building, etc.

**Camouflage:** A combat engineer is able to hide and disguise combat emplacements, fortifications and even

vehicles, making them much harder to spot by both ground and aerial observation. The base DC to Spot a camouflaged item is 25 + the Combat Engineering skill of the character that set up the camouflage.

It is also easier for a character with this skill to spot likely locations of enemy positions, and recognize signs of camouflaging. When searching for enemy emplacements the Referee should make a secret skill check for the character against a DC equal to the camouflage rating of the emplacements (if any). A Spot check can also be used in place of Combat Engineering skill when trying to spot enemy emplacements, but this incurs a -4 penalty to the roll.

**Booby Traps and Land Mines:** The combat engineer is trained in setting up and detecting booby traps and land mines. When setting up a booby trap or laying a minefield, the character makes his Combat Engineering skill check to set the DC, as for camouflage.

**Retry:** Can only be attempted once per day for any given task.

**Special:** A character with 5 or more ranks in Combat Engineering will enjoy a +2 synergy bonus on Demolitions skill checks when placing demo charges on buildings, combat emplacements, or similar structures.

## CRAFT (INT/DEX)

Craft is actually a number of separate skills. For instance, the character could have the skill Craft (Gunsmithing). The character's ranks in that skill don't affect any checks the character happens to make for painting or woodworking, for example. The character could have several Craft skills, each with its own ranks, each purchased as a separate skill.

A Craft skill is specifically focused on creating items of utility and/or beauty such as custom weaponry, sculpting, painting, woodworking, pottery, and similar tasks. When this skill is selected, the character immediately must pick a specific type of craft that is represented by the skill.

**Check:** The character can practice a trade and make a decent living, earning about half the check result x 40 in Credits per week of dedicated work. The character knows how to use the tools of the trade, how to perform the craft's daily tasks, how to supervise untrained helpers, and how to handle common problems. (Untrained laborers and assistants earn an average of 75 Credits per day.)

However, the basic function of the Craft skill is to allow the character to make an item of the appropriate type. The DC depends on the difficulty of the item created. The DC, the character's check results, and the price of the item determine how long it takes to make the item. The item's

## CRAFT CONSTRUCTION

Item	Craft	DC
Small Firearms	Gunsmithing	12
Medium Firearms	Gunsmithing	15
Machineguns	Gunsmithing	18
Bows, Crossbows	Weaponsmith	15
Small Melee Weapons	Weaponsmith	10
Medium Melee Weapons	Weaponsmith	12
Large Melee Weapons	Weaponsmith	15
Very simple item	Varies	5
Typical item	Varies	10
High-quality item	Varies	15
Complex or superior item	Varies	20

finished price also determines the cost of raw materials. (In the game world, it is the skill level required, the time required, and the raw materials required that determine an item's price. That's why the item's price and DC determine how long it takes to make the item and the cost of the raw materials.)

All crafts require artisan's tools to give the best chance of success; if improvised tools are used instead, the check is made with a -2 circumstance penalty.

To determine how much time and money it takes to make an item:

1. Have the Referee set a DC for the item to be crafted.
2. Pay one-third the item's final value in raw materials.
3. Make a skill check representing one week's work.

If the check succeeds, find the current "work value" by multiplying the check result by the DC and dividing by 10. If the work value equals the price of the item, then the character has completed the item. If the work value is double or triple the price of the item then the character has completed the task in one-half or one-third the time, and so on. If the work value is less than the price, it represents the progress the character has made this week. Record the result and make a check for the next week. Each week the character makes more progress until the total work value reaches the price of the item.

If the character fails the check, he makes no progress this week. If the character fails by 5 or more, the character ruins half the raw materials and will have to pay half the original raw material cost again. A failure by 10 or more indicates the whole piece is ruined. All work value is lost



and new materials must be obtained for the character to start over.

**Progress by the Day:** The character can make checks by the day instead of by the week, in which case the character's progress (result times DC) is at one tenth the weekly rate.

**Creating Masterwork Items:** The character can make a masterwork item (an item that conveys a bonus to its use through its exceptional craftsmanship). To create a masterwork version of an item on the table below, the character creates the masterwork component as if it were a separate item in addition to the standard item. The masterwork component has its own price and DC. Once both the standard component and the masterwork component are completed, the masterwork item is finished. (Note: The price the character pays for the masterwork component is one-third of the given amount, just as it is for the price in raw materials.)

Masterwork tools add a +2 circumstance bonus to related skill checks (if any). Masterwork weapons add a +1 bonus to attack rolls. Masterwork items usually sell for at least twice their normal value.

**Retry:** Yes, but each time the check is missed by 5 or more, the character ruins half the raw materials or may have to start again (see above).

## DECIPHER SCRIPT (INT)

*Trained Only; Academic Only*

The character is capable of figuring out the meaning and general (non-specific) content of written, chiseled, carved or drawn communications such as alien symbols, fragments of an decree by an ancient and long dead civilization, or even the graffiti scrawled by local gangs on the walls of buildings in the local startown.

**Check:** The character can decipher writing in an unfamiliar language or a message written in an incomplete or alien form. The base DC is 20 for the simplest messages, 25 for standard texts, and 30 or higher for intricate, exotic, alien, or very old writing.

If the check succeeds, the character understands the general content of a piece of writing, reading about one page of text (or its equivalent) in 1 minute. If the check fails, the Referee makes a secret Wisdom check (DC 5) for the character. Success means that the character fails to determine any meaning but does not draw a false conclusion from the text. Failure means that he or she has gained an erroneous impression.)

The Referee secretly makes both the skill check and (if necessary) the Wisdom check so the player cannot tell whether the conclusion their character draws is true or false.

**Retry:** No.

**Special:** When attempting to encrypt or decrypt data via computer, a skill rank of 5 or more in Decipher Script

will add a +2 synergy modifier.

## DEMOLITIONS (DEX)

*Trained Only*

The individual is trained and experienced in the handling, placement, and efficient use of explosives. See Demolitions (pg. 155) for more information.

**Special:** A character with 5 or more ranks in Combat Engineering will enjoy a +2 synergy bonus to any Demolition skill checks involving buildings, combat emplacements, or similar structures. When using demolitions on vehicles and equipment, 5 or more ranks in T/Mechanical skill will add a +2 synergy bonus to the Demolitions skill check. When placing charges against starships and small craft, 5 or more ranks in T/Engineering skill will give a +2 synergy bonus to the Demolitions skill check.

## DISGUISE (CHA)

The character can impersonate people, either specific individuals or general stereotypes. For example, the character might, with little or no actual disguise, seem like a well-seasoned traveller even if in fact he or she has never been more than a few miles from home.

**Check:** The effort requires at least a few props, some makeup, and 1d3 X 10 minutes of work. The use of a disguise kit provides a +2 circumstance bonus to a Disguise check. A disguise can include an apparent change of up to one-tenth of the character's height or weight.

The character's Disguise check result determines how good the disguise is, and it is opposed by others' Spot check results. Make one Disguise check even if several people make Spot checks. The Referee makes the character's Disguise check secretly so that he or she is not sure how good the disguise is.

If the character does not draw any attention to him or herself, however, others do not get to make Spot checks. If the character comes to the attention of people who are suspicious (such as a customs guard who is watching people walking through a starport gate), the Referee can assume that such observers are taking 10 on their Spot checks.

The effectiveness of the character's disguise depends in part on how much the character is attempting to change his or her appearance:

Disguise	Modifier
Minor details only	+5
Disguised as different sex	-2
Disguised as different race	-2 or more!
Disguised as different age category	-2*
Disguised as specific class	-2

\*Per step of difference between character's actual age category and disguised age category (young [younger than adulthood], adulthood, middle age, old, venerable).

If the character is impersonating a particular individual, those who know what that person looks like get a bonus on their Spot checks (and are automatically considered to be suspicious of the character, so opposed checks are always invoked).

<i>Familiarity</i>	<i>Bonus</i>
Recognizes on sight	+4
Friends or associates	+6
Close friends	+8
Intimate	+10

Usually, an individual makes a check for detection immediately upon meeting the character and each hour thereafter. If the character casually meets many different people, each for a short time, check once per day or hour, using an average Spot bonus for the group. For example, if a character is trying to pass for a merchant at a bazaar, the Referee can make one Spot check per hour for the people she encounters using a +1 bonus on the check to represent the average of the crowd (most people with no Spot ranks and a few with good Spot skills).

**Retry:** A character may try to redo a failed disguise, but once others know that a disguise was attempted they will be more suspicious.

**Special:** If the character has 5 or more ranks of Bluff, he gets a +2 synergy bonus on Disguise checks when he knows that he is being observed and tries to act "in character" with his disguise

## DRIVING (DEX)

### Special

The individual is skilled in the operation and maintenance of a specific type vehicle commonly available in society. See Vehicle and Starship Maneuver Actions (pg. 159) for more information.

**Special:** This skill is only gained by selecting an appropriate Vehicle feat.

## ENTERTAIN (CHA)

The character is skilled in a particular form of public entertainment and performance. It is possible for a character to be capable of more than one form of performance, each with its own skill ranks. Possible Entertainment type skills include singing, dancing, comedy, dramatic acting, specific musical instruments, poetry, storytelling and many others. A character may select one of these, or with the Referee's permission select some other form of entertainment skill such as juggling.

**Check:** The character can impress audiences with talent and skill. These skills may be used for both pleasure and as a possible source of income. The table below will help determine the quality of a performance based on the appropriate Entertain skill check made by the character:

<i>Roll</i>	<i>Performance Quality</i>
1-5	Abysmal performance
6-10	Poor performance
11-15	Routine performance
16-20	Enjoyable performance
21-25	Great performance
26-30	Memorable performance
31+	Extraordinary performance

A masterwork musical instrument gives a +2 circumstance bonus to Entertain checks that involve the use of the instrument.

**Employment:** To obtain a gig, the character must make a search each week to contact prospective employers and canvas for an opening. At the end of the week the character makes a skill check against a DC of 10 + the Maintain Employment DC of the position being sought. For example, a character searching for a billing as the headline singer at a respectable but modest sized nightclub for a week would need to make a successful E/Singing skill check vs. DC25 to locate a job opening that week.

Note that a character may not Take10 or Take20 when making a Maintain Employment or Earn Promotion check

**Maintaining Employment:** At the end of each week a character has worked in at a gig, she must make a Maintain Employment check to see if she maintains the job for another week. If the check fails, she forfeits her pay for that week and must immediately make another skill check at the same DC. If this second check is also failed, she is demoted to the next lower level of billing and makes a third check. If she cannot make this one, she loses her job!

A weekly check is called for to allow characters to take occasional mundane jobs in between their travels. The Referee may, at his or her discretion, increase this check

## ENTERTAINER MAINTAINING EMPLOYMENT

<i>Billing</i>	<i>Maintain Employment</i>	<i>Earn Promotion</i>	<i>Weekly Pay</i>
General Act at Local Dive	5	25	Cr500
Opening Act at Decent Venue	10	30	Cr750
Headline Act at Decent Venue	15	35	Cr1000
Headline Act at Large Venue	20	-	Cr2000

to one every month or even every year. For even longer periods of employment, see the Prior History section on the Professional class for more information.

**Earning a Promotion:** At the end of each month a character has worked in at a gig, she may make an Earn Promotion check to see if she is promoted to a better billed position. For example, a character who is working as an opening act and earns a promotion would begin the next month as a headline act. Performers engaged as a headline act at a large venue cannot be promoted.

Superstardom is a matter for roleplaying, not skill checks.

**The Weekly Paycheck:** At the end of the week a character will earn a paycheck consummate with their billing.

**Retry:** Retries are allowed, but they don't negate previous results, and an audience that has been unimpressed in the past is going to be prejudiced against future performances.

## FORGERY (INT OR DEX)

The individual is skilled at faking electronic and written documents and papers with a view to deceiving officials, banks, patrons, or other persons.

Documents necessary for cargo transfers, bank transactions, personal identification, and many other purposes are often closely inspected by officials such as the police, customs agents, or clerks when encounters occur. Note that Administration and Bribery skills may also be used to determine whether documents are actually examined by the individuals involved.

**Creating a Forgery:** Electronic documents require the creator of the forgery to either have T/Computer skill, or be working in conjunction with someone who does. Items such as electronic ID cards also will require the use of T/Electronics skill to create the electronics necessary for the forged device.

For each required additional skill, a successful check must be made against that skill, or the forgery will be unusable. Either the data is scrambled (failed T/Computer check) or the electronics do not work properly (failed T/Electronics check). Either way the result is obviously useless. If all such skill checks are successful, a Forgery check must now be rolled to set the Forgery Level of the document.

<i>Final Forgery Check Modifiers</i>	<i>Roll Adjustment</i>
Working from memory	-5
Copy (not original) of document or device to reverse engineer	+5
Original document/device blueprints	+10

**Detecting a Forgery:** The person reviewing the forged documents or device must make their own Forgery check against a DC equal to the Forgery Level of the item in order to detect the fact. Obviously contrary orders or identity cards that do not match the person holding them, such as an ID

describing a noble being used by someone that appears to be a street thug, will tend to arouse suspicions.

<i>Circumstances</i>	<i>DC Modifier</i>
Suspicious request/circumstances	+5
Type of document/device unknown to reviewer	-2
Type of document/device somewhat familiar to reviewer	+0
Type of document/device well known to reviewer	+2
Casual review	-2
Electronic or other analysis	+4

**Retry:** None. Once an individual has detected a forgery they will always know it. However the same forged document could be used again on someone else who may not detect the fact it is a fake.

**Special:** The P/Administration skill may be used when trying to detect a forgery but suffers a -4 penalty.

## FORWARD OBSERVER (INT)

*Trained Only*

The individual has been trained (in military service) to call on and adjust artillery (projectile, missile, and laser) fire from distant batteries and from ships in orbit. See Indirect Fire (pg. 157) for more information.

## GAMBLING (INT)

The individual is well informed on games of chance, and wise in their play. He or she has an advantage over non-experts, and is generally capable of winning when engaged in such games. Gambling, however, should not be confused with general risk-taking.

**Non-Competitive Games:** Slots, Roulette, Blackjack, Keno, etc. These games are played strictly against the house and the odds are pretty much constant, as are the payoff values. House always wins on a roll of '1' exactly.

<i>Odds of Winning</i>	<i>DC</i>	<i>Payoff</i>	<i>Maximum Bet</i>
Rigged	40	Varies	Varies
Remote	35	1:10	Cr5,000
Small	30	1:8	Cr1,000
Low	25	1:4	Cr500
Average	20	1:2	Cr100
High	15	2:3	Cr50

**Competitive Games:** If playing against a group of other players, each member of the game will make their Gambling skill check with the highest roll taking the pot. A character may attempt to cheat during a game at any time by stating his or her intent to cheat and making an extra Gambling check. If any other player in the game makes a successful opposing Gambling check against the character's attempt at cheating they are caught red-handed. Otherwise



the player has successfully cheated and takes the pot. If more than one person attempts to cheat during the same round of play the person with the highest roll wins the pot.

**Special:** When playing games involving bidding, a character with a Bluff skill of 5 or higher may add a +2 synergy bonus to their Gambling skill check.

## GATHER INFORMATION (CHA)

You are talented at combing sources and databanks for information.

**Check:** By succeeding at a skill check (DC 10), the character can get a general idea of what the major news items are on a world, assuming no obvious reasons exist why the information would be withheld. The higher the check result, the better the information.

If the character wants to find out about a specific rumor, specific item, obtain a map, or do something else along those lines, the DC is 15 to 25 or higher.

**Retry:** Yes, but it takes several hours for each check, and characters may draw attention to themselves if they repeatedly pursue a certain type of information.

**Special:** A character with the Connections feat gets a +2 synergy bonus on Gather Information checks when using their contacts. Similarly a character with the Research feat will get a +2 synergy bonus when conducting research on a story or project. Also characters with the Carousing feat will earn a +2 synergy bonus when using the Gather Information skill in social situations.

## GUNNERY (WIS)

This is skill is used as an attack bonus equal to the character's Gunnery skill rank when making an attack using Field Artillery, Vehicle mounted weapons, or Ship's Weaponry. See Gunner Actions (pg. 162) for more information.

**Special:** This skill is only gained by selecting an appropriate Weapon Proficiency feat.

## HANDLE ANIMAL (CHA)

The character is an experience hand when it comes to dealing with animals, with knowledge of breeding, raising, care and training of them.

**Check:** The time required to get an effect and the DC depend on what the character is trying to do.

Task	Time	DC
Handle a domestic animal	Varies	10
"Push" a domestic animal	Varies	15
Teach an animal tasks	2 months	15
Teach an animal unusual tasks	2 months	20
Rear a wild animal	1 year	15 + HD of animal
Train a wild animal	2 months	20 + HD of animal

**Time:** For a task with a specific time frame, the character must spend half this time (at the rate of 3 hours per day per animal being handled) working toward completion of the task before the character makes the skill check. If the check fails, the character can't teach, rear, or train that animal. If the check succeeds, the character must invest the remainder of the time before the teaching, rearing, or training is complete. If the time is interrupted or the task is not followed through to completion, any further attempts to teach, rear, or train the same animal automatically fail.

**Handle a Domestic Animal:** This means to command a trained dog, to drive beasts of labor, to tend to tired horses, and so forth.

**"Push" a Domestic Animal:** To push a domestic animal means to get more out of it than it usually gives, such as commanding a poorly trained dog or driving draft animals for extra effort.

**Teach an Animal Tasks:** This means to teach a domestic animal some tricks. The character can train one type of animal per rank (chosen when the ranks are purchased) to obey commands and perform simple tricks. The character can work with up to three animals at one time, teaching them general tasks. An animal can be trained for one general purpose only.

**Teach an Animal Unusual Tasks:** This is similar to teaching an animal tasks, except that the tasks can be something unusual for that breed of animal, such as training a dog to be a riding animal. Alternatively, the character can use this aspect of Handle Animal to train an animal to perform specialized tricks, such as teaching a horse to rear on command or a falcon to pluck objects from someone's grasp.

**Rear a Wild Animal:** To rear an animal means to raise a wild creature from infancy so that it is domesticated. A handler can rear up to three creatures of the same type at once. A successfully domesticated animal can be taught tricks at the same time that it is being raised, or can be taught as a domesticated animal later.

**Train a Wild Animal:** This means train a wild creature to do certain tricks, but only at the character's command. The creature is still wild, though usually controllable.

**Retry:** For handling and pushing domestic animals, yes. For training and rearing, no.

**Special:** A character with 5 or more ranks of Animal Empathy gets a +2 synergy bonus on Handle Animal checks with animals. A character with 5 or more ranks of Handle Animal gets a +2 synergy bonus on Ride checks. An untrained character can use a Charisma check to handle and push animals but not to teach or rear them.



## HIDE (DEX)

### *Armor Check Penalty*

This skill allows a character to use the shadows for concealment from view, slowly approach a position via the cover of dense underbrush, trail a target through a moderately crowded street, or similarly make use of concealment (outside of combat).

**Check:** The character's Hide check is opposed by the Spot check of anyone who might see them. The character can move up to one-half normal speed and hide at no penalty. At more than one-half and up to the full speed, the character suffers a -5 penalty. It's practically impossible (-20 penalty) to hide while running or charging.

**Larger and smaller creatures get size bonuses and size penalties on Hide checks:** Fine +16, Diminutive +12, Tiny +8, Small +4, Large -4, Huge -8, Gargantuan -12, Colossal -16.

A character can attempt to camouflage himself in order to blend into the local terrain. Such a camouflaged character may add a bonus equal to 5 + his Intelligence modifier to any Hide checks if the camouflage is appropriate.

If people are observing the character, even casually, he cannot hide. The character can run around a corner or something so that he is out of sight and then hide, but the others then know at least where the character went. If the character's observers are momentarily distracted (as by a Bluff check; see below), the character can attempt a Hide check. While the observers' attention is distracted, the character can attempt a Hide check if he can get to a hiding place of some kind. (As a general guideline, the hiding place has to be within 1 foot per rank the character has in Hide.) This check, however, is at -10 because the character has to move fast.

**Creating a Diversion to Hide:** A successful Bluff check can provide the momentary diversion the character needs to attempt a Hide check while people are observing him.

## INNUENDO (WIS)

### *Trained Only*

The character is able to pass along and understand secret messages while carrying on a conversation about something else. For example the captain of a ship might

use innuendo to pass along orders to the crew to prepare for a boarding action by pirates, all the while speaking to the passengers about some "minor engine difficulties" that have just occurred.

**Check:** The character can get a message across to another character with the Innuendo skill.

The DC for a basic message is 10. The DC is 15 or 20 for complex messages, especially those that rely on getting across new information. Also, the character can try to discern the hidden message in a conversation between two other characters who are using this skill. The DC is the skill check of the character using Innuendo, and for each piece of information that the eavesdropper is missing, that character suffers a -2 penalty on the check. For example, if a character eavesdrops on people planning to assassinate a visiting diplomat, the eavesdropper suffers a -2 penalty if he doesn't know about the diplomat. Whether trying to send or intercept a message, a failure by 5 or more points means that some false information has been implied or inferred.

The Referee makes the character's Innuendo check secretly so that the character does not necessarily know whether he was successful.

**Retry:** Generally, retries are allowed when trying to send a message, but not when receiving or intercepting one. Each retry carries the chance of miscommunication.

**Special:** If the character has 5 or more ranks in Bluff, the character gets a +2 synergy bonus on the check to transmit (but not receive) a message. If the character has 5 or more ranks in Sense Motive, the character gets a +2 synergy bonus on the check to receive or intercept (but not transmit) a message.

## INTIMIDATE (CHA)

The character has an uncanny ability to bully, browbeat, insult, threaten, embarrass, or otherwise intimidate others into doing what she wants through force of personality or social position, without actually resorting to violence.

**Check:** The character can change others' behavior with a successful check. The DC is typically 10 + the target's Hit Dice. Any bonuses that a target may have on saving throws against fear increase the DC.

**Retry:** Generally, retries do not work. Even if the initial check succeeds, the other character can only

be intimidated so far, and a retry doesn't help. If the initial check fails, the other character has probably become more firmly resolved to resist the intimidator, and a retry is futile.

**Special:** If the character has 5 or more ranks in Bluff, the character gets a +2 synergy bonus on Intimidate checks.

Nobles with the Noble Indignance class feature may use their Social Standing in place of Charisma as the key ability for this skill.

## INTUIT DIRECTION (WIS)

*Trained Only*

The character is rarely disoriented, and has an unnerving knack for always knowing what direction he is facing in relation to the local compass.

**Check:** By concentrating for 1 minute, the character can determine where true north lies in relation to the character (DC 15). If the check fails, the character cannot determine direction. On a natural roll of 1, the character errs and mistakenly identifies a random direction as true north.

The Referee makes the character's check secretly so that the character doesn't know whether the character rolled a successful result or a 1.

**Retry:** The character can use Intuit Direction more than once per day. The roll represents how sensitive to direction the character is at that point in the day. Use the most recently rolled number for all other checks in the same day.

**Special:** Untrained characters can't use an innate sense of direction, but they could determine direction by finding clues.

## JUMP (STR)

*Armor Check Penalty*

A character would use this skill when attempting to jump across the gap between two buildings, drop from a second story window, leap to another branch in a tree, or other similar situations.

### JUMPING MODIFIERS

Type of Jump	Minimum Distance	Additional Distance	Distance
Running jump*	1.5 meters.	+25 cm./1 point above 10	Height X 6
Standing jump	1 meter.	+25 cm./2 points above 10	Height X 2
Running	50 centimeters.	+25 cm./4 points above 10	Height X 1 1/2
High jump* Standing	50 centimeters.	+25 cm./8 points above 10	Height
High jump Jump back	25 centimeters.	+25 cm./8 points above 10	Height

\*The character must move 6 meters before jumping. A character cannot take a running jump in heavy armor.



**Check:** The character jumps a minimum distance plus an additional distance depending on the amount by which the character's Jump check result exceeds 10. The maximum distance of any jump is a function of the character's height.

The distances listed are for characters with speeds of 10 meters. If the character has a lower speed (from armor, encumbrance, or weight carried, for instance), reduce the distance jumped proportionally. If the character has a higher speed than a standard human, increase the distance jumped proportionally.

Distance moved by jumping is counted against maximum movement in a round normally.

If the character intentionally jumps down from a height, the character might take less damage than if he fell the same distance. If the character succeeds at a Jump check (DC 15), the character takes damage as if the character had fallen 3 meters less than the character actually did.

**Special:** If the character has 5 or more ranks in Tumble, the character gets a +2 synergy bonus on Jump checks.

A character who has the Run feat and who makes a running jump increases the distance or height he clears by one-fourth, but not past the maximum.

## KNOWLEDGE (EDU)

Knowledge is a Cascade Skill, which is actually a general categorization for a number of different skills. Knowledge represents acquired information, learning, and/or education about a specific subject, but not necessarily the practical application of such information. For example, an Academic character might have the K/Vehicles skill representing a study of the design and evolution of vehicles, but this doesn't necessarily mean he knows how to fix a blown fuel cell (which would require the Technical skill T/Mechanical instead).

When this skill is selected, the character immediately must pick a specific area of knowledge that is represented by the skill. This skill may be taken any number of times, but each selection must be in a new area of knowledge.

**Check:** Answering a question within the character's field of study has a DC of 10 (for really easy questions), 15 (for basic questions), or 20 to 30 (for really tough questions).

**Retry:** No. The check represents what the character knows, and thinking about a topic a second time doesn't let the character know something the character never learned in the first place.

**Special:** An untrained Knowledge check is simply an Education check. Without actual training, a character only knows facts that are common knowledge. Note that some

"commonly known" facts may be partially or completely (and sometimes deliberately) wrong or false. Untrained Knowledge checks allow the character to remember what facts he or she has encountered. The truth may be harder to come by, though a subject expert may know the truth behind many common fallacies and misconceptions.

In situations where a character has a Knowledge skill useful to a task requiring a related Technical or Professional skill, the character may add a +2 synergy bonus to the skill check. If the character does not possess the required skill, they may still attempt the task as if they did have the skill rank of 0 but they lose the synergy bonus.

## DETAILED KNOWLEDGE SKILLS

Below are some detailed areas of knowledge that are commonly used by characters in the *Traveller* universe.

### K/Interstellar Law

The character is familiar with the general laws and regulations that govern interstellar travel, commerce and relations. This skill does not impart knowledge of the myriad of laws on each individual world, nor does it allow the person to act as an attorney.

**Ship Inspections:** Typically, when a ship arrives at a new world, it will be inspected by the port authorities to check for compliance with all applicable laws and regulations. It is also not uncommon for patrol ships to stop and board merchant and other ships while in deep space. When such an inspection does occur, the character may make a K/Interstellar Law check (DC10 + the local world Law Level UWP) to be found in compliance and pass inspection. If there is anything illegal on board, the character suffers a -5 penalty to their skill check roll.

**Special:** A character that also has a P/Administration skill rank of 5 or higher may add a +2 synergy bonus to their skill check rolls when using this skill. K/Interstellar Law may also be used in place of the P/Administration skill in certain appropriate situations, but with a -4 penalty to the skill check roll.

### Other Suggested Knowledge Skills

Listed below are additional suggestions for areas of knowledge that might be useful to characters in the *Traveller* universe. You are free to select from among them or, with your Referee's permission, come up with new areas of knowledge.

- *The Ancients* (their history, known sites, previously found artifacts).
- *Imperial History* (dates, names, important events).
- *Jump Space* (facts, figures, legends, rumors).
- *Architecture and Construction* (buildings, bridges, fortifications, mining).

- *Alien Culture* (the history, important dates, figures, and events of a specific alien society).
- *The Sciences* (specific sciences include: astronomy, biology, botany, chemistry, genetics, physics, zoology, geology, geography, oceanography, planetology, paleontology, archeology).
- *Court Politics* (who's who at the Imperial court, important families and individuals, feuds, rumors)
- *Business* (marketing, financing, organization, important contacts, competitors)
- *Planet* (local leaders, dangerous wildlife and flora, weather patterns, history, important sites)
- *General and local operations of individual Megacorporations* (e.g. Delgado, Hortalez et Cie, etc)
- *A specific topic* (such as Warships of the 3rd Imperium, Ground Vehicles, Smallarms Manufacturers or Famous People Named Steve)

## LEADER (INT/CHA)

The character possesses the ability to organize and direct team efforts to ensure the best cooperation and productivity possible.

**Check:** Whenever a task requires one or more characters to combine their efforts (i.e. Teamwork; each makes a skill or ability check towards a common goal), a successful Leader check allows each team member to make an appropriate skill check vs DC5 rather than the normal DC10.

Task	DC
Simple task	5
Moderate task	10
Difficult task	15
Complex task	20

Conditions	DC Modifier
Boring, repetitive task	+5
Grueling labor	+10

**Retry:** A character may try more than once to 'rally' his men, but each additional attempt to do so for the same task will incur a cumulative -2 penalty to the Leader check.

**Special:** Leader skill rank of 8+ will also give a +2 bonus when attempting to recruit crewman, soldiers, or other hirelings. Unlike the Recruiting skill, Leader skill will tend to attract anyone looking for employment, qualified or not, so personnel found this way will require a bit more of a 'weeding' process to find suitable candidate for a given position.

Nobles with the Noble Presence class feature may use their Social Standing in place of Charisma as the key ability for this skill.

## LIAISON (CHA)

The character is trained in the art of dealing with others, including knowledge of proper protocols, manners of address,

codes of conduct and other information needed when dealing with a wide range of societal types. Such a character is quite useful when attempting to negotiate a particularly edgy deal, to convince the Duke's secretary to admit the party into the Duke's presence, help settle a dispute between two opposing groups, or other acts of negotiation and diplomacy.

**Check:** The character can change others' attitudes with a successful check. In negotiations, participants roll opposed Liaison checks to see who gains the advantage. Opposed checks also resolve cases when two diplomats are engaged in negotiations.

**Retry:** Generally, retries do not work. Even if the initial check succeeds, the other character can only be persuaded so far, and a retry may do more harm than good. If the initial check fails, the other character has probably become more firmly committed to his position, and a retry is futile.

**Special:** Charisma checks to influence NPCs are generally untrained Liaison checks. If the character has 5 or more ranks in Bluff or Sense Motive, the character gets a +2 synergy bonus on Liaison check. A character with a skill rank of 5 or more in Liaison skill may add +2 to the result when attempting to locate bulk cargos for transport under the Trade and Commerce rules.

**Note:** This skill is the equivalent of the Diplomacy skill in other d20 games.

Nobles with the Noble Presence class feature may use their Social Standing in place of Charisma as the key ability for this skill.

## LISTEN (WIS)

A character might use this skill when trying to overhear another conversation nearby, listen for the approach of someone, or hear a distant noise.

**Check:** Make a Listen check against a DC that reflects how quiet the noise is that the character might hear or against an opposed Move Silently check.

The Referee may make the Listen check so that the character doesn't know whether not hearing anything means that nothing is there, or that the character rolled low.

DC	Sound
0	People talking
5	A person in medium armor walking at a slow pace (3m/round) trying not to make noise.
10	An unarmored person walking at a slow pace (4.5m/round) trying not to make any noise
15	A 1st-level Rogue using Move Silently within 3m of the listener
19	A cat stalking
30	An owl gliding in for a kill
+1	Per 3m from the listener
+5	Through a door
+15	Through a stone wall

In the case of people trying to be quiet, the listed DCs could be replaced by Move Silently checks, in which case the listed DC would be the average result of their checks.

**Retry:** The character can make a Listen check every time the character has a chance to hear something in a reactive manner. As a full-round action, the character may try to hear something the character failed to hear previously.

**Special:** When several characters are listening to the same thing, the Referee can make a single 1d20 roll and use it for all the listeners' skill checks.

## MOVE SILENTLY (DEX)

*Armor Check Penalty*

The character moves with a feline's grace, able to cross various surfaces while making little or no sound.

**Check:** The character's Move Silently check is opposed by the Listen check of anyone who might hear the character. The character can move up to one-half of his normal speed at no penalty. At more than one-half and up to the character's full speed, he suffers a -5 penalty. It's practically impossible (-20 penalty) to move silently while running or charging.

## NAVIGATION (EDU)

*Trained Only*

The individual has training and expertise in the art and science of land and water navigation.

**Check:** Whatever means of transport is being used (from shoe leather to starships), the navigator's role is to determine a suitable route that avoids hazards while allowing the travellers to make the best progress they can. On exploratory missions, or when venturing into unexplored territory, Navigation skill may be used to assist in the speedy computation of courses, in the accurate determination of courses, and in the determination of position when lost or strayed, and also to facilitate the accurate recording of progress and the production of charts or maps. The minimum requirement for successful navigation is that the night sky must be visible from the planetary surface, though usually high-technology aids such as radar, beacons and satellite navigation systems are employed. The time required to plot a course depends upon the length of the journey and its complexity.

## PILOT (INT OR DEX)

*Trained Only*

The individual has training and experience in the operation of a given type of grav vehicles, aircraft, spaceship, and/or starships, depending upon the Vehicle feats pos-

## NAVIGATION COURSE PLOTTING

Task	DC	Time
Determine Location	10	1 minute
Plot Standard Course	10	10 minutes
<i>Circumstances</i>	<i>DC Modifier</i>	
Rushed, Under fire	+5	
Familiar Destination	+0	
Fringe/Frontier region	+5	
Uncharted region	+10	

sessed by the character. A character is qualified for the job of pilot on any type of craft for which they have the appropriate feat (in addition to Pilot skill). Pilot expertise is necessary to handle such craft, though a check is usually only made when circumstances become challenging, such as due to weather conditions or hostile action. See Vehicle and Starship Maneuver Actions (pg. 159) for more information.

**Special:** This skill is only gained by selecting an appropriate Vehicle feat.

## PROFESSION (WIS)

*Trained Only*

The character is trained in a livelihood or a professional role.

Profession is a Cascade Skill that actually represents a number of separate skills that are used to make one's livelihood in the commercial world. While one could easily make a living through various Craft, Technical, and even Knowledge skills, a Profession skill represents a broader knowledge and familiarity than those more specific skills, the business side of things if you will.

When this skill is selected, the character immediately must pick a specific profession that is represented by the skill. This skill may be taken any number of times, but each selection must be in a new profession.

**Check:** The character can practice a trade and make a decent living, knows how to use the tools of the trade, how to perform the profession's daily tasks, how to supervise untrained helpers, and how to handle common problems.

**Employment:** To obtain employment, the character must make a search each week contacting prospective employers and canvassing for job opening. At the end of the week the character makes a skill check against a DC of 10 + the Maintain Employment DC of the position being sought. For example, a character searching for a position as an Administration Manager would need to make a suc-



## MAINTAIN EMPLOYMENT OR EARN PROMOTION (PROFESSION)

Position	Maintain Employment	Earn Promotion	Weekly Pay	Example
General Employee	5	25	Cr500	Billing/Filing Clerk
Supervisor	10	30	Cr750	Steward
Manager	15	35	Cr1000	Head Chef
Executive	20	-	Cr2000	Owner, Top Management

successful P/Administration skill check vs. DC25 to locate a job opening that week.

Note that a character may not Take10 or Take20 when making a Maintain Employment or Earn Promotion check

**Maintaining Employment:** At the end of each week a character has worked in a job, she must make a Maintain Employment check to see if she maintains the position for another week. If the check fails, she forfeits her pay for that week and must immediately make another skill check at the same DC. If this second check is also failed, she is demoted one level and must make a third check. If she fails this one she loses her job.

If a character wishes to take a short-term "mundane" job in between their travels, they may make a weekly check to find and retain a suitable job. The Referee may, at his or her discretion increase this check to one every month or even every year. For even longer periods of employment, see the Prior History section on the Professional class for more information.

**Earning a Promotion:** At the end of each month a character has worked in a position, she may make an Earn Promotion check to see if she is promoted to the next pay position. For example, a character who is a general employee and earns a promotion would begin the next month as a supervisor. Executives cannot be promoted.

**The Weekly Paycheck:** At the end of the week a character will earn a paycheck appropriate to their position.

**Retry:** An attempt to use a Profession skill to earn an income cannot be retried. The character is stuck with whatever weekly wage the check result brought the character. (Another check may be made after a week to determine a new income for the next period of time.) An attempt to accomplish some specific task can usually be retried. If the Referee wishes, loss of weekly pay for managers and executives may be translated to loss of annual bonus, stock options etc, instead.

**Special:** In situations where a character has a Profession skill useful to a task requiring a related Technical or Knowledge skill, the character may add a +2 synergy bonus to the skill check. If the character does not

possess the required skill, they may still attempt the task as if they did have the skill rank of 0 but they lose the synergy bonus.

### DETAILED PROFESSIONAL SKILLS

Listed below are a number of detailed professions that might be use to characters in the Traveller universe. You are free to select from among them, or with your Referee's permission come up with new professions.

#### P/Administration

The character has experience with bureaucratic agencies, and understands the requirements of dealing with and managing them. When attempting tasks like avoiding police harassment, ensuring the prompt issuance of licenses, approval of applications, avoidance of close inspection of papers, etc, a successful P/Administration skill check (DC10 + the local world Law Level UWP), will provide a positive outcome to the situation.

#### Bureaucrats and Administrators

Dealing with administrators and bureaucrats is always a time consuming and tedious chore, which somehow seems to play a common part in Traveller adventures. No special skills are needed to deal with bureaucrats, but characters with the P/Administration (or K/Interstellar Law) skill will be familiar with their ways and find the task much smoother and easier.

The following tasks and DCs have been established to give the Referee a basic indication of how she might handle such situations when they arise. Characters with the appropriate listed skill may make a skill check; characters without this skill must make an appropriate ability check with a -4 penalty to the check roll. If the check fails it may not be attempted again on the same official during the same encounter.

The offer of a bribe and a Bribery skill check may also be attempted in place of an ability or P/Administration or K/Interstellar Law skill check. See the Bribery skill description for more information (pg 69).

## DEALING WITH BUREAUCRATS

<i>Need</i>	<i>DC</i>	<i>Appropriate Skill or Ability</i>
Track down records	5	P/Administration or Social Standing
Insure prompt issuance of licenses	10	P/Administration or Social Standing
Approval of applications	10	P/Administration or Social Standing
Avoid close inspection	10	K/Interstellar Law, P/Administration or Social Standing
Avoid police harassment	10	K/Interstellar Law, P/Administration or Social Standing
Get Charges Dropped (Trivial)	15	K/Interstellar Law or Social Standing
Explain discrepancy in paperwork	15	P/Administration or Social Standing
Explain missing paperwork	20	P/Administration or Social Standing
Explain obviously forged documents	30	P/Administration or Social Standing
Get Charges Dropped (Serious)	30	K/Interstellar Law or Social Standing
Get Charges Dropped (Major)	40	K/Interstellar Law or Social Standing
Defend case	Opposed K/Interstellar Law vs. Prosecutor's K/Interstellar Law skill check (interstellar courts only)	
Prosecute case	Opposed K/Interstellar Law vs. Defender's K/Interstellar Law skill check (interstellar courts only)	
<i>Condition/Situation</i>	<i>Modifier</i>	
World Law Level	+ 1 DC per Law Level UWP rating of the world	
Legal Eagle Feat	+2 check bonus	
Bluff Skill Rank 5+	+2 check bonus	
Liaison or Intimidate Skill Rank 5+	+2 check bonus (one only)	

### P/Hunting

Hunting is quite common in the far future on many worlds, both for food and sport. Safaris and Big Game Hunts are big business, and a good hunting guide can make an excellent living guiding rich nobles and playboys around the dangers and hazards of a world to let them 'bag a trophy' to impress their friends and peers. Many of the more successful hunters even have their own ships to convey their clients about in comfort.

**Laws and Permits:** On populated worlds, there may be laws prohibiting hunting or requiring a license be purchased before any hunt may begin depending on the local Law Level. Make a check vs. the Law Level. If the roll is successful, no permit is needed. If the roll is 1-5 points less than the Law Level, but not a 1 or a 2, a permit is required before the hunt may legally commence. If the roll is 6 or more points less than the Law Level, or a 1 or a 2, the animal to be hunted is a protected species and not open for hunting. At least not legally...

*Permit Costs:* 1d6 x Cr1000, + Cr100 per client

**Guides And Supplies:** Even if a hunt is headed by a certified hunter, there may be a need or desire to use native guides to help locate the targets of the hunt. These local guides can typically be hired for about Cr10 per day per hunting skill rank. In addition, supplies will be needed

to tend to all members of the hunting party (in a manner befitting the status of the clients). The costs listed below are used in place of the normal costs for daily meals (see pg. 214).

<i>Client Type</i>	<i>Minimum 'Supplies' Cost</i>
Average	Cr25 per client per day
Rich	Cr50 per client per day
Nobility/Filthy Rich	Cr100 per client per day

### The Hunt

Check once per hour (up to 8 time per day) for encounters when hunting. A basic check (DC13) should be made, adding the Hunting skill of the head guide to the roll. If the result is 13 or higher an encounter has occurred.

If an encounter occurs, have the hunter make a skill check. A successful check means the beast is of the type the hunting party is stalking. Otherwise roll normally on the encounter tables to see what type of creature is actually encountered. Guides may be hired or present for the purpose of assisting in the location of specific animals, contributing a bonus of +2 or greater to influence encounter throws for a specific type of animal.

To find tracks or to follow them for one mile requires a Hunting skill check. The character must make another Hunting check every time the tracks become difficult to fol-



low, such as when other tracks cross them or when the tracks backtrack and diverge. The character moves at half normal speed (or at normal speed with a -5 penalty on the check). The DC depends on the surface and the prevailing conditions:

Surface	DC
Very soft	5
Soft	10
Firm	15
Hard	20

*Very Soft Ground:* Any surface (fresh snow, thick dust, wet mud) that holds deep, clear impressions of footprints.

*Soft Ground:* Any surface soft enough to yield to pressure, but firmer than wet mud or fresh snow, in which the creature leaves frequent but shallow footprints.

*Firm Ground:* Most normal outdoor surfaces (such as lawns, fields, woods, and the like) or exceptionally soft or dirty indoor surfaces (thick rugs, very dirty or dusty floors). The creature might leave some traces (broken branches, tufts of hair) but leaves only occasional or partial footprints.

*Hard Ground:* Any surface that doesn't hold footprints at all, such as bare rock or indoor floors. Most streambeds fall into this category, since any footprints left behind are obscured or washed away. The creature leaves only traces (scuff marks, displaced pebbles).



If the character fails a Hunting check, the character can retry after 1 hour (outdoors) or 10 minutes (indoors) of searching. A character without hunting skill can use the Search skill to find tracks, but can only follow tracks if the DC is 10 or less.

**Animal Value:** Animal encounters constitute the only general possibility of access that characters have to food, furs, or other valuable items. Animals are usually edible (basic check, DC5, modifier of -3 if the atmosphere is tainted) provided the planetary atmosphere is between 2 and 9, and the animal does not have a poison weapon. Otherwise, the animal is inedible. From 5% to 30% (throw 1d6 times 5%) of an animal's weight will be edible meat. A person requires 1 kilogram of meat per day when living off the hunt.

**Edible:** DC5 (Tainted Atmospheres -3 to the check roll). Animals that use poison, or from worlds with an atmosphere of 10+ are inedible.

**Meat:** 1d6 x 5% of the weight of the animal is edible meat. A person requires 1kg of food per day to survive. Meat can be sold for Cr0.1 per kg

### P/PROSPECTING

The individual is experienced in searching out mineral deposits on world surfaces and in deep space.

**Laws and Permits:** On populated worlds, there may be laws prohibiting prospecting or requiring a license be purchased before any work may begin depending on the local Law Level. Make a check vs. the Law Level. If the roll is successful, no permit is needed. If the roll is 1-5 points less than the Law Level, but not a 1 or a 2, a permit is required before work may legally commence. If the roll is 6 or more points less than the Law Level, or a 1 or a 2, the application has been denied.

**Permit Costs:** 1d6 x Cr1000, + Cr100 per client

**In the Field:** Make a Prospecting Check vs DC30. Add the Planetary Resources rating to the roll. One check per week may be made to search a hex (up to 20km across). If more than one prospector is working in a team, the highest prospecting score should be used, and add +1 to the roll for each additional prospector in the group. The amount rolled above the required DC may be added to the Prospecting table roll.

### P/SURVEY

The individual is trained in the methods and requirements of conducting stellar, system, and planetary surveys.

Surveying a world or system is a process of several stages, moving from the very general to the specific. Points of particular interest noted during the survey may be

## HUNTING

Condition	DC Modifier
Every three creatures in the group being tracked	-1
Size of creature or creatures being tracked:*	
Fine	+8
Diminutive	+4
Tiny	+2
Small	+1
Medium-size	0
Large	-1
Huge	-2
Gargantuan	-4
Colossal	-8
Every 24 hours since the trail was made	+1
Every hour of rain since the trail was made	+1
Fresh snow cover since the trail was made+10	
Poor visibility:**	
Overcast or moonless night+6	
Moonlight	+3
Fog or precipitation	+3
Tracked party hides trail (and moves at half speed)	+5

\*For a group of mixed sizes, apply only the modifier for the largest size category.

\*\*Apply only the largest modifier from this category.

investigated after the process is complete, or a team may be detached from the general survey to carry out a close investigation.

Each survey task requires a ship with sensors installed, and both a T/Sensor skill check to obtain the data and a P/Survey skill check to interpret the results. The DC for both tasks is the same and based on the Survey task attempted. The required data must be obtained through the successful use of the sensor before the P/Survey skill may be attempted to interpret what has been collected. P/Survey skill can be used in place of the T/Sensor skill, but at a -4 penalty to the skill check roll. The normal tasks (in order) for a system survey are:

**Stellar Data:** (DC 15) The classification and relevant (size and spectral type) details of the system's star and any companions it may have are observed. Ship must be within 100 diameters of the star, and will take 2d6 hours to complete.

**System Data:** (DC 5) the general nature of the system (the number and orbits of any gas giants and planets) is recorded. A full system survey will take 4d6 hours to complete.

## PROSPECTING

1d100	Discovery	Base Refined Value	Monthly Tonnage Output	Limit	Notes
1-25	Rare Earths	1000	1d6 x 10		1d4 months
26-45	Petrochemicals	10,000	1d6 x 5		1d6 months
46-65	Rare Metals	100,000	1d6		1d8 months
66-80	Gemstones	1,000,000	1d6		1d10 months
81-90	Radioactives	1,000,000	1d6		1d12 months
91-95	Fossils	*	*		1d20 months World must have an atmosphere 1+
86-98	Salvage	*	*		1d100 months
99-100	Artifacts	*	*		1d12 years

\* See Below

Unrefined materials are only worth 1/10th of their refined value.

### Fossils

1d20 Type of Fossils

1-12 Botanical

13-20 Biological

#### Botanical Fossils

1d100	Age in Years	Value
01-50	1d10 thousand	Cr1d100 x10
51-70	1d100 thousand	Cr1d10 x100
71-85	1d1000 thousand	Cr1d100 x100
86-95	1d10 million	Cr1d10 x1000
98-100	1d100 million	Cr1d100 x1000

#### Biological Fossils

1d100	Age in Years	Value
01-65	1d10 thousand	Cr1d10 x100
76-80	1d100 thousand	Cr1d100 x100
81-90	1d1000 thousand	Cr1d10 x1000
91-95	1d10 million	Cr1d100 x1000
96-100	1d100 million	Cr1d1000 x1000

### Artifacts

Artifacts are the remnants of a previous civilization. The listed value is for each individual artifact found and sold to a collector, museum, etc. Note that in many cases the removal of artifacts from a world without approval (and proper fees, taxes, and other red tape) is prohibited by the local government.

1d100	Age in Years	Value	# Found
01-80	1d10 hundred	Cr1d1000 x100	1d6
81-90	1d10 thousand	Cr1d1000 x1000	1d4
91-95	1d100 thousand	Cr1d1000 x10,000	1d3
96-98	1d1000 thousand	Cr1d1000 x100,000	1d2
99-100	1d10 million	Cr1d10 x10	1

### Salvage

Salvage is an item of recent (1-100 years) construction that has forgotten and/or abandoned by its previous owner.

1d100	Salvage Damage
01-50	Equipment* 2d6-2 x 10%
51-75	Vehicle 2d6-2 x 10%
76-90	Small Craft 2d6-2 x 10%
91-100	Starship 2d6-2 x 10%

\* -25 to the size roll

1d100	Size
01-10	Tiny
11-35	Small
36-75	Medium
76-90	Large
91-95	Huge
96-98	Gargantuan
99-100	Colossal

**Planetary Data:** for each world in turn, the following process is used:

**Physical UWP:** (DC10) Basic world type (size, atmosphere, and hydrographics) is observed and recorded. A failed skill check will cause one or more of the physical UWP stats to be off (Size, Atmosphere, and Hydrographics). This will take 1d6 hours to complete. A failed skill check will result in incorrect information being obtained. Ship must be in orbit around the world.

If the character has a K/Planetology skill rank of 5 or more may add a +2 synergy bonus to the P/Survey portion of this task.

**Atmospheric Survey:** (DC15) a detailed atmospheric analysis is undertaken. This will take 1d6 hours per Atmosphere UWP rating of the world, and will give the surveyor the climate and temperature data for the planet. A failed skill check will result in incorrect information being obtained. Ship must be in orbit around the world.

If the character has a K/Climatology or K/Meteorology skill rank of 5 or more may add a +2 synergy bonus to the P/Survey portion of this task.

**Generate Map:** (DC5) create a map of the major terrain features, even through cloud cover. This will take 1d6 hours per Size UWP digit of the world. For example it will take 7d6 hour to map a Size 7 world. A failed skill check will cause one or more of the aspects of the map to be incorrect, or missing. Ship must be in orbit around the world. A more detailed map may be generated (1km scale) but this will take 1d6 days per Size UWP digit of the world.

If the character has a K/Geography skill rank of 5 or more may add a +2 synergy bonus to the P/Survey portion of this task.

**Technology Survey:** (DC15; DC20 if TL1 or less) Determine the general available TL, of the world and the location of any settlements. This can be done at the same time the map of the world is being generated and takes just as long. Ship must be in orbit around the world. The tech level will be determined as: Very Low (0-3), Low (4-6), Average (7-9), Interstellar (10-12), Very High (13+)

If the character has a K/Anthropology skill rank of 5 or more may add a +2 synergy bonus to the P/Survey portion of this task

**Societal Survey:** (DC20) determines the Population (and exponent), Government, Law Level, and specific Tech Level UWP statistics for the world. This survey requires detailed study of the subject world over a period equal to 1d6 weeks per Population UWP digit. Thus a world with a Population UWP of 9 requires 9d6 weeks of surveying to determine the required data. This requires study of the communications, electronic emissions, and possibly planetside investigation and research. A failed skill check will cause one or more of the physical UWP stats to be off.

The Liaison skill or K/Anthropology skill may be used in place of T/Sensor skill for this task. If the character has a Liaison skill rank of 8 or higher, or K/Anthropology skill rank of 5 or more, they may add a +2 synergy bonus to the P/Survey portion of this task.

**Mineral Survey:** (DC25) the surface is surveyed for mineral deposits, determining the Natural Resource rating of the world. This will take 1d6 days per Size UWP digit of the planet. A failed check will result in an inaccurate record for the Natural Resource rating. Ship must be in orbit around the world. The time required for a mineral survey is in addition to the time required for any other survey.

The Geological Survey feat may be used in conjunction with this task. The K/Geology skill or K/Mineralogy skill may be used in place of T/Sensor skill for this task. If the character has a K/Geology skill rank of 8 or higher, or K/Mineralogy skill rank of 5 or more may add a +2 synergy bonus to the P/Survey portion of this task.

**Botanical Survey:** plant life is collected and analysed. This type of survey requires a physical investigation and research be conducted planetside, exploring and taking samples. This process will normally take 1d6 months per Size UWP digit of the world.

The K/Botany skill may be used in place of T/Sensor skill for this task. If the character has a K/Botany skill rank of 5 or more may add a +2 synergy bonus to the P/Survey portion of this task.

**Biological Survey:** animal life is studied. This type of survey requires a physical investigation and research be conducted planetside, exploring and taking samples. This process will normally take 1d6 months per Size UWP digit of the world and will generate the encounter table for each climate zone of the world. As less detailed survey may be conducted, taking 1d6 weeks per Size UWP, but will only generate the single most common creature encountered in each climate zone.

The presence of sentient beings on a world complicates this process. Contact is normally avoided until the world has been carefully studied and the nature of the people there is known. Contact procedures vary depending on the circumstances.

The K/Biology skill may be used in place of T/Sensor skill for this task. If the character has a K/Biology skill rank of 5 or more may add a +2 synergy bonus to the P/Survey portion of this task.

## READ/WRITE LANGUAGE (NONE)

### Trained Only

The character knows how to read and write in a specific language other than their native tongue(s) and/or Galanglic.

This skill doesn't work like normal skills, instead of spending skill points to buy an increase in skill rank, char-



acters spend skill points and learn to read and write a new language. There are no language skill checks; you can either read and write the language or you can't. A character must already have the Speak Language skill for any language they wish to learn to read and write in.

Some languages do not have a written form. Read/write language skill cannot be taken for such languages.

Some languages are long dead with no examples of the spoken form of the language available, and only ancient manuscripts and writings still in existence. In this case, a character may take the read/write language skill without having first learned to speak the language.

Barbarians do not automatically know how to read and write in their native languages. This ability must be taken as a new read/write language skill.

## RECRUITING (EDU)

The individual is familiar with the most effective means of approaching individuals and presenting proposals for employment couched in terms most likely to produce acceptance. This skill is also helpful to a ship's crew in locating passengers. Recruiting skill affects the quality and quantity of recruits that will respond to a request for applications.

**Check:** When searching for passengers, the character may add a +2 bonus to all passenger rolls (see Trade and Commerce-Passengers pg 355) if he has a recruiting skill rank of 5 or greater.

Once per week a check may be made to locate recruits for volunteer work, job openings, or mercenary tickets. The difficulty in locating qualified applicants and the number of them that actually apply are based on the level of expertise sought, and the available population of the world to draw from. If the check is successful, roll to determine the exact number of qualified applicants the character has to choose from.

Character Level		
Sought	DC	# of Qualified Applicants
1-4	5	1d8 per open position advertised
5-8	10	1d6 per open position advertised
9-12	15	1d4 per open position advertised
13-16	20	1d3 per open position advertised
17-20	25	1d2 per open position advertised

Circumstance	DC Modifier
World Population UWP rating is 3 or less	+10 DC
World Population UWP rating 4 or 5	+5 DC
World Population UWP rating 8	-5 DC
World Population UWP rating 9+	-10 DC

**Retry:** As often as needed, though no more than one check can be made per position advertised.

**Special:** Unlike Leader skill, a recruiter is skilled at screening applicants, narrowing down the mass of applicants to the few who are best qualified of. However a Leader skill rank of 8 or higher will earn the character a +2 synergy bonus on all recruiting skill checks.

## RIDE (DEX)

When the character selects this skill, choose the type of mount the character is familiar with. For this purpose, "horses" includes mules, donkeys, and ponies. If the character uses the skill with a different mount (such as riding a sand lizard when the character is used to riding horses), the character's rank is reduced by 2 (but not below 0). If the character uses this skill with a very different mount (such as riding a flying mount when the character is used to a land based mount), the character's rank is reduced by 5 (but not below 0).

**Check:** Typical riding actions do not require checks. The character can saddle, mount, ride, and dismount from a mount without a problem. Mounting or dismounting is a move-equivalent action. Some tasks require checks:

Riding Task	DC
Guide with knees	5
Stay in saddle	5
Fight with warhorse	10
Leap	15
Control Mount in Battle	20
Fast mount or dismount	20*
Cover	15
Soft fall	15

\*Armor check penalty applies.

**Guide with Knees:** the character can react instantly to guide a mount with his knees. This allows the use of both hands in combat. Make the check at the start of the character's round. If the check is failed, the character can only use one hand this round because he needs to use the other to control his mount.

**Stay in Saddle:** The character can react instantly to try to avoid falling when his mount rears or bolts unexpectedly or when either mount or rider takes damage.

**Cover:** The character can react instantly to drop down and hang alongside the mount, using it as one-half cover. The character cannot attack or use psionic talents while using his mount as cover. If the check is failed, the character doesn't get the cover benefit.

**Soft Fall:** The character reacts instantly to try to take no damage when he falls off a mount, such as when it is killed or when it falls. If the check is failed, the character takes 1d6 points of falling damage.

**Leap:** The character can get a mount to leap obstacles as part of its movement. Use the character's Ride skill modifier or the mount's Jump skill modifier (whichever is lower) to see how far the mount can jump. The DC (15) is what the character needs to roll to stay on the mount when it leaps.

**Control Mount in Battle:** As a move-equivalent action, the character can attempt to control a light horse, pony, or heavy horse while in combat. If the check is failed, the character can do nothing else that round. The character does not need to roll for warhorses or war-ponies.

**Fast Mount or Dismount:** The character can mount or dismount as a free action. If the check is failed, mounting or dismounting is a move-equivalent action. (The character cannot attempt a fast mount or dismount unless he or she is already in a position to perform the mount or dismount as a move-equivalent action this round.)

**Special:** If the character is riding bareback, he suffers a -5 penalty on Ride checks.

If the character has 5 or more ranks in Handle Animal, he gets a +2 synergy bonus to Ride checks.

If the character's mount has a military saddle, it gives a +2 circumstance bonus to Ride checks related to staying in the saddle.

## SEARCH (INT)

The character has a knack for finding things at opportune moments, spotting secret compartments, locating hidden recesses, revealing disguised catches, and discovering other forms of concealed, hidden or hard to find objects.

**Check:** The character generally must be within 3 meters of the object or surface to be searched. It takes 1 round to search a 1.5-meter-by-1.5-meter area or a volume of goods 1.5 meters on a side; doing so is a full-round action.

Task	DC
Ransack a chest full of junk to find a certain item	10
Notice a typical secret door or a simple trap	20
Find a difficult trap not of stone*	21+
Notice a well-hidden secret door	30

\*While anyone can use Search to find a trap whose DC is 20 or less, only a Rogue can use Search to locate traps with higher DCs. Finding a trap has a DC of at least 20, and the DC is higher if it is well hidden.

**Special:** A character who does not have the Track feat can use the Search skill to find tracks, but can only follow tracks if the DC is 10 or less. See the Spot skill for more information.

## SENSE MOTIVE (WIS)

The character has the ability to know when someone might be lying, withholding information, attempting to pull a con, or is otherwise acting in bad faith or under duress.

**Check:** A successful check allows the character to avoid being bluffed. The character can also use the skill to tell when someone is trying to hide the fact that they are under stress or hiding something, or to assess someone's trustworthiness. Trying to gain information with this skill takes at least 1 minute, and the character could spend a whole evening trying to determine the motivations of a group of people.

Sense Motive Task	DC
Hunch	20
Sense psionic influence	25

**Hunch:** This use of the skill essentially means making a gut assessment of the social situation. The character can get the feeling from another's behavior that something is wrong, such as when he is talking to an impostor. Alternatively, the character can correctly determine that someone is trustworthy.

**Sense Psionic Influence:** The character can tell that someone's behavior is being influenced by a Psionic effect (by definition, a mind-affecting effect), even if that person isn't aware of it herself.

**Retry:** No, though the character may make a Sense Motive check for each bluff directed at him.

**Special:** In many situations, the Referee will make the Sense Motive roll secretly on behalf of the player, to conceal the degree of success (or otherwise). A drastic failure may cause the character to totally misinterpret the situation.

## SPEAK LANGUAGE (NONE)

*Trained Only*

The Speak Language skill does not work like a standard skill.

The character starts at 1st level knowing one or two languages (according to the character's race) plus an additional number of languages equal to the character's Intelligence bonus.

Instead of buying a rank in Speak Language, the character chooses a new language that the character can speak.

The character doesn't make Speak Language checks. The character either knows a language or the character doesn't.

**Retry:** Not applicable. (There are no Speak Language checks to fail.)

## SPOT (WIS)

The character is skilled at spotting an ambush and noticing people or creatures hiding in nearby shadows, using high brush as cover, or otherwise using concealment. The character is also adept at noticing actions by others that might be missed by most, such as slight of hand or pickpocketing.

**Check:** The Spot skill is used primarily to detect characters or creatures who are hiding. Typically, Spot is opposed by the Hide check of the creature trying not to be seen. Sometimes a creature isn't intentionally hiding but is still difficult to see, so a successful Spot check is necessary to notice it.

A Spot check result of greater than 20 can generally let the character become aware of an invisible creature near the character (though the character can't actually see it).

Spot is also used to detect someone in disguise.

Condition	Penalty
Per 3 meters of distance	-1
Spotter distracted	-5

**Retry:** The character can make a Spot check every time he or she has the opportunity to notice something in a reactive manner. As a full-round action, the character may attempt to spot something that they failed to spot previously.

**Special:** When comparing Spot and Search skills, remember that Spot would allow a character to detect someone hiding, without necessarily alerting the other person that they have been seen. A search is more systematic and is almost certain to be obvious to the person hiding, allowing them to creep away before they are discovered.

## SURVIVAL (WIS)

The character is skilled in the art of survival in the wild, including locating sources of food and fresh water (if available), producing fires (where possible), finding shelter, avoiding dangerous flora and fauna, and dealing with the dangers of hazardous climates (arctic, desert, etc). If a character with Survival skill has the Armor/Vac Suit or Armor/Battle Dress feats, he is also familiar with the needs of survival in the vacuum of space.

**Check:** A successful Survival check once per day (DC10 under optimal circumstances), will provide a character with enough of the necessary essentials to survive another day, but only if such resources are realistically available and accessible. Only in the most unusual of situations would a character be able to access a source of fresh water located 300 meters beneath the ground, though she might be able to find a way to extract water from the local vegetation. Nor would a character stranded on a vacuum world be able to come up with a way to pro-

duce more oxygen without specialist equipment, though he would know how to best conserve his air to survive as long as possible.

### DC Task

- 10 Get along in the wild. Move up to one-half the character's overland speed while hunting and foraging (no food or water supplies needed). The character can provide food and water for one other person for every 2 points by which the character's check result exceeds 10.
- 15 Gain +2 on all Fortitude saves against severe weather while moving up to one-half the character's overland speed, or gain +4 if stationary. The character may grant the same bonus to one other character for every 1 point by which the check result exceeds 15.
- 15 Avoid getting hopelessly lost\* or avoid natural hazards, such as quicksand.

\* This is not a substitute for Navigation skill, but merely allows a character to move around yet find his way back to a given point (path, cave, wrecked vehicle etc).

**Retry:** For getting along in the wild or for gaining the Fortitude save bonus, the character makes a check once every 24 hours. The result of that check applies until the next check is made. To avoid getting lost or to circumvent natural hazards, the character makes a check whenever the situation calls for one; in these circumstances, retries are not allowed.

**Special:** If the character has 5 or more ranks of Intuit Direction, he gets a +2 synergy bonus on Survival checks to avoid getting lost.

## SWIM (STR)

The character is capable of remaining afloat, swimming along the surface, diving and swimming beneath the surface, and otherwise functioning and surviving for a period in a body of water (or other non-toxic liquid).

**Check:** A successful Swim check allows the character to swim one-quarter of his speed as a move-equivalent action or one-half his speed as a full-round action. Roll once per round. If the character fails, he makes no progress through the water. If the character fails by 5 or more, he goes underwater and starts to drown unless he is wearing suitable breathing apparatus.

If the character is underwater (whether drowning or swimming underwater intentionally), he suffers a cumulative -1 penalty to his Swim check for each consecutive round the character has been underwater, unless he is equipped with breathing gear.

The DC for the Swim check depends on the water:





Water Conditions	DC
Calm water	10
Rough water	15
Stormy water	20
Very Hot or Cold Water	+2
Icy Water	+5*

\* Make the fatigue check (see below) every 10 minutes unless wearing an insulated or heated suit.

Each hour that the character swims, make a Swim check against DC 20 or take 1d6 points of subdual damage from fatigue.

**Special:** Instead of an armor check penalty, the character suffers a penalty of -1 for each 2kg of gear he is carrying or wearing.

## TECHNICAL (EDU)

### Trained Only

Technical is actually a number of separate skills. For instance, the character could have the skill T/Electronics. The character's ranks in that skill don't affect any checks he happens to make for Engineering or Gravitics, for example. The character could have several Technical skills, each with its own ranks, each purchased as a separate skill.

A Technical skill is specifically focused on installing, maintaining, repairing and/or creating items of technology such as electronic equipment, vehicles, grav modules, jump drives, etc. When this skill is selected, the character immediately must pick a specific technical field that is represented by the skill. Below are some, but by no means all, of the Technical skills used in the Traveller universe. Others, such as Astrogation, Communications, Computer, and more follow in more detail at the end of this skill entry.

**Electronics:** Practiced in the use, operation, and repair of electronic devices.

**Engineering:** Skilled in the operation and maintenance of starship maneuver drives, Jump drives, and power plants.

**Gravitics:** The individual has skill in the use, operation, and repair of gravitic devices. Such items include air/raft lift modules, grav belts, grav sleds, grav tanks, etc. Gravitics skill deals with the technical details of such vehicles; Pilot skill is required to actually pilot or drive them.

**Mechanical:** The individual has skill in the use, operation, and repair of mechanical devices. This skill specifically excludes the field of engineering but does include non-energy weapon repair.

**Check:** The character can practice a trade and make a decent living, earning a paycheck for every week of dedicated work. The character knows how to use the tools of the trade, how to perform routine tasks, how to supervise untrained helpers, and how to handle common problems.

**Employment:** To obtain employment, the character must make a search each week contacting prospective employers and canvassing for job openings. At the end of the week he makes a skill check against a DC of 10 + the Maintain Employment DC of the position being sought. For example, a character searching for a position as an Electronics Manager would need to make a successful T/Electronics skill check vs. DC25 to locate a job opening that week.

Note that a character may not Take10 or Take20 when making a Maintain Employment or Earn Promotion check.

## MAINTAINING EMPLOYMENT OR EARN PROMOTION (TECHNICAL)

Position	Maintain Employment	Earn Promotion	Weekly Pay	Example
General Employee	5	25	Cr500	Technician, Nurse, Drive Hand
Supervisor	10	30	Cr750	Shift Leader
Manager	15	35	Cr1000	Chief Engineer, Shop Foreman
Executive	20	-	Cr2000	Owner, Top Management

**Maintaining Employment:** At the end of each week a character has worked in a job, she must make a Maintain Employment check to see if she maintains the position for another week. If the check fails, she forfeits her pay for that week and must immediately make another skill check at the same DC. If this second check is also failed, she is demoted to the next lower position, and must make a third check. If she fails this one she loses her job.

A weekly check is called for to allow characters to take occasional mundane jobs in between their travels. The Referee may, at his or her discretion, increase this check to once every month or even every year. For even longer periods of employment, see the Prior History section on the Professional class for more information.

**Earning a Promotion:** At the end of each month a character has worked in a position, she may make an Earn Promotion check to see if she is promoted to the next pay position. For example, a character that is a general employee and earns a promotion would begin the next month as a supervisor. Executives cannot be promoted.

**The Weekly Paycheck:** At the end of the week a character will earn a paycheck appropriate to their position.

**Creating Items:** The basic function of the Technical skill is to allow the character to make and repair items of the appropriate type. The DC depends on the difficulty of the item created. The DC, the character's check results, and the price of the item determine how long it takes to make the item. The item's finished price also determines the cost of raw materials. (In the game world, it is the skill level required, the time required, and the raw materials required that determine an item's price. That's why the item's price and DC determine how long it takes to make the item and the cost of the raw materials.)

All technical personnel require the proper tools to give the best chance of success; if improvised tools are used instead, the check is made with a -2 circumstance penalty. On the other hand, very high-quality tools provide a +2 circumstance bonus.

To determine how much time and money it takes to make an item:

1. Find the DC listed here or have the Referee set one.
2. Pay one-third the item's price in raw materials.
3. Make a skill check representing one time period.

If the check succeeds, find the current "work value" by multiplying the check result by the DC and dividing by 10. If the result equals the price of the item, then the character has completed it. If the work value equals double or triple the price of the item, then the character has completed the task in one-half or one-third the time, and so on.) If the work value doesn't equal the price, then it represents the partial progress the character has made this time period. Record the result and make a check for the next time period. Each time period the character makes more progress until the total work value reaches the price of the item.

If the character fails the check, he makes no progress this time period. If the character fails by 5 or more, he ruins half the raw materials and must pay half the original raw material cost again. Failure by 10 or more indicates that the character has ruined the whole piece and must start over with new materials (paying the entire cost again)

**Creating Masterwork Items:** The character can make a masterwork item (an item that conveys a bonus to its use through its exceptional craftsmanship). To create a masterwork version of an item, the character creates the masterwork component as if it were a separate item in addition to the standard item. The masterwork component has its own

## TECHNICAL CONSTRUCTION

Item	DC	Time Period
<b>Mechanical</b>		
Basic Personal Equipment	5	Hour
Advanced Personal Equipment	10	Day
Vehicle Chassis	10	Week
Vehicle Subsystem	15+	Week
<b>Electronics</b>		
Basic Personal Equipment	5	Hour
Advanced Personal Equipment	10	Day
Laser Weapons	10	Week
Gauss Weapons	15	Week
Energy Weapons	20	Month
Vehicle Subsystem	30+	Month
<b>Gravitics</b>		
Gravitic Part	15	Day
Gravitic System	20+	Week
<b>Engineering</b>		
Ship's Hull	10	Week
Ship's Power Plant Part	15	Day
Ship's Power Plant or Maneuver Drive Part	20	Week
Maneuver Drive or Jump Drive Part	30 +	Month
Jump-1 Drive	40	Year
Jump-6 Drive	70	Year

price and DC. Once both the standard component and the masterwork component are completed, the masterwork item is finished. (Note: The price the character pays for the masterwork component is one-third of the given amount, just as it is for the price in raw materials.)

Masterwork tools add a +2 circumstance bonus to related skill checks (if any). Masterwork weapons add a +1 bonus to attack rolls. Masterwork items usually sell for at least twice their normal value.

**Retrying to Create Items:** Yes, but each time the character misses by 5 or more, the character ruins half the raw materials and have to pay half the original raw material cost again. If he fails by 10 or more, he must start over.

**Disabling Devices:** The character is skilled at disarming alarm systems, picking locks (of mechanical and/or electronic sort), disabling a malfunctioning robot, or similar tasks using their T/Mechanical or T/Electronic skills. The effort requires at least a simple tool of the appropriate sort (a pick, pry bar, saw, file, electronic toolset, etc.).

Attempting a disable device check without a set of proper tools carries a -2 circumstance penalty. The Referee makes the skill check so that the character doesn't necessarily know whether the character has succeeded. The amount of time needed to make a check and the DC for the check depends on how tricky the device is. Disabling a simple device takes 1 round (and is at least a full-round action). Intricate or complex devices require 2d4 rounds. The character also can rig simple devices such as vehicle wheels or steering to work normally for a while and then fail or fall off some time later (usually after 1d4 rounds or minutes of use).

Disabling (or rigging or jamming) a fairly simple device has a DC of 10. More intricate and complex devices have a higher DC. The Referee rolls the check. If the check succeeds, the character disables the device. If the check fails by up to 4, the character has failed but can try again. If the character fails by 5 or more, something goes wrong. If it's a trap, the character springs it. If it's some sort of sabotage, the character thinks the device is disabled, but it still works normally.

Device	Time	DC*	Example
Simple	1 round	10	Jam a mechanical lock or mechanism
Tricky	1d4 rounds	15	Pick a mechanical lock
Difficult	2d4 rounds	20	Pick a basic electronic lock
Wicked	2d8 rounds	25	Disarm a complex alarm trigger

\*If the character attempts to leave behind no trace of the tampering, add 5 to the DC.

## DETAILED TECHNICAL SKILLS

The following Technical skills are also available, and while they are not used to 'create' anything, they have quite important uses in a technologically advanced universe.

### T/Astrogation

The character is trained in the science of normal and Jump space navigation. The Astrogator on a starship plots the course and ensures that the information needed by the pilot and other crewmembers is available when it is needed.

**Determine Location:** When a ship enters a new system after a Jump, the Astrogator must determine its exact position before it may decide on another course of action. This task has a base DC of 10. In combat, this is a standard action for crewmembers. Failure of the task will add 3d6 minutes/hours (as appropriate) to the travel time of the ship to its next destination in the system.

**Plot a Standard Course:** Traveling from point A to point B in space, requires the Astrogator to plot a course and thrust schedule for the pilot to follow. This task has a base DC of 10. In combat it is a standard action. Failure of the task will add 2d6 minutes/hours (as appropriate) to the travel time of the ship to its destination.

**Plot a Jump Route:** A Jump Plot can be created by a computer, and Plots are available in the form of "course tapes" purchased from major ports and for common destinations. However, the nature of Jump makes electronic systems less than reliable when creating a plot. A computer will throw up dozens of apparently suitable Jump solutions. All of them will of course work, but minor variations in the plot will cause large variance in flight time and emergence point. A good Astrogator develops a "feel" for his calculations that borders upon black magic. He or she can somehow predict the variance in the system to shave a few minutes off average Jump time and to give an emergence point as close as possible to the destination. This task has a base DC of 15. In combat this is a full action. Failure in this task will result in a Misjump (pg. 353).

### Astrogation Tasks

Task	DC
Determine Location	10
Plot Standard Course	10
Plot Jump Course	15

Circumstances	DC Modifier
Rushed, Under fire	+5
No Functioning Ship's Computer	+5
Familiar Destination	+0
Fringe/Frontier region	+5
Deep space (empty hex)	+5
Uncharted region	+10



## T/Communications

The character is trained in the use, repair, and maintenance of communications devices. While anyone can press the button and make a communicator function, this skill is necessary to understand why the device does not work, or how to use the device for purposes other than open transmission.

**Boost Signal:** A comm. officer can attempt to boost an incoming or outgoing signal in an attempt to punch through jamming or natural signal degradation. When attempting to boost through active jamming, the comm. officer makes a T/Communications skill check vs. the Com Jamming rating for the opposing ship this round. If successful, the signal gets through the opponents attempt to jam it. When attempting to boost a naturally degraded signal, the Referee should set a DC appropriate to the situation.

**Break a Secure Channel:** Just as they can establish them, a comm. officer can attempt to break a secure channel and monitor any transmissions. Every secure channel has a set Encryption rating. To break the channel, the comm. officer must make a successful T/Communications skill check using the Encryption rating as the DC. This is a full combat action, and if unsuccessful, may be attempted again as long as the signal is still active.

**Detect a Signal:** Any signal directed to another comm. unit will automatically be detected. This task is used when trying to detect signals meant for other comm. units. Open and unsecured signals can automatically be detected (base DC of 0) if someone is looking for them. It is just a matter of scanning frequencies. Secure signals can also be automatically detected (base DC of 0) if being watched for, but as they are encrypted this will do no good unless someone can break the encryption. Detecting hidden or piggybacked signals required a keen comm. operator to detect, and have a base DC of 20. In combat this is a full action.

**Establish Basic Comm. Channel:** The most rudimentary of tasks (DC0), this will establish an open, unsecure communication channel between two communicators. In combat, this is a standard action.

**Establish a Secure Channel:** A secure channel offers some protection from a conversation/data transfer from being monitored by encrypting the signal. The comm. officer establishing the channel makes a T/Communications skill check to establish the Encryption level of the transmission. Anyone attempting to monitor the channel must break this encryption first. This is a full combat action.

**Hide or Piggyback a Signal:** A comm. officer can attempt to hide a transmission by using an exotic frequency or attempting to piggyback the transmission on top of another signal source (such as a laser). Unless someone is expecting such a signal, or actively searching for such

signals, the probability of such a transmission being detected is very low. Such a task has a base DC of 20. In combat, this is a full action. If this task fails, the signal is not hidden and may be detected normally.

**Jam Local Communications:** A communications officer can spend each combat round attempting to jam any incoming or outgoing communication signals within the range of his own comm. systems. At the beginning of each round, the character should make a T/Communications skill roll to set the Com Jamming rating for the round. Any other ship within range must make a successful T/Communications skill check of their own vs. this Com Jamming rating for their signal to get through. If more than one ship is Com Jamming, each must be defeated in turn before a signal may be pushed through. In combat, this is a full action.

### Communication Tasks

Task	DC
Break a Secure Channel	Encryption rating
Detect a Signal	0
Establish Basic Channel	0
Establish Secure Channel	special
Hide/Piggyback Signal	20
Jam Communications	special

Circumstances	DC Modifier
Hidden/Piggybacks (detection only)	+20
Minor Noise and Static	+5
Considerable Noise and Static	+10
Heavy Noise and Static	+20
Weak	+5
Faint	+10
Very Faint	+20
Active Jamming	Com Jamming rating
Communication System	-Model Number

## T/Computer

The character is skilled in the programming and operation of electronic and fiber optic computers, both ground and shipboard models. Computers can be found on any world with a TL of 8 or higher, becoming exponentially more common at higher technology levels. A character without at least some computer training might find himself at disadvantage in the highly technical Traveller universe.

**Basic Tasks:** The following are all the most basic of tasks that anyone with a skill rank of 1 or more will be able to accomplish automatically (base DC of 0); Log on to a Datanet, send and receive messages, search for non-classified information, retrieve data and files

**Data Encryption/Decryption:** Standard encryption programs are readily available and are supplied as standard software on most new computers. Unfortunately, they only

## COMPUTER TASKS

Task	DC	Time Required	Checks
Basic Tasks	0	1 minute	n/a
Break System/Network Security	Security Rating	1 day	n/a
Data Mining	10	1 hour	n/a
Decrypt Data	Encryption Rating	1 hour	n/a
Encrypt Data	*	1 month	n/a
Layering	*	x2	n/a
Programming			
Basic (hello world)	0	5 minutes	once
Simple (simple games)	5	1 hour	once
Minor (personal organizational programs)	10	1 day	once
Average (basic commercial software)	15	1 week	once
Advanced (advanced commercial software)	20	1 month	4 (once per week)
Sophisticated (specialized commercial software)	25	1 year	12 (once per month)
Leading Edge (security software, advanced robotics)	30	2 years	24 (once per month)
Experimental	40	varies	varies
System/Network Security	*	1 year	n/a

Modifiers	DC
Double the time required	Take 10
Increase the time required by 1 level (maximum of 2 years)	Take 20
Hurry (halve the time required)	+10
Rush (reduce time required by 1 level (minimum of 1 minute)	+20
Infrequent subject, old (few years) topic	+2
Uncommon subject, very old topic (hundreds of years)	+5
Esoteric Subject, extremely old topic (thousands of years), classified	+10
Rare Subject, ancient topic (tens of thousands of years), top-secret	+20

### Time Levels

6 Seconds (1 round)
30 Seconds (5 rounds)
1 Minute (10 rounds)
5 Minutes
1 Hour
1 Day
1 Week
1 Month
1 Year
2 Years

offer the most minimal of protection (Encryption Rating of 10) against anyone with computer experience. Those with computer training may wish to handle their own encryption needs. When encrypting data, the programmer must make a T/Computer skill check to set the Encryption Rating of the data. Anyone other than the programmer who attempts to

access the data will have to make their own successful T/Computer skill check vs. the Encryption Rating to decrypt the data first. This is an Advanced programming task.

If the character attempting the Encryption or Decryption has a Decipher Script skill rank of 5 or more, they may add a +2 synergy modifier to this task check roll.

**Data Mining:** Basic searches on a network will only turn up common and generally available data such as Library Data from an electronic encyclopedia. Data mining is when a computer operator begins to look for specific information on a particular subject. This task has a base DC of 10, and Minor programming task modified by the scarcity of the information being sought.

## Data/Network Security:

Also included with most new computers is a standard security package offering minimal security (Security Rating of 10) from outside access. As with encryption, a skilled computer programmer can develop their own security software to better fit their needs. The programming makes a T/Computer skill check to set the Security rating for the system. Anyone other than the programmer, or those he authorizes, who attempts to access any data on the system will have to make their own successful T/Computer skill check vs. the Security rating to bypass the security. This is a sophisticated programming task.

**Layering:** To add to the security of systems and specific data, encryption and system security can be 'layered', providing multiple lines of defense against unwanted intrusion. Adding each layer is a separate task check, and doubles the time required to implement the program. Each layer of encryption or security must be subsequently broken before unauthorized access can be gained to the protected system or data.

**General Programming:** Computers can be programmed for so many different tasks of varying levels of sophistication and capabilities as to make it impossible to detail even a fraction of the possibilities here. We offer a few general guidelines for the Referee to use when needing to set a specific DC to a program a character may wish to attempt to write. The player should specify all of the

## MEDICAL TASKS

Task	DC
Emergency Care	15
Short-term care	15
Long-term care	15
Wounds Affecting Base Speed	15
Treat poison	Poison's DC
Treat disease	Disease's DC
Minor surgery (stitches)	15
Routine surgery (remove bullet, appendicitis, tonsillectomy)	20
Serious surgery (amputation, heart surgery)	30
Major surgery (brain surgery)	40+
<b>Modifiers</b>	<b>DC</b>
Under fire or similar stress	+15
Rushed +10	
Anti-toxin Available	-10
Chronic Condition	+5
<b>Tools</b>	
None	+10
K/Herbal Lore	+5
First Aid Kit	
TL0-3	+2
TL5-7	+/-0
TL8-12	-2
TL13-15	-4
TL16+	-6
Field Medical Kit	
TL5-7	-2
TL8-12	-4
TL13-15	-6
TL16+	-8
Hospital	
TL5-7	-6
TL8-12	-8
TL13-15	-10
TL16+	-12

capabilities they wish the program to be capable of accomplishing, any security precautions, and other pertinent information the Referee might need to determine the difficulty of the task.

In most cases, a single skill check is needed to see if the final version of the program runs as expected. If the check fails, the program fails to perform properly. For tasks requiring multiple successful checks, any failure of a check results in a lack of any progress for that period.



Once the program is finished, the Referee should make a secret check (DC20) to see if a hidden bug lies within the code that has not appeared to the programmer in testing. Each time a 'buggy' program is run, the Referee should make another check (DC20) to see if the bug pops up and crashes the program unexpectedly, or otherwise results in some error (this will usually be something catastrophic...).

### T/Medical

The individual has training and skill in the medical arts and sciences. Unless a character has the Xeno-Medicine feat, they may only safely apply their Medical skill to member of their own race.

The DC and effect depend on the task the character attempts.

**Emergency Care:** Emergency care usually means saving a dying character. If a character has negative lifeblood and is losing lifeblood points (at 1 per round, 1 per hour, or 1 per day), the tending character can make her stable. The injured character regains no hit points, but she does stop losing them. The check is a standard action.

**Short-term Care:** Short-term care is dealing with more minor injuries throughout the course of a day. If successful, the character lets the patient recover Stamina at twice the normal rate: 2 stamina per level for each hour of light activity, and 3 stamina per level for each hour of complete rest. The patient's Constitution modifier is not doubled, but is added to the recovery rate.

**Long-term Care:** Providing long-term care means treating an injured or sick person for a day or more. If successful, the character lets the patient recover hit points or ability score points (lost to temporary damage) at twice the normal rate: 2 lifeblood for each week of light activity, 3 lifeblood for each week of complete rest, and 2 ability score points per week. The character can tend up to six patients at a time. The character needs at least a field medical kit to perform this task.

Once during each week of recovery the patient makes a Fort save (DC15) to see if he recovers an extra point of during that week. The attending medical character makes a Medical check. The patient uses the character's result in place of her saving throw if the character's Medical result is higher.

Giving long-term care counts as light activity for the care giver. The character cannot give long-term care to him or herself.

**Treat Wounds that Reduces Base Speed:** A creature that has its speed reduced can be treated by the Medical skill. A successful Medical check removes this movement penalty. Treating such a wound is a standard action.

**Treat Poison:** To treat poison means to tend a single character who has been poisoned and who is going to take more damage from the poison (or suffer some other effect).

Every time the poisoned character makes a saving throw against the poison, the character makes a Medical check. The poisoned character uses the character's result in place of her saving throw if the character's Medical result is higher.

**Treat Disease:** To treat a disease means to tend a diseased character. Every time the diseased character makes a saving throw against disease effects, the character makes a Medical check. The diseased character uses the character's result in place of his or her saving throw if the character's Medical result is higher.

**Special:** If the character has 5 or more ranks in Knowledge (Pharmacology), the character gets a +2 synergy bonus on Medical checks.

**Notes:** The fact that a character has a medical skill rank of 1 or greater does not automatically allow him to call himself a doctor. Use the following guidelines for how a character may label himself through this skill based on his actual formal training.

**First Aid:** The first aid feat allows a character to perform any medical task as if they had a Medical skill rank of 0.

**Paramedic:** A person may be considered a paramedic or 'medic' if they have a Medical skill rank of 1 or more and no formal training.

**Nurse:** A nurse is someone with a Bachelors degree in Medicine from the University, and a Medical skill rank of 5 or greater.

**Physician's Assistant (PA):** A PA has a Masters degree in Medicine from the University, and a Medical skill rank of 5 or greater.

**Physician or Doctor (MD):** To be legally considered a doctor (MD), one must have a Doctorate in Medicine from the University and a Medical skill rank of 5 or greater.

**Surgeon:** A surgeon must of course be a qualified MD, and have the Surgery feat. Of course it is quite possible for a character to have the surgery feat and be perfectly capable of performing surgery even though they do not have a degree. In the field that would not matter so much as the actual result, but the character could not legally perform surgery in a civilized locality.

### T/Sensors

The character is familiar with the operation and basic maintenance of sensor equipment installed in vehicles and ships. It is the sensor operator who interprets the long-range data by the ship's sensors and scanners.

**Passive Scans:** Encounter-related sensor scans are done as 'active' scans, which basically means the target of the scan will know it is happening. Conducting an active sensor scan against commercial and civilian ships (by anyone other than the appropriate authorities) is frowned upon, and may even be considered a hostile act under some circumstances. Passive sensor scans on the other hand will go undetected, but make the task much harder.

All a sensor operator has to do to perform a passive scan is notify the referee in advance of the skill check itself. Using only passive sensors will add +10 to the DC of the task however. If the target of the scan is expecting such an action, it may make a T/Sensor skill check (DC20) to spot it if suitable clues are visible such as the realignment of antennae etc. If the target is wary but not actively expecting the scan, increase the DC to 30.

**Ship Detection:** The sensor operation can attempt to detect any ships or other objects with the range of her sensor systems that are not shielded by a planet, moon, or other planetoid.

All commercial vessels operating within most interstellar civilizations are required by law to carry a transponder that must be fully functional and in operation (this does not mean actually broadcasting) at all times while the ship is in motion. A transponder is really nothing more than a specialized radio system and computer within a completely self-contained, security sealed, and (supposedly) tamper-proof container. It can only be legally opened, repaired, or reprogrammed at an authorized facility located at any Class A, B, or C starport.

The transponder does not continually broadcast, as this would make ships very vulnerable out on the frontiers, but will automatically respond to an interrogative signal (a "Squawk") from another vessel or installation, supplying the ship's ID codes and registration on a specific frequency band that will be automatically detected and identified at Very Long range by even the most rudimentary of sensor systems. All ships - including military vessels - carry transponders and generally run them when operating among civilian traffic. The transponder will broadcast the ship's flag of registration (Imperial, Hive Federation, Two Thousand Worlds, etc.), its port of origin (the planet and system where the ship was registered), the registration number, the name of the registered owner, documented tonnage, and classification.

Close to a starport or other installation, beacons (and indeed, most vessels) broadcast a continuous squawk; so all vessels in the area are continuously "lit up" unless they are a military vessel that has turned off its transponder, or something that is not supposed to be there...

It is when confronting a military or other type of ship that is not operating a transponder that the sensor operator must actively watch for contacts. A successful T/Sensors skill check (DC10 or the current Jamming rating of any ship in range) will reveal the presence of any ships within range as a blip on the sensor display. No other information is available other than its mere existence, range, and general heading.

**Detect a Communication Signal:** Any signal directed to another comm. unit will automatically be detected. This task is used when trying to detect signals meant for other

comm. units. Open and unsecured signals can automatically be detected (base DC of 0) if someone is looking for them. It is just a matter of scanning frequencies. Secure signals can also be automatically detected (base DC of 0) if being watched for, but as they are encrypted this will do no good unless someone can break the encryption. Detecting hidden or piggybacked signals requires a skilled and alert sensor or comm. operator to detect, and have a base DC of 20. In combat this is a full action.

**Displacement Scan:** A successful T/Sensors skill check (DC10 or the current Jamming rating of any ship in range) will reveal the tonnage of a detected ship. While civilian and commercial vessels are required to carry a functioning transponder that broadcasts this information, there are some unscrupulous individuals in the universe who have been known to alter this data. A specific tonnage sensor check can verify the veracity of the transponder data.

**Configuration Scan:** A successful T/Sensors skill check (DC10 or the current Jamming rating of any ship in range) will reveal the probable configuration (scout, liner, patrol cruiser, far trader, etc.) of a detected ship. As with tonnage, civilian and commercial transponders are required to broadcast this information, but glitches and tampering have been known to happen. A specific configuration sensor check can verify the veracity of the transponder data.

**Threat Assessment:** A successful T/Sensors skill check (DC10 or the current Jamming rating of any ship in range) will reveal a general idea of the armament and defensive capabilities available to a detected ship.

**Target Size:** The size of a target also has a bearing on how easily it may be scanned. Small objects are harder to deal with than larger ones. Add the size modifier of the ship to the DC for any sensor task. Size modifiers are as follows: Colossal -8, Gigantic -4, Huge, -2, Large -1, Medium +0, Small +1, Tiny +2, Diminutive +4, Fine +8.

**Running Silent:** A ship may attempt to avoid detection and scanning by reducing its emissions to a bare minimum. If a ship takes no obvious actions, broadcasts no communications, attempts no active sensor checks (passive scans are allowed), fires no weapons, and otherwise ensures that it performs nothing that might reveal its presence, it is considered to be "running silent". Add +15 to any DC when another ship is attempting to use their sensors on the silent vessel.

**Jamming:** The sensor operator may attempt to spend the round providing defensive sensor jamming against incoming targeting lock attempts by enemy vessels, hopefully decreasing their chance of getting hit. Jamming will also aid in foiling attempts at detection, tonnage and classification estimations, and identification by other ships. This is a Full Action.

The sensor operator must make a T/Sensors skill roll and add the sensor system model number to this result. This

## SENSOR TASKS

Task	Range by Sensor System Model Number									Task
	1	2	3	4	5	6	7	8	9	DC
Ship Detection	VL	X1	X2	X3	X4	F	SW	SW	SW	10
Detect Comm Signal	VL	X1	X2	X3	X4	F	SW	SW	SW	10
Displacement Scan	L	VL	X1	X2	X3	X4	F	SW	SW	10
Configuration Scan	M	L	VL	X1	X2	X3	X4	F	SW	10
Threat Assessment	S	M	L	VL	X1	X2	X3	X4	F	10

S = Short, M = Medium, L = Long, VL = Very Long, X1 = Extreme 1, X2 = Extreme 2, X3 = Extreme 3, X4 = Extreme 4, F = Far, SW = System Wide

total will establish the ship's Jamming rating for the round. Any other ship attempting to target or otherwise scan the ship must use the ship's Jamming rating as the DC for these tasks rather than the standard DC for the current round.

Note that a ship which is broadcasting a powerful jamming signal can be detected very easily. Actually determining what is doing the broadcasting is difficult, but any vessel within Very Long range will be aware of the jamming signal, and all sensor operators will know what it is.

## TRADER (WIS)

The character is familiar with the fine art of bartering and haggling price with other individuals. This is useful in many kinds of transaction, whether buying a used vehicle, starship, or equipment from an individual or selling a cargo in the Starport. Note that the use of Trader skill does not allow a character to walk into a local department chain store and negotiate the price of a set of clothes, or the cost of a set of tools. It would however allow a character to negotiate directly with a tailor on the price of a custom outfit, or negotiate price with a little old alien selling a used air/raft that was only driven to the market once a week.

**Bartering and Haggling:** This is normally an opposed skill check. If the buyer or seller appears rushed, or otherwise anxious to buy or sell the goods the opposing trader may add +2 to his skill check roll. If the goods are obviously stolen or otherwise illegal, the buyer may add +2 to his skill check roll.

If the seller wins the opposed check with a standard success (0-9 points higher than the opposing roll), the price to be paid will be 110% of the list or standard price of the item. If the result is a greater success (10-19 points higher), the price to be paid will be 120%. A complete success (20+ points higher) will set the price at 130%.

If the buyer wins the opposed check with a standard success (0-9 points higher than the opposing roll), the price to be paid will be 90% of the list or standard price of the item. If the result is a greater success (10-19 points higher), the price to be paid will be 80%. A complete success (20+ points higher) will set the price at 70%.

**Retry:** Yes, but the price begins at the last negotiated level, and the character incurs a -2 penalty to the new skill check roll.

**Special:** If the trader has a skill rank of 5 or better in Bluff, she may add a +2 synergy bonus to all Trader skill checks.

**Notes:** Unlike the Broker skill, which is used when dealing with companies, governments, and megacorporations for large cargos, the Tader skill is used when interacting with individuals for specific items or specialized cargos.

## TUMBLE (DEX)

*Trained Only; Armor Check Penalty*

The character is skilled in performing somersaults, flips, handstands, cartwheels, dives, rolls, and similar acts, along with lessening the effects of falls.

**Check:** The character can land softly when the character falls or tumbles past opponents. The character can also tumble to entertain an audience (as with the Entertain skill). The character can't use this skill if the character's speed has been reduced by armor, excess equipment, or other objects.

### DC Task

15 Treat a fall as if it were 3 meters shorter when determining damage.

15 Tumble up to 6 meters (as part of normal movement), suffering no attacks of opportunity while doing so. Failure means the character tumbles 6 meters but suffers attacks of opportunity normally.

25 Tumble up to 6 meters (as part of normal movement), suffering no attacks of opportunity while doing so and moving through areas occupied by enemies (over, under, or around them). Failure means the character tumbles 6 meters and can move through enemy-occupied areas but suffers attacks of opportunity normally.

**Retry:** An audience, once it has judged a tumbler as uninteresting, is not receptive to repeat performances. The character can try to reduce damage from a fall as an instant reaction but only once per fall. The character can attempt to tumble as part of movement but only once per round.



**Special:** A character with 5 or more ranks in Tumble gains a +3 dodge AC bonus when executing the Fight Defensively standard or full-round action, instead of a +2 dodge AC bonus.

A character with 5 or more ranks in Tumble gains a +6 dodge AC bonus when executing the total defense standard action instead of a +4 dodge AC bonus.

If the character has 5 or more ranks in Jump, the character gets a +2 synergy bonus on Tumble checks.

If the character has 5 or more ranks in Tumble, the character gets a +2 synergy bonus on Balance checks.

## USE ALIEN DEVICES (WIS)

*Academics and Travellers Only*

The character is familiar with numerous examples of alien technology and design, allowing a better chance of figuring out the use and function of unknown or unfamiliar alien equipment and devices. Anyone can attempt to use this skill untrained, but only Academics and Travellers may earn ranks in this skill.

**Check:** When confronted with an alien or higher-technology device of unknown function, the character may attempt to figure out how it works. Using the Alien Races and Technology table below as a guideline, the Referee should set a secret Research DC to figure out how to use a single function of the device. Note that once a device's function is understood, a character can be shown how to use that function, provided it is relatively simple. Thus a TL 4 character can be taught how to operate a TL 12 coffee machine or alien direction-finding device, but not a computer or air/raft, which would require lengthy training (as represented by the acquisition of a skill.)

The character heading the investigation should make a skill check. If successful, reduce the Research DC by the amount equal to the skill check roll - exceeded the current Research DC. This will be the new DC the character must make a skill check against to continue the investigation. This will continue until the character gives up, or the Research DC is reduced to 0 or less, at which point the character has figured out one of the functions of the device.

A failed skill check requires the character to make an immediate additional skill check (same DC) to determine if anything untoward happens. If this second check fails, roll 1d20 and consult the Catastrophic Results table below. A roll of a 1 is always an automatic failure with a Catastrophic Result.

A roll of 20 is always an automatic success, and earns a 1d100 roll on the Beneficial Result table below. For purposes of Research DC reduction, consider an automatic success as a roll equal to the DC + 10.

If the device has multiple functions, a separate set of Use Alien Devices skill checks must be made for each

function. Once a function's use has been determined, the character may activate that function without trouble in the future.

## Alien Races and Technology

Race	DC
Luriani, Solomani, Vilani, Other Human	0
Ursa, Sydite, Vargr, Aslan	5
Virushi, K'Kree, Zhodani	10
Wanderer, Droyne	15
Hiver	20
Unknown Race	30
Ancients	50
For each TL of device over current TL*	+5

\* Does not apply to Ancients devices

## Catastrophic Results

1d20	Result
1	Device explodes causing damage (how much should be determined by the Referee).
2-5	Device is rendered inoperable. Can never be repaired.
6-10	Device is rendered inoperable, but can possibly be repaired in the future if another can be obtained and its function figured out.
11-15	Reached dead end, must start completely over. Research DC returns to its initial value.
16-20	Device is baffling. Add 5 back onto the Research DC.

## Beneficial Results

1d20	Result
1-5	A moment of inspiration! Add +1 to the next check roll.
6-10	Device activated in a minor and benign manner giving a further clue to its operation. Add +2 to the next check roll.
11-15	Add Int modifier (treat any zero or negative modifier as +1) to the amount by which DC is reduced.
16-19	Double the amount by which the Research DC is reduced this round.
20	Deduce how to use the function currently being studied. Research DC is set to 0.

**Retry:** This skill may be attempted on a device until the character gives up, all functions have been determined, or the device is rendered inoperable or destroyed.

# FEATS

Feats are the special abilities that really set a character apart from the everyday, run-of-the-mill citizen. Feats provide your character with special bonuses when using certain skills, special abilities, and other advantages that you would otherwise not normally have. Unlike skills, there are no ranks; you either have a feat and its benefits or you don't.

In addition to the basic feats introduced in the Core Rules book, Traveller introduces a number of additional feats with which to develop your characters. While these new feats were designed with the Traveller universe in mind, they can easily be adapted for use in any d20 Science-Fiction campaign setting.

Acrobatics	Override Ship Security
Acting Prodigy	Point Blank Shot
Alertness	Precise Shot
Ambidexterity	Primary Military Occupational Specialty
Armor Proficiency (Battle Dress)	PSI Training
Armor Proficiency (Heavy)	Quick Draw
Armor Proficiency (Light)	Rapid Shot
Armor Proficiency (Medium)	Research
Armor Proficiency (Vac Suit)	Ride-By Attack
Assassin	Run
Athletic	Shield Proficiency
Barter	Ship Tactics
Brawling	Shot on the Run
Carousing	Sixth Sense
Combat Reflexes	Skill Focus
Connections	Sniper
Credit Line	Spirited Charge
Dodge	Spring Attack
Dumb Luck	Stealthy
EW Specialist	Strategy
Endurance	Surgery
Far Shot	Tactics
Fast Talk	Tolerance
First Aid	Toughness
Fleet Tactics	Tracker
Gearhead	Trample
Geological Survey	Trapping
Great Fortitude	Trustworthy
Hacker	Two-Weapon Fighting
Heavy Gravity Adaptation	Vessel/Ground
Heavy Metal	Vessel/Grav
Hobby	Vessel/Watercraft
Improved Critical	Vessel/Aircraft
Improved Initiative	Vessel/Ship's Boats
Improved Two-Weapon Fighting	Vessel/Starships
Improved Unarmed Strike	Vessel Specialization
Improved Zero-G/Low Gravity Adaptation	Weapon Proficiency (Archer)
Interrogation	Weapon Proficiency (Armsman)
Iron Will	Weapon Proficiency (Combat Rifleman)
Jury Rig	Weapon Proficiency (Field Artillery)
Legal Eagle	Weapon Proficiency (Heavy Weapons)
Lightning Reflexes	Weapon Proficiency (High Energy)
Martial Training	Weapon Proficiency (Lasers)
Medical Specialization	Weapon Proficiency (Marksman)
Miracle Worker	Weapon Proficiency (Ship's Weaponry)
Mobility	Weapon Proficiency (Swordsman)
Mounted Accuracy	Weapon Focus
Mounted Combat	Weapon Specialization
Natural Born Leader	Xeno-Empathy
Natural Compass	Xeno-Medicine
Natural Talent	Zero-G Combat
Naval Architect	Zero-G/Low Gravity Adaptation
Nerves of Steel	





For information on acquiring feats, see the Core Rules book (Feats - Acquiring Feats) for more information.

## FEAT DESCRIPTIONS

Here is the format used to describe each of the available feats:

### FEAT NAME

A brief description of the feat and its benefits.

**Prerequisites:** If any specific requirements are listed, a character must meet them before gaining this feat. If there are no prerequisites listed and the character otherwise meets any Service and Class requirements, they may take the feat.

**Benefits:** The specific benefits gained by a character that acquires this feat.

**Normal:** What happens if someone without this feat tries to do the same thing.

**Special:** Any special notes on limitations or other effects and variables related to this feat.

## ACROBATICS

The character is very agile, allowing her to take falls and difficult landings better than the average person.

**Benefit:** Add +2 to all Balance, Jump and Tumble checks.

## ACTING PRODIGY

The individual has a special gift for acting and portraying roles.

**Benefit:** Add +2 to all Disguise and E/Acting checks when the character is playing a part.

**Special:** This feat does not stack with the Performance Prodigy feat when using the E/Acting skill.

## ALERTNESS

The individual has 'eyes in the back of their head', so to speak, and is rarely surprised.

**Benefit:** The character gets a +2 bonus on all Listen checks and Spot checks.

## AMBIDEXTERITY

The character is equally proficient in using tools and weapons with either hand.

**Prerequisite:** Dex 15+.

**Benefit:** The character ignores all penalties for using an off hand. The character is neither left-handed nor right-handed.

**Normal:** Without this feat, a character who uses his or her off hand suffers a -4 penalty to attack rolls, ability checks, and skill checks. For example, a right-handed character wielding a weapon with her left hand suffers a -4 penalty to attack rolls with that weapon.

**Special:** This feat helps offset the penalty for fighting with two weapons.

## ARMOR PROFICIENCY (BATTLE DRESS)

The character is familiar with the use of powered Battle Dress armor and the weapon systems normally associated with it.

**Prerequisites:** Armor Proficiency (Vac Suit) feat.

**Benefit:** Can work normally while wearing Battle Dress, only suffering the armor check penalty when attempting to Climb, Hide, Jump, Move Silently, and Tumble.

**Normal:** Untrained characters wearing armor suffer the listed armor check penalty for their armor when performing all tasks and activities.

## ARMOR PROFICIENCY (HEAVY)

The character is familiar with wearing and using heavy armor.

**Prerequisites:** Armor Proficiency (Medium).

**Benefit:** Can work normally while wearing heavy armor, only suffering the armor check penalty when attempting to Climb, Hide, Jump, Move Silently, and Tumble.

**Normal:** Untrained characters wearing armor suffer the listed armor check penalty for their armor when performing all tasks and activities.

## ARMOR PROFICIENCY (LIGHT)

The character is familiar with wearing and using light armor.

**Benefit:** Can work normally while wearing light armor, only suffering the armor check penalty when attempting to Climb, Hide, Jump, Move Silently, and Tumble.

**Normal:** Untrained characters wearing armor suffer the listed armor check penalty for their armor when performing all tasks and activities.

## ARMOR PROFICIENCY (MEDIUM)

The character is familiar with the wearing and using medium armor.

**Prerequisites:** Armor Proficiency (Light)

**Benefit:** Can work normally while wearing medium armor, only suffering the armor check penalty when attempting to Climb, Hide, Jump, Move Silently, and Tumble.

**Normal:** Untrained characters wearing armor suffer the listed armor check penalty for their armor when performing all tasks and activities.

## ARMOR PROFICIENCY (VAC SUIT)

The individual has been trained in the wearing, care, and maintenance of all types of Vacuum Suits and Combat Armor.

**Benefit:** Can work normally while wearing a Vac Suit or Combat Armor, only suffering the armor check penalty when attempting to Climb, Hide, Jump, Move Silently, and Tumble.

**Normal:** Untrained characters wearing armor perform suffer the listed armor check penalty for their armor when performing all tasks and activities.

## ASSASSIN

The character is trained in taking down an opponent with a single melee weapon attack.

**Benefit:** As a full round action the attacker may attempt to hit the target in a critical area. This attack is at a -4 penalty to hit. If the shot hits, it is treated as a critical hit. The target must be flat-footed to take advantage of this feat.

## ATHLETIC

The character is a true jock, excelling at most athletic endeavors.

**Benefit:** Add +2 to all Climb and Swim checks.

## BARTER

The character is a hard bargainer and relishes haggling over the price of an item.

**Benefit:** Add +2 to all rolls on Trader and Broker checks.

## BRAWLING

The character is familiar with fighting without weapons (i.e. using punches, head butts, kicks and other natural weapon attacks), or makeshift weapons (bottles, pool cues or chairs).

**Benefit:** When fighting unarmed, the character may add +1 to attack rolls and will inflict 1d4 damage, or may use makeshift weapons without the normal penalty (see below).

**Normal:** Without this skill characters only inflict 1d3 damage when fighting unarmed, and 1d4 damage when armed with a makeshift weapon. When a character without this feat uses a makeshift weapon, he suffers a -2 penalty to any attack rolls.

## CAROUSING

The character is talented at interacting and socializing with others, skilled in the art of small talk and making others feel at ease in their presence.

**Benefit:** Add +2 to all Gather Information checks when in most social situations such as a party, ball, inauguration, bar hopping, etc.

## COMBAT REFLEXES

The individual has the reflexes of a seasoned veteran; able to spot and take advantage of the openings an opponent may present in combat.

**Benefit:** When foes leave themselves open, the character may make a number of additional attacks of opportunity equal to his or her Dexterity modifier. The character still may only make one attack of opportunity per enemy. The character may also make attacks of opportunity while flat-footed.

## CONNECTIONS

The individual has established a number of useful and helpful contacts among a selected community of people. (Determined in agreement with the Referee).

**Benefit:** Add +2 to all Gather Information checks when utilizing these contacts for information.

**Special:** This feat is specialized, meaning that it will normally specify what community or types of people the character has connections among. For example Connections (Law Enforcement) would mean the character had contacts among police and other law enforcement agencies, and be familiar with the type of people that are part of that community. Listed below are a number of different ideas that might be useful to characters in the Traveller universe. The character is free to select from among them, or with your Referee's permission come up with new ones.

*Connections (Scouts):* Contacts among the active duty Scout Service personnel, at Scout bases, etc.

*Connections (Streetwise):* The individual has contacts with and knowledge of dealing with people from lower levels of society (SOC 7 or less).

*Connections (Underworld):* The individual has connections and contacts within the criminal underworld and black markets, and is familiar with dealing with people from this element of society.

*Connections (Class):* The individual has a number of contacts and acquaintances among members of their own specific character class.

## CREDIT LINE

Because of family ties, business associates, friends, or other connections, the individual has access to a fairly sizable line of credit that may be borrowed against at very low interest rates (5%).

**Benefit:** The character may borrow an amount up to the equivalent of (character level times the results of a Social Standing check) times Cr1000. This loan must be repaid within a number of years equal to the character's level when the loan is initially taken. Interest must be paid even if the loan is settled almost immediately. No additional loans from this source may be taken while a balance from a previous loan still remains unpaid.

## DODGE

The character is naturally adept at dodging and avoiding blows in combat.

**Prerequisite:** Dex 13+.

**Benefit:** During the character's action, he designates an opponent and receives a +1 dodge bonus to Armor Class against attacks from that opponent. The character can select a new opponent on any action. Note: A condition that makes the character lose his or her Dexterity bonus to Armor Class (if any) also makes the character lose dodge bonuses. Also, dodge bonuses stack with each other, unlike most other types of bonuses.

## DUMB LUCK

The character is unnaturally lucky.

**Benefit:** +1 to all Gambling checks. Once per day the character may retry a failed check, attack roll, or saving throw. He or she may also turn any one successful check, attack roll, or saving throw into a critical success but this may be done only once per week and during the next week the character may not attempt to use this feat at all.

The two features of the feat cannot be used together. For example this feat could not be used to reroll an unsuccessful attack and then, if the reroll were successful, increase the success into a critical hit.

## ENDURANCE

The character is 'long winded' and able to endure strenuous physical exertion far longer than most others.

**Benefit:** Whenever the character makes a check for performing a physical action that extends over a period of time (running, swimming, holding his breath, and so on), the character gets a +4 bonus to the check.

## EW SPECIALIST

The individual is an electronic warfare expert, and has an incredible talent when it comes to sensors and communications.

**Benefits:** The character gains a +2 to all T/Communications and T/Sensors skill checks when attempting to detect, defeat, or establish a communications or sensor lock, or when trying to descramble a garbled or encoded comm. signal.

## FAR SHOT

The character is a crack shot when aiming at distant targets.

**Prerequisite:** Point Blank Shot.

**Benefit:** When the character uses a projectile weapon, such as an autopistol, its range increment increases by one-half (multiply by 1.5). When the character uses a thrown weapon, its range increment is doubled.

## FAST TALK

The character is able to come up with plausible comments, answers, and other bit of small talk at the drop of a

hat, enabling them to somewhat direct and control the course of a conversation.

**Benefit:** Add +2 to all Bluff and Innuendo checks.

## FIRST AID

The individual has been trained in the administration of first aid and basic medical care.

**Benefit:** While this does not impart T/Medical skill, it does allow a character to function as if he had a T/Medical skill rank of 0.

## FLEET TACTICS

The character is trained in the art of large-scale space warfare and the handling of groups of ships (fleets) in combat.

**Prerequisites:** Ship Tactics feat.

**Benefit:** Add Wis or Int bonus (whichever is higher; treat any penalties as +0) to all fleet attack and defense rolls.

**Normal:** Untrained individuals attempting to use Fleet Tactics suffer a -4 penalty to the roll.

## GEARHEAD

The character enjoys and is quite skilled at tinkering and working with mechanical and electronic equipment and systems.

**Benefit:** Add +2 to all T/Mechanical and T/Electronics checks when attempting to repair, construct, or sabotage a piece of equipment. This bonus does not apply to the actual operation of the equipment itself.

## GEOLOGICAL SURVEY

The character is skilled at carrying out sample collection and analysis, and can operate appropriate sensors and equipment.

**Prerequisites:** P/Prospecting skill rank 5+ or K/Geology skill rank 5+.

**Benefit:** Add +2 to any K/Geology skill checks when attempting field analysis of a geological formation or attempting to extrapolate possible geological information about a region based on available maps and surveys. Also adds a +2 synergy bonus to all P/Survey skill checks when performing planetary mapping and mineral surveys.

## GREAT FORTITUDE

The character is capable of withstanding unusual levels of pain and fatigue, and can (at least for a while) hold at bay the effects of shock.

**Benefit:** The character gets a +2 bonus to all Fortitude saving throws.

## HACKER

The character is adept at hacking computer systems and defeating security measures.



**Prerequisites:** T/Computer skill rank 5+

**Benefit:** Add +2 to all T/Computer and T/Communications checks when attempting to bypass or circumvent computer or communication security features.

## HEAVY GRAVITY ADAPTATION

The character is comfortable and familiar with working and living in a heavy gravity (1.1G+) environment.

**Prerequisites:** May not already have the Zero-G/Low Gravity Adaptation feat.

**Benefit:** The character may reduce the penalty for heavier than normal gravity by -2 when using skills in a heavy gravity environment, except for combat skills.

**Normal:** Untrained characters suffer the full penalty on any skill use in a heavy gravity environment.

## HEAVY METAL

The individual has a natural ability with ballistics, trajectories, and targeting of heavy weapons such as field artillery and ship's weaponry.

**Benefit:** Reduce the effective range to a target by one range increment, or ignore one level of cover and/or concealment.

## HOBBY

The individual has developed a specific skill as a favorite hobby.

**Benefit:** May make one cross-class skill a permanent class skill.

**Special:** This feat may be taken a number of times equal to a character's INT bonus or a minimum of once, whichever is higher.

## IMPROVED CRITICAL

The character has an affinity for a specific type of weapon, such as an autopistol or dagger, which must be specified when the feat is taken. When wielding this type of weapon, he or she is much more likely to inflict a critical hit on an opponent.

**Prerequisites:** Proficient with weapon, base attack bonus +8 or higher.

**Benefit:** When using a weapon of the selected type, the character's threat range is doubled.

**Special:** This feat can be taken multiple times. The effects do not stack. Each time the character takes the feat, it applies to a new type of weapon (autopistol, submachinegun, dagger, etc).

## IMPROVED INITIATIVE

The character has fast or highly trained reflexes, allowing her to react more quickly than others in combat.

**Benefit:** The character gets a +4 bonus on initiative checks.

## IMPROVED TWO-WEAPON FIGHTING

The character is highly trained in the art of two-weapon combat.

**Prerequisites:** Two-Weapon Fighting, Ambidexterity, base attack bonus +9 or higher.

**Benefit:** In addition to the standard single extra attack the character gets with an off-hand weapon, he or she also gets a second attack with the off-hand weapon, albeit at a -5 penalty.

**Normal:** Without this feat, the character can only get a single extra attack with an off-hand weapon.

## IMPROVED UNARMED STRIKE

The character has achieved a very high level of skill in unarmed combat.

**Benefit:** The character is considered to be armed even when unarmed - that is, armed opponents do not get attacks of opportunity when he or she attacks them while unarmed. The character still gets an opportunity attack against any opponent who makes an unarmed attack on him.

## IMPROVED ZERO-G/LOW GRAVITY ADAPTATION

The character is totally acclimated to working and living in a low or zero gravity environment.

**Prerequisites:** Zero-G/Low Gravity Adaptation

**Benefit:** The character will suffer NO penalty when using skills in a zero-g or low gravity environment, except for combat skills. These require the Zero-G combat feat.

**Normal:** Untrained characters suffer the full penalty on any skill use in a low or zero-g environment.

## INTERROGATION

The character is skilled at questioning and interrogating people. She can pick up subtle clues from their body language and choice of phrases and spot inconsistencies in their story.

**Benefit:** Add +2 to all Sense Motive and Intimidate checks when performing an interrogation or questioning a suspect. In situations where the character is being interrogated, a negative -2 modifier may be applied to the interrogator's skill checks when attempting to obtain information from the character.

**Special:** This feat is a bit more heavy-handed than just using the Sense Motive skill. The person being questioned will realize that the character is after information from them.

## IRON WILL

The individual has an unusually high reservoir of willpower, grit, and determination.



**Benefit:** The character gets a +2 bonus to all Will saving throws.

### JURY RIG

The character is quite handy at jury-rigging, makeshift repairs and cobbling together unusual gadgets and gizmos.

**Benefit:** When attempting a fast, temporary repair, the character must make an appropriate skill check (DC 12 + Required RP per Block). If successful, the system is automatically repaired by 1 factor. This feat can only be used once per damaged system until fully repaired. Add +1 to the skill check roll if there are sufficient vehicle or engineering workshops available to support the job.

### LEGAL EAGLE

The character is intimately familiar with Interstellar laws and customs.

**Prerequisites:** K/Interstellar Law skill rank of 5+.

**Benefit:** Add +2 to all K/Interstellar Law and P/Administration checks.

**Special:** This feat applies only to the laws governing interstellar trade, travel, commerce, diplomacy, etc. It does not apply to the laws of individual worlds and governments.

### LIGHTNING REFLEXES

The individual has the reflexes of a hunting cat.

**Benefit:** The character gets a +2 bonus to all Reflex saving throws.

### MARTIAL TRAINING

The individual has more than the typical experience in combat situations through training, real life experience, or more typically through previous military service.

**Prerequisites:** Must be a minimum of 4th level and have served at least one term in the Army, Navy, Marines, or Scout service (see Prior History, pg. 120), or have a Strength and Dexterity ability score of 12 or higher. May not be taken by Barbarians, Mercenaries, or (Active-Duty) Marines.

**Benefit:** May add +1 to BAB for every 4 character levels attained (i.e. at 4th, 8th, 12th, 16th, and 20th levels).

**Special:** This feat may only be taken once.

### MEDICAL SPECIALIZATION

The individual has specialized in a specific field of medicine such as cardiology, neurology, or orthopedics.

**Benefit:** Add +2 to all T/Medical checks when diagnosing or treating injuries/illnesses related to the field specialty.

**Special:** This feat may be taken more than once, but each time a new field of specialization must be selected. It does not stack.

## MIRACLE WORKER

The individual has an uncanny knack with machinery and gadgets. He or she can wring out just a little more performance than specifications suggest, maintain a system well beyond its rated capacity without disaster, etc.

**Prerequisites:** Gearhead feat.

**Benefit:** When attempting a temporary repair the character must make an appropriate skill check (DC 22 - System RP requirements). If successful the damaged system is automatically repaired to its original rating less one factor. This feat can only be used once per damaged system until fully repaired. Add +1 to the skill check roll if there are sufficient vehicle or engineering workshops available to support the job. Add +2 to the skill check roll if the chief mechanic/engineer has the Damage Control feat.

## MOBILITY

The individual has the ability to dodge, dance, and otherwise move past opponents while avoiding their blows.

**Prerequisites:** Dex 13+, Dodge feat.

**Benefit:** The character gets a +4 dodge bonus to Armor Class against attacks of opportunity caused when the character moves out of or within a threatened area. Note: A condition that makes the character lose the Dexterity bonus to Armor Class (if any) also makes the character lose dodge bonuses. Also, dodge bonuses stack with each other, unlike most types of bonuses.

## MOUNTED ACCURACY

The character is skilled at firing ranged weapons from a moving platform such as a vehicle or animal.

**Prerequisite:** Ride or Drive skill.

**Benefit:** The penalty the character suffers when using a ranged weapon from a moving platform is halved: -2 instead of -4 if the character's platform is taking a double move, and -4 instead of -8 if the character's platform is running or moving at fast speed or higher.

## MOUNTED COMBAT

The character is trained in handling an animal mount in combat.

**Prerequisite:** Ride skill.

**Benefit:** Once per round when the character's mount is hit in combat, the character may make a Ride check to negate the hit. The hit is negated if the character's Ride check is greater than the attack roll (essentially, the Ride check becomes the mount's Armor Class if it's higher than the mount's regular AC).

## NATURAL BORN LEADER

The individual has the type of attitude, confidence and natural leadership that draws attention and inspires loyalty.

**Benefit:** Add +2 to all Leader and Recruiting checks.

## NATURAL COMPASS

The individual has an innate, almost unnatural ability to determine his or her location nearly anywhere on a world or planetoid, beyond what is natural.

**Benefit:** Add +2 to all Intuit Direction and Navigation checks.

## NATURAL TALENT

The character is a raw psionist, capable of minor feats of psionics without the normal training required.

**Benefit:** The character rolls 1d20 and consults the Natural Affinity table below to determine which psionic Sphere of Influence he will be capable of manipulating.

The character has no formal training, but is such a strong natural talent that he may always act as if his skill rank in his natural sphere were 2 points higher than normal when using talents from his natural sphere of influence. Until formally tested the character may act as if he had a PSI rating of 2. If finally tested, the character may add +2 to the final exam result. If a human character takes this as their free racial bonus feat, he may ignore the age penalty when being examined at the Institute.

Note that the features of this feat make it possible for the character to later take any talent feat within his sphere that has a rank requirement of 2 or less.

See Psionics (pg. 186) for more information.

### Natural Affinity

d20	Sphere
1-10	Telepathy
11-14	Clairvoyance
15-17	Telekinesis
18-19	Awareness
20	Teleportation

## NAVAL ARCHITECT

The individual has been trained in the techniques and methods of spaceship and starship design, and producing the blueprints and plans necessary for their construction.

**Prerequisites:** T/Engineering

**Benefit:** May design starships and small craft for construction.

**Special:** This feat may be selected up to four times with the following additional capabilities with each selection:

- 1) The character is capable of designing small starships and small craft (up to 400 tons). Takes 16 weeks
- 2) The character is capable of designing medium sized starships (up to 1000 tons). Takes 10-12 weeks.
- 3) The character is capable of designing large starships (up to 10,000 tons). Takes 6-8 weeks.
- 4) The character is capable of designing any type of starship regardless of tonnage, at normal pace.



## NERVES OF STEEL

The character is cool as ice when dealing with demolition charges and attempting to disarm or disable explosives and similar devices.

**Benefit:** Add +2 to all Demolitions, T/Mechanical, or T/Electronic skill checks when attempting to disable a device or demolitions.

## OVERRIDE SHIP SECURITY

The individual has been trained in how to override and defeat the anti-hijacking and boarding security systems on most types of starships.

**Prerequisite:** Hacker.

**Benefit:** Add +2 to any T/Computer checks when attempting to override an anti-hijacking program.

## POINT BLANK SHOT

The character knows how to make proper use of a ranged weapon while in close combat.

**Benefit:** The character gets a +1 bonus to attack and damage rolls with ranged weapons at ranges of up to 10 meters.

## PRECISE SHOT

The character is able to more accurately hit a target involved in a melee or surrounded by a crowd of people.

**Prerequisite:** Point Blank Shot.

**Benefit:** The character can shoot or throw ranged weapons at an opponent engaged in melee without suffering the standard -4 penalty.

## PRIMARY MILITARY OCCUPATIONAL SPECIALTY (PMOS)

The character was highly trained in one specific skill while he or she was in the military.

**Prerequisites:** Skill rank 5+, Skill Focus Feat in the specified skill

**Benefit:** Select one skill as PMOS. Whenever using this skill, the character may always elect to Take10, even in situations where they normally could not.

**Special:** May only be selected once.

## PSI TRAINING

The character has located a Psionics Institute and been offered free testing and training.

**Benefit:** See Psionics Institute, (pg. 186) for more information.

**Special:** If a character takes this as their free 1st (character) level feat, they may ignore the age penalty when being examined at the Institute.

## QUICK DRAW

Few can draw and bring to bear a weapon faster.

**Prerequisite:** Base attack bonus +1 or higher.

**Benefit:** The character can draw a weapon as a free action instead of as a move-equivalent action.

## RAPID SHOT

The character is very quick on the trigger.

**Prerequisites:** Point Blank Shot, Dex 13+.

**Benefit:** The character can get one extra attack per round with a ranged weapon. The attack is at the character's highest base attack bonus, but each attack (the extra one and the normal ones) suffers a -2 penalty. The character must use the full attack action to use this feat.

## RESEARCH

The character is skilled at sifting and analyzing data and information from various sources for the clues and evidence needed to close a case. Allows the synergistic use of Knowledge and other information-related skills together with Gather Information skill.

**Benefit:** Add +2 to all Gather Information checks when conducting research.

<i>Circumstances</i>	<i>Gather Knowledge Roll Adjustment</i>
Multiple Sources	-1 per Knowledge or other skill used, if more than one is involved.
Per Research bonus	+1
Per successful Source Skill check	+5

**Special:** This skill may be taken more than once, but each time it is selected a new area of research specialization must be specified. For example a character might take Research/Ancients, Research/Ziru Sirka, or Research/Anthropology.

## RIDE-BY ATTACK

The character is trained in fast (animal) mounted skirmishing.

**Prerequisites:** Ride skill, Mounted Combat.

**Benefit:** When the character is mounted and uses the charge action, the character may move and attack as with a standard charge and then move again (continuing the straight line of the charge). The character's total movement for the round can't exceed double the character's mounted speed. The character does not provoke an attack of opportunity from their opponent.

## RUN

The character is faster than normal when running.

**Benefit:** When running, the character moves five times normal speed instead of four times normal speed. If

the character makes a running jump, increase the distance or height cleared by one-fourth, but not past the maximum.

## SHIELD PROFICIENCY

The character is trained in the proper use of a shield in melee combat.

**Benefit:** The character can use a shield and suffer only the standard penalties.

**Normal:** A character using a shield with which he or she is not proficient suffers the shield's armor check penalty on attack rolls and on all skill rolls that involve moving, including Ride.

## SHIP TACTICS

The individual has had advanced training in operating, fighting, and surviving with an individual ship in combat.

**Prerequisites:** Vessel/Starships or Vessel/Ship's Boat feat

**Benefit:** Add Wis or Int bonus (whichever is higher, treat any penalties as +0) to all ship or small craft attack and defense rolls.

## SHOT ON THE RUN

The character is familiar and skilled at using ranged weapons while moving.

**Prerequisites:** Point Blank Shot, Dex 13+, Dodge, Mobility.

**Benefit:** When using the attack action with a ranged weapon, the character can move both before and after the attack, provided that the character's total distance moved is not greater than the character's speed.

## SIXTH SENSE

The individual has an uncanny knack for noticing what most would overlook.

**Benefit:** Add +2 to all Search checks.

## SKILL FOCUS

The character has a natural talent. She may select a specific skill such as T/Electronics, with which she has a higher than average capability.

**Benefit:** The character gets a +2 bonus on all skill checks with the selected skill.

**Special:** The character can gain this feat multiple times. Its effects do not stack. Each time the character takes the feat, it applies to a new skill.

## SNIPER

The character is trained in taking down an opponent at range with a single shot

**Benefit:** As a full round action the shooter may attempt to hit the target in a critical area. This shot is at a -4 penalty to hit, though this penalty can be reduced by 1 (to a minimum of a -1 penalty to hit) for each additional

round spent targeting. If the shot hits, it is treated as a critical hit. The target must be unaware of the presence of the sniper to take advantage of this feat.

## SPIRITED CHARGE

The character is exceptionally skilled at using a (animal) mount to deliver a more powerful than normal melee attack during a charge.

**Prerequisites:** Ride skill, Mounted Combat, Ride-By Attack.

**Benefit:** When mounted and using the charge action, the character deals double damage with a melee weapon (or triple damage with a spear).

## SPRING ATTACK

The character knows how to apply 'hit and run' tactics while in melee combat.

**Prerequisites:** Dex 13+, Dodge, Mobility, base attack bonus +4 or higher.

**Benefit:** When using the attack action with a melee weapon, the character can move both before and after the attack, provided that their total distance moved is not greater than their speed. Moving in this way does not provoke an attack of opportunity from the defender. This feat cannot be used while wearing heavy armor.

## STEALTHY

The character is particularly good at blending into the background, and generally remaining unnoticed.

**Benefit:** Add +2 to all Hide and Move Silently checks.

## STRATEGY

The individual has mastered the art of war, and is capable of orchestrating and organizing large-scale battles.

**Prerequisites:** Tactics feat.

**Benefit:** Add Wis or Int bonus (whichever is higher, treat any penalties as +0) to all large group/unit attack and defense rolls.

**Normal:** Untrained individuals attempting to use Strategy suffer a -4 penalty to the roll.

## SURGERY

The character is trained and qualified to perform most types of surgery.

**Requirements:** T/Medical skill rank of 8+

**Benefit:** May perform surgery competently.

**Normal:** Anyone may perform surgery without this feat. The Surgery feat gives the patient a chance of surviving the experience.

## TACTICS

The character is trained in organizing and commanding small combat units, up to company size.

**Benefit:** Add Wis or Int modifier (whichever is higher, treat any penalties as +0) to all small-unit attack and defense rolls.

**Normal:** Untrained individuals attempting to use Tactics suffer a -4 penalty to the roll.

## TOLERANCE

Aslan find it difficult to interact with cultures that do not share their values. Tolerance allows an Aslan to get along with "foreign barbarians".

**Benefit:** The ability to tolerate and operate within non-Aslan cultures. It also allows Aslan to respond to aliens by their physical gender rather than their job-apparent gender. For male Aslan this feat also allows them to take "Female" skills and the ability to comprehend the value of money; Aslan females often have (but seldom use) many of the "Male Skills".

**Normal:** Without this feat, Aslan characters must make Will saves to avoid challenging to a duel those who insult them. Saves are made with DCs varying from 10 (trivial things) to 30 (direct insult or accusation of crime). Additionally, gunners, pilots, law enforcement personnel, commanding officers, and people with other "action oriented" jobs will be referred to in the masculine only, and navigators, businesspersons, executive officers, engineers, repair technicians, and those undertaking other intensely educated or 'thinking' tasks will be referred to as female. Stewards, entertainers, reporters, and artists will be referred to by physical gender. The Tolerance feat allows a DC10 Wis check to get things right; not having the feat makes this DC18.

**Special:** Aslan only

## TOUGHNESS

The character is exceptionally tough.

**Benefit:** The character gains +1 Lifeblood points and +3 Stamina points.

**Special:** A character may gain this feat multiple times.

## TRACKER

The character is unusually gifted at locating, identifying and following the tracks and trails of people, animals, and vehicles.

**Benefit:** Add a +2 bonus to any P/Hunting skill checks when attempting to track someone or something.

**Normal:** A character without this feat can use the Search or Survival skill to find tracks, but can only follow tracks if the DC is 10 or less.

## TRAMPLE

The character is trained in using their mount to knock down an opponent, offering the opportunity for the mount to trample him.

**Prerequisites:** Ride skill, Mounted Combat.

**Benefit:** When the character attempts to overrun an opponent while mounted, the target may not choose to avoid the attempt. If the character knocks down the target, his mount may make one hoof attack against the target, gaining the standard +4 bonus on attack rolls against prone targets.

## TRAPPING

The character is trained in designing, constructing, and setting mechanical traps and snares.

**Benefit:** The character can set up traps that do increasing amounts of damage, are capable of holding larger creatures, and are better camouflaged, depending upon P/Hunting skill rank.

Once per week the Referee will check to see if anything has been caught in the trap. If the result or a 1d20 roll is less than the DC of the trap, something has been caught. If the result is higher than the DC, nothing has triggered the trap during the past week. If attempting to trap animals in the wilderness, the Referee should roll on the appropriate animal encounter table for the local terrain to see what has stumbled into the trap. If the animal is larger than the maximum size for the trap, the trap has been destroyed and the prey has escaped.

A trap does not have to inflict damage at all. It can inflict only Stamina damage or it can inflict both Stamina and Lifeblood damage. The trapper must specify the type of damage the trap will inflict when it is first set. Damage is inflicted once.

Skill Rank	Size	Damage	Spot DC
1	Tiny	1d4	5
4	Small	1d6	10
7	Average	1d8	15
11	Large	1d10	20
15	Huge	1d12	25
19+	Gigantic	1d20	30

**Special:** Survival skill may be used in place of P/Hunting skill, but add +2 to the minimum skill ranks required.

## TRUSTWORTHY

The individual has that down-home, all-around good guy, honest look about you. Folks just feel comfortable around him and are more willing to confide in him.

**Benefit:** +2 bonus on all Liaison and Gather Information checks when interacting with others.

**Special:** This feat will stack with the Carousing and Trustworthy feats when Gather Information from other individuals, but will not stack with the Research feat.



## TWO-WEAPON FIGHTING

The individual has been trained in fighting with two weapons at the same time.

**Benefit:** The character's penalties for fighting with two weapons are reduced by 2.

## VESSEL

The character is familiar with the operation and handling of a specific group of vessels.

**Benefit:** The character may use Driving or Pilot skill (whichever is appropriate) when operating a vessel of the specified group.

**Special:** If the character does not already have at least a skill rank of 1 in Driving or Pilot, depending on the vessel group, he or she automatically gains the skill (as a class skill) with a rank of 0. If a vessel group has subgroups, the character must specify which subgroup she will have familiarity with. For example, a character selects the Vessel/Ground feat group. She must then select one of the four subgroups under Vessel/Ground.

**Normal:** Any attempt to pilot or drive a vessel that a character has no familiarity with suffers a penalty of -4 to all piloting or driving skill rolls. If a character is familiar with a class of vessel within the same subgroup, the penalty is only -2. For example, a character who already possesses the Vessel/Ground/Wheeled feat may attempt to drive a tracked vehicle suffering only a -2 penalty to their driving skill roll. If the same character attempted to drive any

watercraft they would do so at a -4 penalty to any driving skill rolls.

## VESSEL SPECIALIZATION

The character is highly trained in the operation of a specific type of vessel such as a ground car, motorcycle, tank, helicopter, propeller aircraft, air/raft, speeder, shuttle, scout/courier, or any other type or class of vessel.

**Benefit:** Add +2 to all drive or pilot checks when operating this type of vehicle.

**Special:** The character can gain this feat multiple times. Its effects do not stack. Each time the character takes the feat, it applies to a new type of vessel.

## WEAPON FOCUS

The individual has studied, practiced, and practically lived with a specific type of weapon (Laser Pistol, Cutlass, Autopistol, etc.) long enough to become highly proficient with its use.

**Prerequisites:** Proficient with weapon, base attack bonus +1 or higher.

**Benefit:** The character adds +1 to all attack rolls when using the selected weapon.

**Special:** The character can gain this feat multiple times. Its effects do not stack. Each time the character takes the feat, it applies to a new weapon. Note that "Brawling", "Unarmed Strike" or "Grapple" can be chosen as the character's weapon for purposes of this feat.

## VESSEL GROUPS

Group	Skill	Examples
<b>Vessel (Ground)</b>	Driving	
Wheeled Vehicles		Ground cars, Wheeled ATV, Motorcycles
Tracked Vehicles		Tracked ATV, Tracked AFV, Tank
Legged Vehicles		Mechs, Walkers
Hovercraft		Air Cushion Vehicles
<b>Vessel (Grav)</b>	Pilot	
Grav Vehicles		Air/raft, GCarrier, Speeder, Grav Bike, Grav Belt
<b>Vessel (Watercraft)</b>	Driving	
Small Boats		Jetski, Skiboat
Large Boats		Fishing Boat, Yacht
Ships		Tanker, Steamship, Cargo Vessel
<b>Vessel (Aircraft)</b>	Pilot	
Lighter than Air Craft		Hot Air Balloon, Dirigible
Propeller Aircraft		Propeller-driven heavier-than-air craft (not helicopters)
Jet Aircraft		Jet-propelled heavier-than-air-craft
Helicopters		VTOL craft or Helicopters
<b>Vessel (Ship's Boats)</b>	Pilot	Shuttles, Pinnaces, Cutters
<b>Vessel (Starships)</b>	Pilot	All types of starships

**WEAPON PROFICIENCY (ARCHER)**

The character is familiar with the use of all forms of bows including slings, short bows, long bows, sporting crossbows, military crossbows, and repeating crossbows.

**Benefit:** Characters make attack rolls with weapons they are proficient in normally, without penalty.

**Normal:** An untrained character using one of these types of weapons suffers a -4 penalty on attack rolls.

**WEAPON PROFICIENCY (ARMSMAN)**

The character is familiar with the use of all forms of polearms including bayonets, spears, halberds, pikes, and cudgels.

**Benefit:** Characters make attack rolls with weapons they are proficient in normally, without penalty.

**Normal:** An untrained character using one of these types of weapons suffers a -4 penalty on attack rolls.

**WEAPON PROFICIENCY (COMBAT RIFLEMAN)**

The character is familiar with the use of the following types of weapons: rifle, carbine, assault rifle, auto-rifle, advanced combat rifle, accelerator rifle, light machinegun, light assault gun, grenade launcher, RAM launcher, and gauss rifle.

**Benefit:** Characters make attack rolls with weapons they are proficient in normally, without penalty.

**Normal:** An untrained character using one of these types of weapons suffers a -4 penalty on attack rolls.

**WEAPON PROFICIENCY (FIELD ARTILLERY)**

The character is trained in the maintenance and operation of field artillery pieces including mortars, artillery pieces, mass drivers, high-energy weapons, meson accelerators, and MRLs.

**Benefit:** Characters make attack rolls with weapons they are proficient in normally, without penalty.

**Normal:** Untrained characters are not able to operate these types of weapons.

**Special:** If the character does not already have at least a skill rank of 1 in Gunnery, he or she automatically gains the skill (as a class skill) with a rank of 0.

**WEAPON PROFICIENCY (HEAVY WEAPONS)**

The character is trained in the maintenance and operation of field lasers, mortars, autocannon, and VRF gauss guns.

**Benefit:** Characters make attack rolls with weapons they are proficient in normally, without penalty.

**Normal:** Untrained characters are not able to operate these types of weapons.

**Special:** If the character does not already have at least a skill rank of 1 in Gunnery, he or she automatically gains the skill (as a class skill) with a rank of 0.

**WEAPON PROFICIENCY (HIGH ENERGY WEAPONS)**

The character is trained in the use of high-energy weapons including all man-portable plasma and fusion guns (PGMP or FGMP).

**Prerequisites:** Battle Dress feat.

**Benefit:** Characters make attack rolls with weapons they are proficient in normally, without penalty.

**Normal:** An untrained character using a high-energy weapon attacks at a -4 penalty.

**WEAPON PROFICIENCY (LASERS)**

The character is familiar with the use of the following types of laser weapons: rifle, carbine, and pistol.

**Benefit:** Characters make attack rolls with weapons they are proficient in normally, without penalty.

**Normal:** An untrained character using one of these types of weapons suffers a -4 penalty on attack rolls.

**WEAPON PROFICIENCY (MARKSMAN)**

The character is familiar with the operation and maintenance of most forms of modern non-military firearms including the following weapons: snub pistol, revolver, auto-pistol, rifle, submachinegun, carbine and shotgun.

**Benefit:** Characters make attack rolls with weapons they are proficient in normally, without penalty.

**Normal:** An untrained character using one of these types of weapons suffers a -4 penalty on attack rolls.

**WEAPON PROFICIENCY (SHIP'S WEAPONRY)**

The character is skilled in the operation of turret mounted weapons aboard a spacecraft, including lasers, sandcasters, energy weapons, missiles, and particle accelerators.

**Benefit:** Characters make attack rolls with weapons they are proficient in normally, without penalty.

**Normal:** Untrained characters are not able to operate these systems.

**Special:** If the character does not already have at least a skill rank of 1 in Gunnery, he or she automatically gains the skill (as a class skill) with a rank of 0.

**WEAPON PROFICIENCY (SWORDSMAN)**

The character is skilled in the use of all forms of bladed weapons including daggers, blades, foils, swords, cutlasses, and broadswords.



**Benefit:** Characters make attack rolls with weapons they are proficient in normally, without penalty.

**Normal:** An untrained character using one of these types of weapons suffers a -4 penalty on attack rolls.

### WEAPON SPECIALIZATION

The character is an expert with a single weapon type, and is especially good at inflicting damage with it.

**Benefit:** The character adds +2 to all damage inflicted with the chosen weapon. If this is a ranged weapon, the target must be within the weapon's first range band or 10 meters (whichever is greater).

**Special:** The character can gain this feat multiple times. Its effects do not stack. Each time the character takes the feat, it applies to a new weapon.

### XENO-EMPATHY

The individual has a natural affinity and understanding of alien lifeforms and their cultures.

**Benefit:** Add +2 to all Decipher Script and Use Alien Device checks.

### XENO-MEDICINE

The character is familiar with the unusual medical needs and requirements of certain alien races.

**Prerequisite:** T/Medical

**Benefit:** The character may apply his T/Medical skill normally towards treating patients not of his own race.

**Normal:** Without xeno-medicine a doctor or medic suffers

a penalty of at least -4 (as determined by the Referee) when treating a patient of a race other than their own.

**Special:** This feat can be selected more than once. When choosing this feat the character must specify the alien race he will be familiar with.

### ZERO-G COMBAT

The character is trained and familiar with the use of weapons and combat in a zero or low gravity environment.

**Prerequisites:** Vacc Suit feat

**Benefit:** May conduct combat in a low or zero gravity environment without penalty.

**Normal:** Firing a weapon in zero-g is at a -4 penalty (blades and polearms attack at -5), and when using any weapon the user must make a Dexterity check (DC 15) or lose control of their orientation.

### ZERO-G/LOW GRAVITY ADAPTATION

The character is comfortable and familiar with working and living in a low or zero gravity environment.

**Prerequisites:** Armor (Vac Suit) feat. Must not already have the Heavy Gravity Adaptation feat.

**Benefit:** The character may reduce the penalty for zero-g or low gravity by -2 when using skills in such an environment, except for combat skills, which require the Zero-G Combat feat.

**Normal:** Untrained characters suffer the full penalty on any skill use in a low or zero-g environment.



# FINAL DETAILS

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## HEIGHT AND WEIGHT

You may choose your character's height and weight based on the ranges presented in the race descriptions, or you may determine this randomly using the Random Height and Weight table.

**Base Height:** The base height of the race in centimeters.

**Height Modifier:** Roll the listed dice and multiply the result by 5 as shown in the table. Add this to the base height in centimeters. For example, a male human character has a base height of 140cm. The player rolls 2d6 for a roll result of 7. Multiplying the roll by 5 the player determines that he should add 35cm to the character's base height for a total height of 170cm.

**Base Weight:** The base weight of the race in kilograms.

**Weight Modifier:** Roll the listed dice and multiply the roll result by the Height Modifier roll result. Add this to the base weight in kilograms. For example a female human character has a base weight of 44kg. The player rolls 1d6 for a roll result of 3. Multiplying this against a previous height roll of 7, the player determines that she should add 21kg to her character's base weight for a total of 65kg.

## THE EFFECTS OF AGING

When a character reaches middle age for their race, they begin to suffer

## RANDOM HEIGHT AND WEIGHT

	Base Height	Height Modifier	Base Weight	Weight Modifier
Vilani, male	140	+2d6 (x5)	54	x (1d8) kg
Vilani, female	130	+2d6 (x5)	49	x (1d6) kg
Zhodani, male	158	+2d6 (x5)	49	x (1d8) kg
Zhodani, female	148	+2d6 (x5)	44	x (1d6) kg
Human, male	140	+2d6 (x5)	49	x (1d8) kg
Human, female	130	+2d6 (x5)	44	x (1d6) kg
Vargr, male	130	+2d6 (x5)	46	x (1d4) kg
Vargr, female	120	+2d6 (x5)	41	x (1d4) kg
Aslan, male	170	+2d6 (x5)	60	x (1d8) kg
Aslan, female	160	+2d6 (x5)	55	x (1d8) kg
Sydite, male	190	+2d6 (x5)	80	x (2d6) kg
Sydite, female	180	+2d6 (x5)	75	x (2d6) kg
Ursa, male	200	+4d6 (x5)	300	x (4d6) kg
Ursa, female	180	+4d6 (x5)	250	x (4d6) kg
Virushi, male	170	+4d6 (x5)	230	x (10d10) kg
Virushi, female	160	+4d6 (x5)	200	x (10d10) kg

## AGING MODIFIERS

Age Range	Modifiers
Adult:	No aging modifiers.
Middle Age:	-1 to Strength, Dexterity, and Constitution. +1 to Education and Wisdom.
Old Age:	-2 to Strength, Dexterity, and Constitution. +1 to Education and Wisdom.
Venerable Age:	-3 to Strength, Dexterity, and Constitution. +1 to Education and Wisdom.

## AGING BY RACE

Race	Middle Age	Old Age	Venerable Age	Maximum Age	Maximum Terms
Human (Solomani)	35-52 Years	53-79 Years	80+ Years	80+2d10 Years	7
Mixed Vilani	40-57 Years	58-85 Years	86+ Years	86+4d10 Years	8
Vilani	45-62 Years	63-90 Years	91+ Years	92+6d10 Years	10
Aslan	56-59 Years	60-69 Years	70+ Years	70+1d10 Years	13
Vargr	35-52 Years	53-69 Years	70+ Years	70+2d10 Years	7
Luriani	35-52 Years	53-69 Years	70+ Years	70+2d10 Years	7
Sydite	30-47 Years	48-64 Years	65+ Years	65+2d8 Years	6
Ursa	25-42 Years	43-59 Years	60+ Years	60+2d6 Years	5
Virushi	35-52 Years	53-69 Years	70+ Years	70+2d10 Years	7





from the effects of aging. At middle age a character will lose one point each from their Str, Dex, and Con ability scores, but at the same time they will gain one point of Education and Wisdom. Upon reaching old age, a character loses two additional points each from their Str, Dex, and Con scores, and gains one point to each of their Education and Wisdom. A character surviving to a venerable age suffers even further, losing three more points from their Str, Dex, and Con scores, but gains an additional point of Education and Wisdom.

The actual rate at which a character ages is based on their race. Full-blooded Vilani are longer-lived than most other races, living to an average age of 122, while the genetically uplifted Ursa fare the worst in the longevity department, living to an average age of just 66-67 years. Each race also reaches the various stages of maturity at different intervals. Aslan, for example, reach middle age at 50, long after most other races, while the Ursa (again the worst of the pack) reach middle age at a mere 25 years.

Maximum Age represents the end of the normal lifespan, and a gradual decline until death from the affects of ageing. This can be offset by certain methods; notably anagathic treatments.

Maximum Terms indicates the number of terms after which a character must retire from their career. There is nothing to stop a character from adventuring after this point (except physical frailty) but they will not be able to pursue a Prior History career beyond this point.

## ENCUMBRANCE

There is a limit to what a person or creature can carry and for how long. Obviously larger and stronger creatures

will be able to carry more than their smaller and weaker counterparts. The following rules will help you determine if your character is considered encumbered, and what penalties will apply under these conditions.

## WEIGHT

If you want to determine whether your character's gear is heavy enough to slow him down (more than his armor already does), total the weight of all his armor, weapons, and gear. Compare this total to the character's Strength on the Carrying Capacity table to determine the character's load level. Consulting the Carrying Loads table shows how encumbrance will limit the character's Dex modifier, impose penalties on physical skill checks and reduce movement rate.

If your character is wearing armor, use the worst figure (from armor or from weight) for each category. Do not stack the penalties.

## LIFTING AND DRAGGING

A character can lift up to the maximum load (for his Strength) over his head.

A character can lift up to double the maximum load off the ground, but he can only stagger around with it. While overloaded in this way, the character loses any Dexterity bonus to AC and can only move 1.5 meters per round (as a full-round action).

A character can generally push or drag along the ground up to five times the maximum load. Favorable conditions (smooth ground, dragging a slick object) can double these numbers, and bad circumstances (broken ground, pushing



## CARRYING CAPACITY

Strength	Light Load	Medium Load	Heavy Load
1 Str	up to 1.3kg	1.4-2.7kg	2.8-4.5kg
2 Str	up to 2.7kg	2.8-5.8kg	5.9-9kg
3 Str	up to 4.5kg	4.6-9kg	9.1-13.5kg
4 Str	up to 5.8kg	5.9-11.7kg	11.8-18kg
5 Str	up to 7.2kg	7.3-14.8kg	14.9-22.5kg
6 Str	up to 9kg	9.1-18kg	18.1-27kg
7 Str	up to 10.3kg	10.4-20.7kg	20.8-31.5kg
8 Str	up to 11.7kg	11.8-23.8kg	23.9-36kg
9 Str	up to 13.5kg	13.6-27kg	27.1-40.5kg
10 Str	up to 14.8kg	14.6-29.7kg	29.8-45kg
11 Str	up to 17.1kg	17.2-34.2kg	34.3-51.7kg
12 Str	up to 19.3kg	19.4-38.7kg	38.8-58.5kg
13 Str	up to 22.5kg	22.6-45kg	45.1-67.5kg
14 Str	up to 26.1kg	26.2-52.2kg	52.3-78.7kg
15 Str	up to 29.7kg	29.8-59.8kg	59.9-90kg
16 Str	up to 34.2kg	34.3-68.8kg	68.9-103.5kg
17 Str	up to 38.7kg	38.8-77.8kg	77.9-117kg
18 Str	up to 45kg	45.1-90kg	90.1-135kg
19 Str	up to 52.2kg	52.3-104.8kg	104.9-157.5kg
20 Str	up to 59.8kg	59.9-119.7kg	119.8-180kg
21 Str	up to 68.8kg	68.9-137.7kg	138.8-207kg
22 Str	up to 77.8kg	77.9-155.7kg	155.8-234kg
23 Str	up to 90kg	90.1-180kg	180.1-270kg
24 Str	up to 104.8kg	104.9-209.7kg	209.8-315kg
25 Str	up to 119.7kg	119.8-239.8kg	239.9-360kg
26 Str	up to 137.7kg	138.8-275.8kg	275.9-414kg
27 Str	up to 155.7kg	155.8-311.8kg	311.9-468kg
28 Str	up to 180kg	180.1-360kg	360.1-540kg
29 Str	up to 209.7kg	209.8-419.8kg	419.9-630kg
+10 Str	x4	x4	x4

## CARRYING LOADS

Load	Max Dex	Check Penalty	Speed (12m)	(9m)	Run
Medium	+3	-3	9m	6m	x4
Heavy	+1	-6	9m	6m	x3

an object that snags) can reduce them to one-half or less.

### BIGGER AND SMALLER CREATURES

The figures on the Carrying Capacity table are for Medium-size creatures. Larger creatures can carry more weight depending on size category: Large (x2), Huge (x4), Gargantuan (x8), and Colossal (x16). Smaller creatures can carry less weight depending on size category: Small (3/4), Tiny (1/2), Diminutive (1/4), and Fine (1/8).

### MULTIPLE LEGS

Creatures and aliens with more than two legs can carry heavier loads than bipeds. To determine such a creature's carrying capacity limits, use the Carrying Capacity table, multiplying by the appropriate modifier for the creature's size: Fine 1/4, Diminutive 1/2, Tiny 3/4, Small 1, Medium 1.5, Large 3, Huge 6, Gargantuan 12, and Colossal 24. If the creature is hexapedal (6 legs) multiply the total determined previously by 2. Octapedal creatures (8 legs) multiply the total by x3.

### TREMENDOUS STRENGTH

For Strength scores above those listed, carrying capacity can be determined as follows: Find the Strength score between 20 and 29 that has the same "ones" digit as the creature's Strength score and multiply the figures by four for every 10 points of Strength the creature has above that, e.g. x 4 for Str 30, x 16 for 40, x 64 for 50, and so on.

### MOVEMENT

There are three movement scales in the game:

**Personal or Tactical:** for combat between people and/or creatures, measured in meters per round.

**Vehicle or Local:** for combat between vehicles or exploring an area, measured in meters per minute.

**Ship or Overland:** for ship-to-ship combat (measured in 32,000km hexes per hour) or getting from place to place on a planet (measured in kilometers per hour or day).

### MODES OF CREATURE MOVEMENT

While moving at the different movement scales, creatures generally walk, hustle, or run.

**Walk:** A walk represents unhurried but purposeful movement at 5.4 kilometers per hour

for an unencumbered human.

**Hustle:** A hustle is a jog or similar quick but not excessively hard movement; this is about 10 kilometers per hour for an unencumbered human. The double move action represents a hustle.

**Run (x 3):** Moving three times your character's standard speed is a running pace for a character in heavy armor.

**Run (x 4):** Moving four times your character's standard speed is a running pace for a character in light, medium, or no armor.

## MOVEMENT AND DISTANCE

	Speed		
	6m	9m	12m
<b>One Personal Round/Tactical Movement - 6 seconds</b>			
Walk	6m	9m	12m
Hustle	12m	18m	24m
Run (x3)	18m	27m	36m
Run (x4)	24m	36m	48m
<b>One Vehicle Round/Local Movement - 1 minute</b>			
Walk	60m	90m	120m
Hustle	120m	180m	240m
Run (x3)	180m	270m	360m
Run (x4)	240m	360m	480m
<b>One Ship Round/Overland Movement - 1 hour</b>			
Walk	3.6km	5.4km	7.2km
Hustle	7.2km	10.8km	14.4km
Run (x3)	10.8km	15.4km	21.6km
<b>Overland Movement - 1 day</b>			
Walk	28.8km	43.2km	57.6km
Hustle	57.6km	86.4km	115.2km

(Assumes 8 hours spent actually traveling)

## HAMPERED MOVEMENT

Condition	Example	Movement Penalty
<b>Obstruction</b>		
Moderate	Undergrowth	x3/4
Heavy	Thick undergrowth	x1/2
<b>Surface</b>		
Bad	Steep slope or mud	x1/2
Very bad	Deep snow	x1/4
<b>Poor visibility</b>	Darkness or fog*	x1/2

\*Includes any effects that create a "fog".

**Hampered Movement:** Obstructions, bad surface conditions, or poor visibility can hamper movement. The Referee determines the category that a specific condition falls into (see the Hampered Movement table). When movement is hampered, multiply the standard distance by the movement penalty (a fraction) to determine the distance covered.

If more than one condition applies, multiply the normal distance covered by all movement penalty fractions that apply.

## TACTICAL MOVEMENT

Use tactical speed for combat between people and/or creatures, measured in six-second rounds. Tactical movement is also used when handling combats involving people and/or creatures, along with vehicles and/or ships.

## VEHICLE/LOCAL MOVEMENT

Characters exploring an area use local movement, measured in minutes. Vehicles in combat with other vehicles, or vehicles and ships in combat together use this scale of movement.

**Walk:** A character can walk without a problem on the local scale.

**Hustle:** A character can hustle without a problem on the local scale. See Overland Movement, below, for movement measured in hours.

**Run:** A character with a Constitution score of 9 or higher can run for a minute without a problem. Generally, such characters can run for about a minute or two before having to rest for a minute.

## OVERLAND MOVEMENT

Characters covering long distances cross-country use overland movement. Overland movement is measured in hours or days. A day represents 8 hours of actual travel time. For rowed watercraft, a day represents 10 hours of rowing. For a sailing ship, it represents 24 hours. A day spent driving or piloting a vehicle represents 8 hours, distance traveled is based on the cruising speed of the vehicle itself.

**Walk:** A character can walk 8 hours in a day of travel without a problem.

**Hustle:** A character can hustle for 1 hour without a problem. Hustling for a second hour in between sleep cycles causes 1 point of Stamina

## TERRAIN AND OVERLAND MOVEMENT

Terrain	Highway	Road	Trackless
Plains	x1	x1	x1
Scrub, rough	x1	x1	x3/4
Forest	x1	x1	x1/2
Jungle	x1	x3/4	x1/4
Swamp	x1	x3/4	x1/2
Hills x1	x3/4	x1/2	
Mountains	x3/4	x1/2	x1/4
Sandy Desert	x1	x3/4	x1/2

## MOUNTS AND VEHICLES

Mount/Vehicle	Per Hour	Per Day
Mount (carrying load)		
Light riding animal	9.7km	77.6km
Average riding animal	8.0km	64.0km
Heavy riding animal	6.4km	51.2km
Light draft animal	8.0km	64.0km
Average draft animal	6.4km	51.2km
Heavy draft animal	4.7km	37.6km
Light combat mount	6.4km	51.2km
Average combat mount	4.7km	37.6km
Heavy combat mount	3.2km	25.6km
Watercraft		
Raft or barge (poled)*	0.8km	8.0km
Rowboat	2.4km	24.0km
Sailing boat	3.2km	76.8km
Sailing ship	4.0km	96.0km
Large sailing ship	4.8km	115.2km
Rowed Galley	6.4km	64.0km

\*Rafts and barges are used on lakes and rivers. If going downstream, add the speed of the current (typically 4.8 kph) to the speed of the vehicle. In addition to 10 hours of being rowed, the vehicle can also float an additional 14 hours, if someone can guide it, so add an additional 67.6 kilometers to the daily distance traveled. These vehicles can't be rowed against any significant current, but they can be pulled upstream by draft animals on the shores.

## LIGHT SOURCES

Object	Light	Duration
Match	1.5m	30 seconds
Lighter	1.5m	5 minutes
Candle	1.5m	1 hour
Oil Lamp	4.5m	6 hours per half-liter of oil
Torch	6m	20 minutes
Campfire	9m	4 hours
Bonfire	12m	6 hours
Flashlight*	9m	6 hours
Electric Lantern	9m	8 hours
Cold Light Lantern	9m	3 days

\* A cone 9m long and 9m wide at the far end.

damage, and each additional hour causes twice the damage taken during the previous hour.

**Run:** A character can't run for an extended period of

time. Attempts to run and rest in cycles effectively work out to a hustle.

**Terrain:** The terrain through which a character travels affects how much distance she can cover in an hour or a day.

**Forced March:** In a day of normal walking, a character walks for 8 hours. The character spends the rest of daylight time making and breaking camp, resting, and eating.

A character can walk for more than 8 hours in a day by making a forced march. For each hour of marching beyond 8 hours, the character makes a Constitution check (DC 10 + 1 per extra hour). If the check fails, the character takes 1d6 points of Stamina damage. It's possible for a character to march into unconsciousness by pushing herself too hard.

**Mounted Movement:** An animal bearing a rider can move at a hustle. It can also be force-marched, but its Constitution checks automatically fail. See the Mounts and Vehicles tables for mounted speeds and speeds for vehicles pulled by draft animals.

**Waterborne Movement:** See the Mounts and Vehicles table for speeds for water vehicles.

## VISION AND LIGHTING

Characters need a way to see in the dark. See the Light Sources table for the radius that a light source illuminates and how long it lasts. Characters with low-light vision can see objects twice as far away as the given radius.

**LI Sensors:** Light Intensifying sensors take the ambient light and multiply it electronically, allowing the user to enjoy vision almost as good as under full daylight conditions. Treat any low light condition, except total darkness, as if the light level were normal. A minimal amount of light is required to power LI sensors; a match, a candle, moonlight, even starlight will suffice. LI sensors will not work in total darkness.

**IR Sensors:** Infrared sensors detect differences in temperature, allowing the user to distinguish most creatures and any objects that are at a different temperature to their surroundings. IR sensors work very well in cold environments, and even in total darkness, but do not work very well in high temperature conditions where the background heat creates interference. IR vision quality is typically lower than for visible light sensors.

Treat any low light condition as if it were normally illuminated, but any Spot or Search checks are at a -2 penalty.



# PRIOR HISTORY

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**Traveller** characters do not typically begin play as 1st level characters. Instead, they are usually older, more experienced men and women who have served in the armed forces, spent at least a few years learning the tricks of their trade or in academic studies at the University, or all of these. Players who wish to begin play with 1st level characters should consult the Starting Age section and then skip the rest of this chapter.

**Term:** A term, when used in reference to Prior History, represents a 4-year period of a character's background history (the period before they began adventuring).

**Mustering Out:** A character who has quit being a member of a service or earning employment as a member of a specific class is said to have "mustered out". This is not the same thing as retiring from a service or profession.

**Special Case:** Scouts do not exactly muster out of the service. Instead they go on "Detached Duty" for an indefinite period (often the rest of their lives) but can be temporarily recalled to service if necessary. A Scout who goes on Detached Duty in this manner gains normal mustering out benefits, but they are only gained once (when she first goes on Detached Duty). Temporary recall does not earn additional benefits.

**Retiring:** Retirement is really a special case of mustering out. A character may retire after spending at least 5 terms in a service or employed as a member of a class. A character who retires will earn certain benefits (for long service) in addition to standard mustering out benefits.

**Note:** There is absolutely nothing to prevent retired characters from beginning an adventuring career. In addition, many ex-military personnel are referred to as "retired" once they have left the service, whatever their age. This is a courtesy to allow personnel to use their service titles to impress people. For example, an ex-Navy character (age 26) might refer to himself as "Sublieutenant Jaime S. Kallen, Imperial Navy (Retired)", which may gain him more respect than merely "Jaime Kallen".

**Service:** A service is one of the four basic military or quasi-military organizations known as the Army, Marines, Navy, and Scouts. A character may not multiclass into a service class unless they have first spent at least one term of Prior History employment as a member of that service. Except for Scouts, once a character has mustered out of a service they may earn no additional levels in that service class unless returned to active duty by the referee during the course of a campaign.

**Profession:** Any job or career that is not a service (see above). A character may take employment as a member of any class he or she has at least one level of experience in.

## STARTING AGE

Most 1st level human characters begin at age 18. There are exceptions, notably Barbarians and Belters who are age 14 at 1st level instead. An 18 year old 1st level character may either attempt to gain entrance into University and continue their education, or elect to begin developing their Prior History instead. Starting ages for alien lifeforms are listed below.

### STARTING AGE BY RACE

Race	Adult Age	Young Adult Age	Max Terms
Human (Solomani)	18	14	7
Mixed Vilani	18	14	8
Vilani	18	14	10
Aslan	14	12	13
Vargr	18	14	7
Luriani	18	14	7
Sydite	18	14	6
Ursa	12	10	5
Virushi	18	14	7

**Adult Age:** If a character's core class specifies a starting age of adult, this is the age of the character in years.

**Young Adult Age:** If a character's core class specifies a starting age of young adult, this is the age of the character in years.

**Maximum Terms:** The maximum number of terms a player character spend in development of their Prior History. This limit does not apply to NPCs.

## EDUCATION VS. EMPLOYMENT

A starting character faces a dilemma: enter a career or attend university? It is up to the player to decide which option best suits their planned career path; the character will earn experience and other bonuses whichever they choose.

**The Educational Choice:** A character with an initial Education score of 10 or higher is considered to be informally educated as a result of personal interest and job-related learning rather than having undertaken a formal course of study at a college or university. Such characters do not have a degree. Therefore the University option remains a viable choice for these highly educated characters, allowing them to earn a formal degree (and the experience acquired from successful University attendance), though they may not necessarily receive an increase in their education score.



Attendance at the University does not have to be chosen immediately. A character may elect to attend at any point during their Prior History development rather than spending another term in employment. Once they have completed their studies, the character may resume employment if they have not already developed too many terms.

**The Path of Employment:** Whether fresh off the farm or just out of college, a character has to make a living. A character may attempt to enlist into one of the four military service classes (Army, Navy, Marines, and Scouts), or develop their experience in their core class. While gainfully employed in such endeavors the character will earn experience and possibly other benefits including decorations, citations, promotions, cash, or equipment.

A character may choose to muster out of any service or employment position at the end of any term, and then seek employment in another service or profession (or attend University) if they have not already spent too many terms in Prior History development. However, common sense must apply. Only in circumstances of the direst need will the Imperial Marines accept a recruit aged 38. Similarly, it seems very unlikely that someone would leave the Navy to begin a career in the Army. Such a career path would be highly unusual, even by the standards of player-characters.

## UNIVERSITY

It is assumed that a character attending the 'University' has managed to locate an appropriate center of learning of at least TL12, unless the Referee specifies otherwise. A character may apply for admission to one of three programs of study: Bachelor's Degree, Master's Degree, or Doctorate. She must meet the eligibility requirements for the program and pass the entrance examination, or her application will be rejected. A character who fails to enter University can try again in a later term.

Once admitted to a study program, success is still not guaranteed. The character must specify her chosen field of study (biology, interstellar law, criminology, journalism, etc.). The character will spend the next 2-4 years in study before sitting a final examination at the end of the program's course. Characters who pass their final exams will earn an appropriate degree in their chosen field of study. Those who fail leave the university without their degree, but perhaps a bit wiser for their time spent.

*Take 10 and Take 20 may not be used when resolving events at the University.*

**Eligibility:** Any requirements the character must meet before applying for admission.

**Admission:** If a character fails to pass the entrance exam, they may not attend the university this term (no time is lost) and must select another option such as pursuing

employment within their core class. If the character passes, they are accepted into the University for the duration of the program.

Characters with at least 1 level in the Academic class may add +1 to all admissions checks.

**Graduation:** Failing the final exams means the character has spent only half the specified course length in attendance at the University, but leaves after that time without a degree and earns only one-half the normal experience. Passing the final exams means the character has spent the full specified course duration in successful study and has earned a degree along with the full experience point award.

Characters with at least 1 level in the Academic class may add +1 to all graduation checks.

**Honors:** The truly studious and diligent may be able to graduate with Honors. If the character has successfully graduated from the course, they may see if they earned a position on the University's Honor Roll and an experience point bonus. Failure to make the honors roll means the character does not earn any extra experience for the time spent, but there is no penalty or censure associated with this.

Characters with at least 1 level in the Academic class may add +1 to all honors checks.

**Course Length:** The amount of time the character will spend in his or her studies. At the end of the course, the character will have aged the number of years listed here.

## BACHELORS PROGRAM

The first of the degree programs, and required before one may attempt to earn higher degrees in a subject. Upon successful admission, the character must specify what their chosen field of study will be; Criminology, Law, Medicine, Journalism, or any other reasonable field that is acceptable to the Referee. Characters that successfully graduate from this program earn a Bachelor of the Arts, Sciences, etc., degree as appropriate. The character may add the initials BA, BSc, etc. to the end of their name as appropriate to reflect their new status, and they may apply for admission into the University's Masters Program for their chosen field if desired.

**Eligibility:** No requirements.

**Admission:** Int check vs. DC (22-Edu) to be admitted.

**Graduation:** Int check vs. DC (22-Edu) to successfully graduate, obtain a degree, and earn 3000xp. If the character's EDU score is 11 or less, it is automatically raised to 12.

**Honors:** Int check vs. DC (28-Edu) to earn a place on the University Honor Roll, gain a 1000xp bonus, and add +1 to their current EDU score (after graduation).

**Course Length:** 4 years if graduated, 2 years if failed to graduate. Characters with an Edu ability score of 12+ may complete the course and graduate after 3 years.



## MASTERS PROGRAM

A character with a Bachelors degree in a field of study may elect to further their education and pursue a Master's degree. A character's field of study for this program must be the same as their chosen field of study for their Bachelors degree. Characters that successfully graduate from this program earn a Master of the Arts, Sciences, etc., degree as appropriate. The character may add the initials MA, MSc, etc, to the end of their name as appropriate to reflect their new status, and they may apply for admission into a Doctorate Program for their chosen field if desired.

**Eligibility:** An appropriate Bachelors degree.

**Admission:** Int check vs. DC (26-Edu) to be admitted.

**Graduation:** Int check vs. DC (26-Edu) to successfully graduate, obtain a degree, and earn 1500xp. If the character's EDU score is 13 or less, it is automatically raised to 14.

**Honors:** Int check vs. DC (32-Edu) to earn a place on the University Honor Roll, gain a 500xp bonus, and add +1 to current EDU score (after graduation).

**Course Length:** 2 years if graduated, 1 year if failed to graduate.

## DOCTORATE PROGRAM

A character with a Masters degree in a field of study may elect to complete their education by obtaining their Doctorate degree. A character's field of study for this program must be the same as their chosen field of study for their Masters degree. Characters that successfully graduate from this program earn a Doctorate of the Arts, Sciences, etc., degree as appropriate. The character may add the initials Ph.D. to the end of their names as appropriate to reflect their new status, and they may apply for admission into the University's Doctorate Program for their chosen field if desired. Characters that have graduated with Medicine as their field of study may legally call themselves Physicians, and may append the initials M.D. (Medical Doctor) after their names.

**Eligibility:** An appropriate Masters degree.

**Admission:** Int check vs. DC (26-Edu) to be admitted.

**Graduation:** Int check vs. DC (26-Edu) to successfully graduate, obtain a degree, and earn 1500xp. If the character's EDU score is 15 or less, it is automatically raised to 16.

**Honors:** Int check vs. DC (32-Edu) to earn a place on the University Honor Roll, gain a 500xp bonus, and add +1 to current EDU score (after graduation).

**Course Length:** 2 years if graduated, 1 year if failed to graduate.

## COURSE TITLES

Players should specify a suitable degree title for their character. Many courses are entirely standard and result in titles such as "BSc Physics". However (and always in agreement with the Referee), a character may earn a degree with a more unusual title, such as "BA Medical Administration". Many universities offer such vocational courses in addition to purely academic studies. Note that a Masters or PhD must be in the same field as a character's Bachelor's degree, but need not have the same title. Higher degrees are often more specialized than bachelor's programs.

There are four basic types of degree that can be earned in the Traveller universe: Arts, Sciences, Engineering and Education. These are abbreviated as follows, with examples:

**BSc: Bachelor of Science.** These are "pure" science courses, e.g. Physics, Planetology, Xeno-Biology, Metallurgy, Biochemistry.

**BA: Bachelor of Arts.** These are the most "academic" courses, e.g. Literature, Law, History, Linguistics, Virushi Cultural Studies, Military Studies.

**B.Eng: Bachelor of Engineering.** These are "Applied Science" courses for the most part, e.g. Starship Engineering, Mining Studies, Information Systems.

**B.Ed: Bachelor of Education.** This is a specialist vocational course that trains characters to work as instructors or educators, and includes a minor in a specialist subject, e.g. Physics, History etc. Graduates are not so knowledgeable about their specialist subject as their peers leaving a "straight" BA or B.Sc course, but they will have a good working knowledge of psychology and instruction-related skills.

Higher degrees are usually a specialism of a bachelor's course. Thus a B.Sc Physics graduate may then take an M.Sc in Jumpspace Dynamics, Astrophysics or something really esoteric like Gravomagnetic Flux Dynamics. Doctorates are even more specialized.

**Optional:** A member of the Academic class (at the Referee's discretion) need only ever take one Bachelor's degree, and can then undertake several courses of study at Masters level. A Masters is required as the foundation for each and every Doctorate. Thus a truly information-obsessed Academic might take a BA in History, then MA in Vargr Military History, a second MA in Interstellar Warfare Studies, a PhD (Doctorate) in the tactics of the Vargr Kforuzeng Empire, ANOTHER MA, this time in Planetary Defense Systems, and finally a B.Ed in History (General) in order to secure a teaching job at the Imperial War College. This kind of spectacular academic career is not for everyone. Most people take a Bachelor's and maybe a Master's degree, then get out in the world to start a career. To an Academic, however, study can BE a career...

# PRIOR HISTORY

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## OFFICER TRAINING CORPS (OTC)

A character studying for a Bachelor's degree may apply for enrollment in the University's Officer Training Corps or OTC. How easy it is to get accepted into OTC depends on which service branch you are planning to join upon graduation. If a character fails to be accepted into OTC, they may continue with other University studies normally. Only one OTC application (successful or not) can be made during a course of study.

If a character accepted into OTC successfully graduates from the University, he or she will be automatically commissioned as an officer in their chosen service and earns a 1000 experience point bonus. If a character is accepted into OTC but fails to graduate from the University, they do not receive a commission nor the experience bonus, and must continue into the appropriate service class. A character who earns a commission in one of the services through OTC must spend the next term of Prior History immediately following graduation employed as a member of the service in which they were commissioned.

Note that while the Scouts are considered a service they do not have an OTC program. Also note that while the Merchants are not considered a service, they do have an OTC program available. The same requirements and rewards apply to Merchant OTC as to military OTC.

### OTC ENROLMENT

<i>Planned Service</i>	<i>Check</i>
Army (any tech)	Str Ability Check vs. DC10
Marines	Int Ability Check vs. DC12
Navy	Int Ability Check vs. DC12
Merchants	Int Ability Check vs. DC10
Scout/Other	Not Available

## EMPLOYMENT

A character can attempt to enlist in one of the services or earn a living as a member of any non-service class in which the character has at least 1 level of experience. If a character is not at least 1st level in a class, they may not take employment as a member of that class. For example, a newly created 1st level Traveller may only choose to seek employment for their first term as a Traveller. If during the course of development, this character multiclasses as a member of the Merchant class, he may then chose to seek employment as either a Traveller or a Merchant.

Anyone may attempt to enlist in a service, and if they meet the class requirements or pass the class fitness test they will be accepted.

Working and serving one or more terms of employment as part of a character's Prior History earns the character a number of useful benefits.

**Experience Points:** A character will earn an average of 4,000 XP per term (4 years) served. The actual amount received will vary, depending upon whether the character survives the term without 'incident', gets commissioned or promoted, and the character makes his experience bonus award each term.

**Decorations:** Each term the character 'survives', there is a chance of earning a medal or citation for their actions during the term.

**Commissions:** Some class prior histories allow for characters to be commissioned as officers. Like promotions, a commission as an officer will earn more benefit opportunities upon leaving the service.

**Promotions:** Promotions mean higher rank or status, which can equate to more benefits when it comes to leaving or retiring from a service or profession.

**Cash Bonuses:** It is possible to earn a cash bonus while serving a term in some class prior histories (Belters, Mercenaries, Merchants, and Rogues).

**Mustering Out Benefits:** Once a character decides to end their prior history in a class, they may be entitled to a number of cash and/or material benefits based on their length of service and rank.

**History:** The character has a more complete background from which to develop a personal history and personality.

## ENLISTING OR GETTING A JOB

Any character with at least 1 level of experience in a non-service class may automatically find employment as a member of that class, unless in the previous term they either mustered out of, or failed their re-enlistment roll as a member of, the same class.

A character may attempt to enlist as a member of a service at any point up to age 33 (4 terms). The services are not interested in training new recruits any older than this.

Each profession or service class gives a set of initial requirements that must satisfied or passed before a character is accepted as a member and may begin work or training. A character may only be an active member of one service or profession at a time during Prior History, but once they muster-out they may attempt to enter a different service or profession.

**Basic Training:** Upon successfully enlisting into a service (Army, Navy, Marines or Scouts) the character spends the first two years of their first four-year term of service in orientation and initial training. This earns the character an automatic 1000XP bonus. The remaining 2 years of the first term are handled as if it were a normal term of service (see *Serving a Term*). Experience earned for the term is normal (plus the automatic training bonus), but any Commission checks are at a -2 penalty, any cash bonus earned is halved, and no check is made for an XP bonus.

Characters entering a service after completing OTC at the University do not undergo basic training and serve a normal first term.

## SERVING A TERM OF EMPLOYMENT

The following steps outline how to conduct a character serving a term in prior history. Not all steps will apply to the prior history routine of any given class. At the end of each term the player may attempt to reenlist, or may choose to muster out of the current class prior history.

*Take 10 and Take 20 may not be used when resolving events during Employment.*

**1) Duty Assignment:** At the start of each 4-year term, the character must roll to see what they duty assignment or job will be for that term. This assignment will determine the Survival, Commission, Promotion, Decoration, Experience Bonus, and Cash Bonus DCs for the term.

**2) Survival:** Each term the character serves, he or she must check to see if they 'survived' the 4-year term without incident. If the character survives he or she earns 4,000 XP. If the Survival DC is rolled exactly, the character was wounded (or otherwise injured) but survived the incident without jeopardizing their career. If serving in the Army, Navy, or Marines the character is awarded the Purple Heart medal. Since being injured at work represents an unmissable learning opportunity, injured characters of all classes earn a 1000 XP bonus this term.

Failing to survive doesn't actually mean the character has died, but rather that they have suffered some mishap that places their career in jeopardy. Characters failing to survive do not earn any XP this term and forgo any commission, promotion, or XP bonus rolls (but they may take a decoration roll if available; see step 5, Decorations). To find out what went wrong during the term, roll 1d6 on the Survival Mishap table for the appropriate service or profession. If the character was awarded a MCFU, subtract 1 from the Mishap roll. If awarded a MCG, subtract 2 from the roll, and subtract 3 from the roll if awarded an SEH.

*Characters can increase their chance of Survival in a given term by taking an increase to their Decoration, Commission, AND Experience Bonus DCs. For every point that is subtracted from the required Survival DC, one point must be added to the Decoration, Commission, AND Experience Bonus DC for this term. This represents a "head down and take no risks" approach during the term.*

*Alternatively, a character can increase their chance of a Decoration, Commission, AND Experience Bonus in a given term by taking an increase to their Survival DC this term. For every point added to the required Survival DC, the character may subtract one point from the Decoration, Commission, AND Experience Bonus DCs for this term.*

*This represents a daring, risk-taking approach during the term, which can have great benefits or get the character into real trouble. Not all risky situations have the potential for injury, but all have the potential to make the character very unpopular with higher-ups if he or she takes an unnecessary risk and fumbles the ball.*

**3) Commission:** Each term an enlisted character serves, he or she has a chance to be commissioned as an officer. If the roll is successful, the character is commissioned as the lowest rank of officer in the service. A character also receives a 2000 XP bonus when they are commissioned. A character may only be commissioned once in a given class. Scouts and Merchants do not receive commissions.

This does not apply to Scouts, Merchants or Barbarians. Scouts have no service ranks. Merchants and Barbarians do have a ranked command structure, but no separate enlisted and commissioned ranks.

**4) Promotion:** Promotions in rank or status are available in the prior history for Army, Barbarian, Marines, Mercenary, Merchant, Navy, and Noble classes. Each term served in most services or professions offers a chance of promotion, whether the character is enlisted personnel or an officer. If the character makes their Promotion DC roll, they rise in rank or title. If the character has already reached the highest enlisted or officer rank, then no promotion is received. An enlisted person is not 'promoted' into the officer corps; he or she must be commissioned for this to occur. A character earns 1000 XP every time they are promoted. If there are parenthesis around the Promotion DC number, that is the DC for enlisted personnel. Officers add 2 to the DC - there are more enlisted positions available than commissioned ones.

Scouts do not have ranks and promotions as such, but any Scout that has served 5 or more terms (20 years) or higher is considered to be a Senior Scout.

*A character may add +1 to any promotion check for every two completed terms spent in the current service.*

**Enlisted:** Enlisted personnel are the lower levels of the command structure and form the majority of the personnel in any service. Depending upon the service, they represent the junior leaders such as team leaders, foremen and non-commissioned officers, and the "workers" such as technicians, soldiers, deckhands, clerks, nursing staff, couriers, apprentices and other people that do the majority of the actual work in any given profession.

**Officers:** Officers are the overseers and administrators in any service. They are the ones to make the plans and give the orders for the enlisted personnel to carry out. Unless a character enlists into a background class having completed OTC at the University, or having graduated from the University with Honors, the only other way to become an officer is to be commissioned during service.



Merchants entering the profession after completing OTC begin at a rank of O2 rather than O1 as normal.

**5) Decoration:** For some services, there may also be a chance of earning a decoration, medal, or citation for the character's actions on duty during the term. If the Decoration DC is made, the character will earn a citation for Meritorious Conduct Under Fire (MCUF) and a 2000 XP bonus this term. If the roll is at least 5 points higher than the required DC, the character earns a Medal for Conspicuous Gallantry (MCG) and a 4000 XP bonus. For a roll at least 10 points higher than the required DC, the character earns a Starburst for Extreme Heroism (SEH) and an 8000 XP bonus. Scouts and Merchants do not receive decorations. The medals listed apply to the military services (Army, Navy and Marines). Other services have equivalent citations, though these are not usually for gallantry in combat.

**6) Experience Bonus:** Every service and profession offers the chance to earn an experience point bonus award each term. Successfully making the character's Experience Bonus DC roll will earn them a 1d4 x 1000 XP bonus to any XP already earned this term through survival, commissioning, or promotion.

**7) Cash Bonus:** Characters serving in some services and professions have an opportunity each term to earn a cash bonus. If the Cash Bonus check is successful, the character may roll once on the Cash Benefits table under Mustering Out Benefits for that particular service or profession.

**8) Apply Aging Effects:** If the character has aged to the point where they may need to make roll on the aging table (see pg. 114), they should do so now.

**9) Applying Experience:** Add the experienced earned for this term to the total for the character. If the character has gone up a level, apply all the bonuses for the new level (Skills, feats, stamina, etc).

**10) Reenlistment/Continued Employment:** After each successfully completed term of employment (i.e. one in which they didn't get thrown out of the service!), the character must check to see if the service or profession 'requires' continued enlistment or employment for another term, or even would like the character to stay on at all. If you an unmodified 20 is rolled on the Reenlistment/Continued Employment die roll, the character must serve another four-year term even if this would take them past the normal maximum number of terms. If the Reenlistment/Continued Employment DC roll is made, the character may voluntarily continue for another term if they have served 6 or fewer previous terms. Failing to make the Reenlistment/Continued Employment roll means that the service or profession no longer requires the character's services for some reason, and they may not reenlist or continue.

## RETIRING AND MUSTERING OUT

A character may voluntarily serve up to 7 terms (more or less, depending on the character's race. See The Effects of Aging pg. 114) in a service or profession. Only through mandatory reenlistment may any character serve more than 7 terms. At any time up to the completion of the 4th term the character may 'muster out' and leave the service or simply quit their job. If the character has served 5 or more terms they may retire instead with a yearly pension based on the total number of terms served.

### RETIREMENT PAY

Terms Served	Yearly Pension
5 terms	Cr4,000
6 terms	Cr6,000
7 terms	Cr8,000
8+ terms	Cr10,000

**Cash and Material Benefits:** Whether retiring or just mustering out, a character is entitled to cash and/or material benefits. For every term they have served, 1 benefit roll is earned. If the character is an officer with a final rank of O1 or O2 they receive 1 extra benefit roll, a final rank of O3 or O4 receives 2 extra benefit rolls, and a final rank of O5 or higher receives 3 extra benefit rolls.

### RETIREMENT/MUSTERING OUT BENEFIT ROLLS EARNED

Accomplishment	Rolls Earned
Per term of service	1
If Officer Rank O1 or O2	1
If Officer Rank O3 or O4	2
If Officer Rank O5 or higher	3

There are two Benefits tables, Cash and Material Benefits. Up to a maximum of 3 rolls (excluding Cash Bonuses earned during service) may be taken on the Cash table. Any number of rolls may be taken on the Material Benefits table. Characters that are officers with a final rank of O5 or higher may add +1 to any roll on the Material Benefits table, and characters with Gambling skill are allowed to add +1 to any roll on the Cash table.

The various material benefits available from each profession or service are detailed below.

**Blade:** The character may select any one bladed weapon available (up to Cr100 in value) and add it to his or her possessions. The weapon must be selected immediately upon receipt of this benefit, or the character may elect to "sell" the weapon for 90% of its value (Cr90) instead and pocket the cash.

**Education:** The character's Education ability score is raised by the given amount.

**Gun:** The character may select any one handgun, rifle, shotgun, or submachine gun available (up to Cr500 in value) and add it to his or her possessions. The weapon must be selected immediately upon receipt of this benefit, or the character may elect to "sell" the weapon for 90% of its value (Cr450) instead and pocket the cash.

**High Passage:** The character receives a high passage ticket entitling him or her to first class (high) passage on any ship headed between one world and the next world visited by the ship. High passage includes excellent cuisine and allows up to one ton of baggage. A high passage normally costs Cr10,000 when purchased. This high passage ticket may be cashed in for 90% of its value (Cr9000) if desired.

**Intelligence:** The character's Intelligence ability score is raised by the given amount.

**Low Passage:** The character receives a ticket entitling him or her to low passage on any starship between one world and its next destination. This type of passage involves travelling via a cryogenic capsule (cold sleep or suspended animation). Passengers are unconscious for the entire course of the journey. As a side benefit, one does not age while in cold sleep. Unfortunately this does not offset the intrinsic dangers involved in this type of travel if proper medical supervision is not available upon awakening. Low passage costs Cr1000 when purchased and includes a 10kg baggage allowance. This low passage ticket may be cashed in for 90% of its value (Cr900).

**Middle Passage:** The character receives a ticket entitling him or her to middle passage on any starship between one world and its next destination. Middle passage includes second-class accommodation (still of reasonable quality), passable food and drink, and up to 100kg of baggage. The passenger is expected to tend to his or her own affairs (maid service, laundry, cleaning, etc.) during the voyage. Middle passage costs Cr8000 when purchased, and this middle passage may be cashed in for 90% of its value (Cr7200) if desired.

**TAS Membership:** This benefit may only be received once. Any subsequent receipt of it is ignored (and not rerolled). The Travellers' Aid Society (TAS) is a private organization, which maintains hostels and facilities at all class A and B starports in human space. Such facilities are available (at a reasonable cost) to members and their guests. In addition to the use of TAS facilities and services, each member receives a free high passage ticket every two months. This ticket may be kept, used, or cashed in for 90% of its value (Cr9000) as needed.

In addition to earning membership when mustering out, membership may be purchased for an initiation fee of Cr1,000,000. Membership is for the life of a character, and may not be transferred.

**Social Standing:** The character's Social Standing ability score is raised by the given amount.

**Vehicle:** The character may select any vehicle available (up to Cr5000 in value) and add it to his or her possessions. The vehicle must be selected immediately upon receipt of this benefit, or the character may elect to "sell" the vehicle for 90% of its value (Cr4500) instead and pocket the cash.

**Weapon:** The character may select any one weapon (of any type) up to Cr1000 in value and add it to his or her possessions. The weapon must be selected immediately upon receipt of this benefit, or the character may elect to "sell" the weapon for 90% of its value (Cr900) instead and pocket the cash.

**Scout Ship:** It is the policy of most Scout Services to make surplus Scout ships available to selected members of the service that are entering detached duty (mustering out). The recipient is free to use the vessel for any legal purposes, but both the ship and its captain are subject to recall to active duty at any time without prior notice. The ship remains the legal property of the Scout Service and may not be sold. Fuel for these ships is available for free at any Scout base, and maintenance is also free at any Scout base located at a class B or A starport. The captain is responsible for any other upkeep and crew costs.

**Other Starships:** The character receives title and ownership to some type of starship (Free Trader, Yacht, Lab Ship, Mercenary Cruiser, or Seeker) depending upon the class they are mustering out of. The ship's purchase loan is not paid off, however, and the character is now responsible for the monthly bank payments, maintenance, crew costs, and other expenses.

If the character receives this benefit more than once (from any prior history class), each subsequent receipt indicates that the original ship received is actually 10 years older, and the total payment term on the loan is reduced by ten years. By this method it is possible for a character to end up with a ship, owned free and clear, by successfully receiving this benefit five times (once to receive the ship, four times to pay off the 40-year loan.) Such a ship is at least 40 years old, obviously.

# PRIOR HISTORY

## ACADEMIC

### CORE CLASS

Continued Employment: DC2

### RANKS

There are no ranks in the Academic service.

### EARNED BENEFITS

#### Cash Benefits

- 1 Cr1000
- 2 Cr2000
- 3 Cr5000
- 4 Cr10000
- 5 Cr20000
- 6 Cr30000
- 7 Cr40000

#### Material Benefits

- 1 Low Passage
- 2 Middle Passage
- 3 High Passage
- 4 +1 Social Standing
- 5 Gun
- 6 Lab Ship
- 7 No benefit



## DUTY ASSIGNMENT

1d20	Assignment	XP		
		Survive DC	Deco DC	Bonus DC
1-4	School	auto	none	4
5-10	Teaching Assignment	2	20	12
11-14	Lecture Circuit	4	8	10
15-17	Field Research	6	10	8
18-19	Classified Project	8	14	6
20	Top Secret Research	8	16	4

Ability Modifier      Edu      None      None

## SURVIVAL MISHAPS

### 1D Mishap

- 1 No further action
- 2 Tenure ends with Emeritus honors. (In effect the character is honorably discharged)
- 3 Lecture on questionable subject matter draws ridicule from academic community. Lose 1 point Soc.
- 4 Accused of dishonorable conduct with a student. Ensuing scandal leads to dismissal. Lose all benefits.
- 5 Accusations of lecturing on seditious subject matter (e.g. Psionics) leads to a conviction. Dismissed and forced to serve an extra 4 years in prison. Lose all benefits.
- 6 A temporarily debilitating mental illness forces early end of tenure. Lose 1d6-3 (minimum 1 point) points from either Int or Wis.

## ACADEMIC DECORATIONS

These decorations should be used for Academics in place of those described under the Decoration section earlier for military personnel.

**FF (Foundation Fellowship):** An award of merit from one of the multitude of independent charitable and research foundations throughout charted space. Received if the Decoration roll was successful.

**SA (Science Academy):** Enlisted in the ranks of scholars who have made a serious contribution to their fields. (A peer-review process). Received if the Decoration roll was greater than the DC by at least 5. Supersedes the FF award.

**ZP (The Zhunastu Prize):** A prize awarded by a committee once every 4 years in various categories (Literature, Physics, Medicine etc), it is the pinnacle in scholarly recognition. The prize was established by Emperor Cleon II, after his abdication, and funded by a large endowment provided from Zhunastu Industries profits at the time. Received if the Decoration roll was greater than the DC by at least 10. Supersedes the FF and SA awards.



## ARMY SERVICE CLASS

Reenlistment: DC9

### RANKS

#### Enlisted

- E1 Private
- E2 Corporal
- E3 Sergeant
- E4 Sergeant First Class
- E5 First Sergeant
- E6 Sergeant Major

#### Commissioned

- O1 Lieutenant
- O2 Captain
- O3 Major
- O4 Lieutenant Colonel
- O5 Colonel
- O6 General

### MUSTERING OUT BENEFITS

#### Cash Benefits

- 1 Cr2000
- 2 Cr5000
- 3 Cr10000
- 4 Cr10000
- 5 Cr10000
- 6 Cr20000
- 7 Cr30000

#### Material Benefits

- 1 Low Passage
- 2 +1 Intelligence
- 3 +2 Education
- 4 Weapon
- 5 Middle Passage
- 6 High Passage
- 7 +1 Social Standing



### SURVIVAL MISHAPS

#### 1D Mishap

- 1 No further action
- 2 Demoted, lose one rank of service (e.g. a sergeant becomes a corporal)
- 3 Honorably discharged from the service.
- 4 Dishonorably discharged from the service. Lose all benefits
- 5 Dishonorably discharged from the service after serving an extra 4 years in prison for a crime. Lose all benefits
- 6 Medically discharged from the service. Lose 1d6-3 (minimum 1 point) points from any one of: Str, Dex, Con, or Cha.

### DUTY ASSIGNMENT

1d20	Assignment	Survive DC	Comm DC	Rank Promo DC	Deco DC	XP Bonus DC
1-4	Training	auto	none	(6)	none	8
5-10	Garrison	auto	none	(8)	none	none
11-14	Internal Security	2	none	(6)	20	none
15-17	Police Action	4	10	12	14	8
18-19	Counter Insurgency	4	12	14	17	12
20	Raid	6	4	6	6	4
Ability Modifier		Edu	Con	Edu	None	None

## BARBARIAN CORE CLASS

Continued Employment: Automatic

### RANKS

- O1 -
- O2 Hunter
- O3 Warrior
- O4 War Chief
- O5 Tribe/Clan Chief
- O6 Elder



### EARNED BENEFITS

#### Cash Benefits

- 1 None
- 2 None
- 3 Cr1000
- 4 Cr2000
- 5 Cr3000
- 6 Cr4000
- 7 Cr5000

#### Material Benefits

- 1 Low Passage
- 2 Blade
- 3 Blade
- 4 Blade
- 5 No Benefit
- 6 High Passage
- 7 High Passage

### DUTY ASSIGNMENT

1d20	Assignment	Rank			XP
		Survive	Promo	Bonus	
		DC	DC	DC	
1-4	Village	4	18	16	
5-10	Migration	6	16	12	
11-14	Hunting	8	14	8	
15-17	Raid	8	12	6	
18-19	War	10	10	4	
20	Exploration	10	12	8	

Ability Modifier      Str      Int      None

### SURVIVAL MISHAPS

#### 1D Mishap

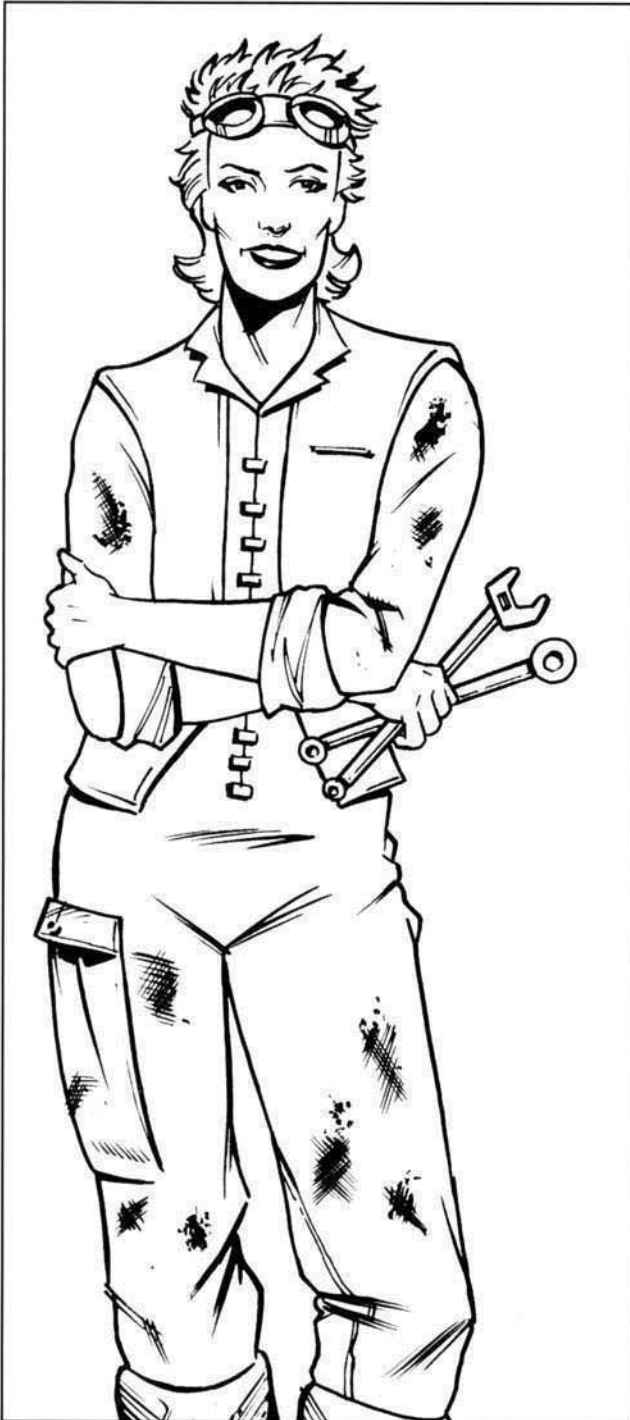
- 1 No further action
- 2 Loss of Face before tribe, lose one rank (e.g. a Warrior becomes a Hunter)
- 3 Sent into the larger world for good of Tribe (effectively discharged)
- 4 Disgraced the Tribe and banished. Lose all benefits.
- 5 Dishonored the Tribe, and forced into slavery for 4 years. Lose all benefits.
- 6 Believed to be cursed. Beaten almost to death and driven out of the Tribe. Lose 1d6-3 (minimum 1 point) points from any one of: Str, Dex, Con, or Cha.

## BELTER CORE CLASS

Continued Employment: DC9

### RANKS

There are no ranks in the Belters service.



### EARNED BENEFITS

#### Cash Benefits

- 1 None
- 2 None
- 3 Cr1000
- 4 Cr1000
- 5 Cr100000
- 6 Cr100000
- 7 Cr100000

#### Material Benefits

- 1 Low Passage
- 2 +1 Intelligence
- 3 Weapon
- 4 High Passage
- 5 TAS Membership
- 6 Seeker
- 7 No Benefit

### DUTY ASSIGNMENT

1d20	Assignment	Survive	Cash	XP
		DC	Bonus DC	Bonus DC
1-4	Portside	4	none	18
5-10	Contract Work	9	22	14
11-14	Rush Region	14	20	10
15-17	Trojan Points	16	18	10
18-19	Belt Fringe	18	16	8
20	Rumor	16	14	10

#### Ability Modifier

\* \*\* none

\* +1 per term

\*\* Prospecting Skill Check

### SURVIVAL MISHAPS

#### 1D Mishap

- 1 No further action
- 2 Robbed. Lose any cash bonus for this term.
- 3 Claim Jumped. Lose all cash bonus for this term and any prior terms
- 4 Fired/Banned. Discharged from employment, lose all benefits
- 5 Stranded/Betrayed. Choose between spending 4 years in low berth or 4 years in prison. Lose all benefits
- 6 Severe Injury. Lose 1d6-3 points (minimum of 1 point) from any one of: Str, Dex, Con, or Cha.



# PRIOR HISTORY

## MARINES SERVICE CLASS

Reenlistment: DC7

### RANKS

#### Enlisted

- E1 Private
- E2 Lance Corporal
- E3 Corporal
- E4 Sergeant
- E5 Gunnery Sergeant
- E6 Sergeant Major

#### Commissioned

- O1 Lieutenant
- O2 Captain
- O3 Force Commander
- O4 Lieutenant Colonel
- O5 Colonel
- O6 Brigadier

### MUSTERING OUT BENEFITS

#### Cash Benefits

- 1 Cr2000
- 2 Cr5000
- 3 Cr5000
- 4 Cr10000
- 5 Cr20000
- 6 Cr30000
- 7 Cr40000

#### Material Benefits

- 1 Low Passage
- 2 +2 Intelligence
- 3 +1 Education
- 4 Weapon
- 5 TAS Membership
- 6 High Passage
- 7 +2 Social Standing

### DUTY ASSIGNMENT

		Survive	Comm	Rank	Deco	XP
1d20	Assignment	DC	DC	Promo	DC	Bonus
1-4	Training	auto	none	DC	none	DC
5-10	Ship's Troops	2	none	(6)	20	8
11-14	Internal Security	2	none	(6)	20	6
15-17	Police Action	4	14	12	12	none
18-19	Counter Insurgency	4	16	14	14	8
20	Raid	6	8	6	4	12
Ability Modifier		Edu	Con	Edu	None	None



### SURVIVAL MISHAPS

#### 1D Mishap

- 1 No further action
- 2 Demoted, lose one rank of service (i.e. a sergeant becomes a corporal)
- 3 Honorably discharged from the service.
- 4 Dishonorably discharged from the service. Lose all benefits.
- 5 Dishonorably discharged from the service after serving an extra 4 years in prison for a crime. Lose all benefits
- 6 Medically discharged from the service. Lose 1d6-3 (minimum 1 point) points from any one of: Str, Dex, Con, or Cha.

## MERCENARY

### CORE CLASS

Continued Employment: DC9

### RANKS

#### Enlisted

- E1 Private
- E2 Corporal
- E3 Sergeant
- E4 Gunnery Sergeant
- E5 First Sergeant
- E6 Sergeant Major

#### Commissioned

- O1 Second Lieutenant
- O2 First Lieutenant
- O3 Captain
- O4 Lieutenant Colonel
- O5 Colonel
- O6 -

### MUSTERING OUT BENEFITS

#### Cash Benefits

- 1 Cr2000
- 2 Cr5000
- 3 Cr10000
- 4 Cr10000
- 5 Cr10000
- 6 Cr20000
- 7 Cr30000

#### Material Benefits

- 1 Low Passage
- 2 +1 Intelligence
- 3 +2 Education
- 4 Weapon
- 5 Middle Passage
- 6 High Passage
- 7 Mercenary Cruiser

### DUTY ASSIGNMENT

		Survive	Comm	Promo	Rank	XP	Cash
1d20	Assignment	DC	DC	DC	Bonus	Bonus	DC
1-4	Training	auto	none	(8)	10	none	none
5-8	Recruiting	auto	none	(10)	none	none	none
9-14	Cadre	4	none	(8)	none	16	16
15-17	Security Forces	6	10	12	10	14	14
18-19	Commando Raid	6	12	14	12	10	10
20	Striker Mission	8	6	8	4	8	8

Ability Modifier Edu Con Edu None Rank \*

\*Officers 2x rank



### SURVIVAL MISHAPS

#### 1D Mishap

- 1 No further action
- 2 Demoted, lose one rank of service (e.g. a sergeant becomes a corporal)
- 3 Honorably discharged from the service.
- 4 Dishonorably discharged from the service. Lose all benefits
- 5 Dishonorably discharged from the service after serving an extra 4 years in prison for a crime. Lose all benefits
- 6 Medically discharged from the service. Lose 1d6-3 (minimum 1 point) points from any one of: Str, Dex, Con, or Cha.

# PRIOR HISTORY

## MERCHANTS

CORE CLASS

Continued Employment: DC4

### RANKS

- O1 Apprentice
- O2 Crewman
- O3 Petty Officer
- O4 Junior Officer
- O5 Senior Officer
- O6 Executive Officer



## EARNED BENEFITS

### Cash Benefits

- 1 Cr1000
- 2 Cr5000
- 3 Cr10000
- 4 Cr20000
- 5 Cr30000
- 6 Cr50000
- 7 Cr90000

### Material Benefits

- 1 Low Passage
- 2 +2 Intelligence
- 3 Middle Passage
- 4 High Passage
- 5 Weapon
- 6 TAS Membership
- 7 Free Trader

## DUTY ASSIGNMENT

		Rank	XP	Cash
		Survival	Promotion	Bonus
1d20	Assignment	DC	DC	Bonus
1-4	Planetside	auto	20	12
5-10	Route	auto	16	8
11-14	Charter	2	18	8
15-17	Exploratory	3	12	4
18-19	Speculative	3	10	6
20	Special*	6	none	4

Ability Modifier    Edu    Con    Edu    None

\* Piracy, smuggling, free trading, or similar risky venture.

**Cash Bonus:** If the Cash Bonus check is successful, roll once on the cash benefits table under Mustering Out. The character receives one-half the amount indicated.

## SURVIVAL MISHAPS

### 1D Mishap

- 1 No further action
- 2 Pirate Attack. Lose any cash bonus for this term.
- 3 Honorably discharged from the service.
- 4 Dishonorably discharged from the service. Lose all benefits
- 5 Dishonorably discharged from the service after serving an extra 4 years in prison for a crime. Lose all benefits
- 6 Medically discharged from the service. Lose 1d6-3 (minimum 1 point) points from any one of: Str, Dex, Con, or Cha.



## NAVY SERVICE CLASS

Reenlistment: DC6

### RANKS

#### Enlisted

- E1 Recruit
- E2 Space Hand
- E3 Petty Officer
- E4 Chief Petty Officer
- E5 Senior Chief
- E6 Master Chief

#### Commissioned

- O1 Ensign
- O2 Lieutenant
- O3 Lt. Commander
- O4 Commander
- O5 Captain
- O6 Admiral

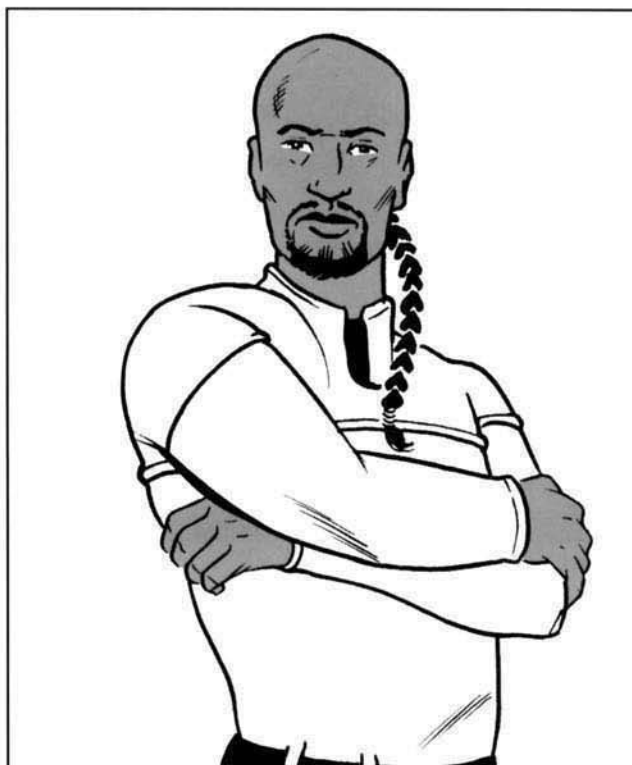
### MUSTERING OUT BENEFITS

#### Cash Benefits

- 1 Cr1000
- 2 Cr5000
- 3 Cr5000
- 4 Cr10000
- 5 Cr20000
- 6 Cr50000
- 7 Cr50000

#### Material Benefits

- 1 Low Passage
- 2 +1 Intelligence
- 3 +1 Education
- 4 Weapon
- 5 TAS Membership
- 6 High Passage
- 7 +1 Social Standing



### SURVIVAL MISHAPS

#### 1D Mishap

- 1 No further action
- 2 Demoted, lose one rank of service (e.g. a petty officer becomes a spacehand.)
- 3 Honorably discharged from the service.
- 4 Dishonorably discharged from the service. Lose all benefits
- 5 Dishonorably discharged from the service after serving an extra 4 years in prison for a crime. Lose all benefits
- 6 Medically discharged from the service. Lose 1d6-3 (minimum 1 point) points from any one of: Str, Dex, Con, or Cha.

### DUTY ASSIGNMENT

1d20	Assignment	Survive	Comm	Rank	Deco	XP
		DC	DC	Promo	DC	Bonus
1-4	Training	auto	none	(6)	none	8
5-10	Shore Duty	2	none	(8)	20	8
11-14	Patrol	2	10	8	19	6
15-17	Siege	4	14	12	16	6
18-19	Strike	6	10	8	8	4
20	Battle	6	8	6	6	4
Ability Modifier		Int	Soc	Edu	None	None

# PRIOR HISTORY

## NOBLE CORE CLASS

**Reenlistment:** automatic

### RANKS

Rank among nobles is based on one's standing in society, i.e. Social Standing ability score.

Soc	Noble Rank
16	Knight, Knightess, Dame
18	Baron, Baroness, Baronet
20	Marquis, Marquesa, Marchioness
22	Count, Countess
24	Duke, Duchess
26	Archduke, Archduchess
28	Crown Prince, Crown Princess
30	Emperor

### MUSTERING OUT BENEFITS

#### Cash Benefits

1	Cr10,000
2	Cr50,000
3	Cr50,000
4	Cr100,000
5	Cr100,000
6	Cr100,000
7	Cr200,000

#### Material Benefits

1	High Passage
2	High Passage
3	Weapon
4	Weapon
5	TAS Membership
6	Yacht
7	Nothing

### DUTY ASSIGNMENT

1d20	Assignment	Survive DC	Rank Promo DC	XP Bonus DC
1-4	Grand Tour	3	23	9
5-10	Government Post	4	22	8
11-14	Diplomatic Post	4	21	8
15-17	Family Business	3	20	9
18-19	Moot Meetings	5	19	7
20	Secret Mission	6	18	6
	Ability Modifier	Int	Int	None



### SURVIVAL MISHAPS

#### 1D Mishap

- 1 No further action
- 2 Dueling injury. Lose 1 point from Dex or Str
- 3 Enemies ascendant at Moot. Effectively discharged
- 4 Family involved in scandal. Effectively discharged. Lose benefits
- 5 Anger the Emperor, drop to SOC 11 + 1d4, expelled from service
- 6 Convicted of High Crime by Moot. Drop to SOC 9 + 1d6 (SOC must drop at least 1 point). Serve 4 years in prison.

## PROFESSIONAL CORE CLASS

Continued Employment: DC2

### RANKS

E1 Employee

E2 -

E3 -

E4 Supervisor

E5 -

E6 -

O1 Junior Assistant

O2 Assistant

O3 Manager

O4 Senior Manager

O5 Vice-President

O6 Board Member

### EARNED BENEFITS

#### Cash Benefits

1 Cr5000

2 Cr10000

3 Cr20000

4 Cr30000

5 Cr50000

6 Cr75000

7 Cr100000

#### Material Benefits

1 Low Passage

2 +1 Intelligence

3 +1 Education

4 Weapon

5 High Passage

6 Gold Watch

7 Vehicle

### DUTY ASSIGNMENT

1d20	Assignment	XP			Rank
		Survive	Bonus	Comm	Promo
		DC	DC	DC	DC
1-4	Government Service	3	9	12	(8)
5-10	Corporate Service	4	8	10	(6)
11-14	Consulting Firm	4	8	10	6
15-17	Private Practice	5	7	8	8
18-19	Service to Noble House	5	6	6	6
20	Frontier Assignment	6	5	6	8
Ability Modifier		Int	None	Soc	Int



### SURVIVAL MISHAPS

#### 1D Mishap

- No further action.
- Minor industrial accident. Lose 1 point from either Str or Dex.
- Laid off with no call back date. Effectively discharged.
- Declared overqualified in private sector. Effectively honorably discharged.
- Shady business dealings revealed to public. Lose 2 points of Soc and spend 4 years in prison. Lose all benefits.
- Chronic medical problems prohibit continued employment. Lose 1d6-3 points (minimum 1 point) from either Str or Con. Discharged.





## ROGUE CORE CLASS

Continued Employment: DC2

### RANKS

There are no ranks among Rogues.

### EARNED BENEFITS

#### Cash Benefits

- |   |          |
|---|----------|
| 1 | Cr5000   |
| 2 | Cr10000  |
| 3 | Cr20000  |
| 4 | Cr30000  |
| 5 | Cr50000  |
| 6 | Cr75000  |
| 7 | Cr100000 |

#### Material Benefits

- |   |                 |
|---|-----------------|
| 1 | Low Passage     |
| 2 | +1 Intelligence |
| 3 | +1 Education    |
| 4 | Weapon          |
| 5 | High Passage    |
| 6 | Vehicle         |
| 7 | Nothing         |

### DUTY ASSIGNMENT

1d20	Assignment	Survive DC	XP Bonus	Cash Bonus
			DC	DC
1-4	Free-lancing	6	6	20
5-10	Information Gathering	5	7	20
11-14	Smuggling	6	6	18
15-17	Acquisition	6	6	16
18-19	Enforcement	7	5	18
20	Big Caper	8	4	14
Ability Modifier		Int	None	Int

### SURVIVAL MISHAPS

#### 1D Mishap

- |   |  |
|---|--|
| 1 | No further action.   |
| 2 | Violent incident. Lose 1 point from either Str or Dex.   |
| 3 | Gang or group smashed by law enforcement; character escapes. Effectively discharged.                         |
| 4 | Gang leaders retire on the profits and disband the group. Effectively honorably discharged.                  |
| 5 | Caught and convicted. Lose 2 points of Soc and spend 4 years in prison. Lose all benefits.                   |
| 6 | Injured in serious violent incident or arrest attempt. Lose 1d6-3 points from either Str or Con. Discharged. |

## SCOUTS SERVICE CLASS

Reenlistment: DC2



## RANKS

There are no ranks in the scouts, although any scout who has served 5 or more terms is considered a Senior Scout.

## MUSTERING OUT BENEFITS

### Cash Benefits

1	Cr20000
2	Cr20000
3	Cr30000
4	Cr30000
5	Cr50000
6	Cr50000
7	Cr50000

### Material Benefits

1	Low Passage
2	+2 Intelligence
3	+2 Education
4	High Passage
5	Weapon
6	Scout Ship
7	Nothing

## DUTY ASSIGNMENT

		Survival DC	XP Bonus DC
1d20	Assignment		
1-4	Training	auto	auto
5-8	Base	2	10
9-14	Routine	4	8
15-17	Mission	6	6
18-19	Special Mission	8	6
20	War Mission	6	6
	Ability Modifier	Con	None

## SURVIVAL MISHAPS

### 1D Mishap

- 1 No further action
- 2 Minor, but prolonged injury. Lose any service feat earned this term.
- 3 Placed on Detached Duty (effectively discharged from the service, but may be recalled in times of need)
- 4 Dishonorably discharged from the service. Lose all benefits
- 5 Dishonorably discharged from the service after serving an extra 4 years in prison for a crime. Lose all benefits
- 6 Medically discharged from the service. Lose 1d6-3 (minimum 1 point) points from any one of: Str, Dex, Con, or Cha.



## TRAVELLER

### CORE CLASS

Continued Employment: DC2

### RANKS

There are no ranks among Travellers.

### EARNED BENEFITS

#### Cash Benefits

- |   |          |
|---|----------|
| 1 | Cr10000  |
| 2 | Cr20000  |
| 3 | Cr40000  |
| 4 | Cr60000  |
| 5 | Cr80000  |
| 6 | Cr100000 |
| 7 | Cr250000 |

#### Material Benefits

- |   |                 |
|---|-----------------|
| 1 | High Passage    |
| 2 | +1 Intelligence |
| 3 | +1 Education    |
| 4 | Vehicle         |
| 5 | TAS Membership  |
| 6 | Ship            |
| 7 | Nothing         |

### DUTY ASSIGNMENT

1d20	Assignment	Survive	XP
		DC	Bonus DC
1-4	Personal Business	3	9
5-10	Corporate Troubleshooting	4	8
11-14	Service to Noble House	4	8
15-17	Government Service	3	9
18-19	Frontier Opportunity	5	7
20	Secret Mission	6	6

Ability Modifier

Int

None

### SURVIVAL MISHAPS

#### 1D Mishap

- |   |  |
|---|--|
| 1 | No further action.   |
| 2 | Minor injury. Lose 1 point from either Str or Dex.   |
| 3 | Became disaffected with Travelling for a time. Effectively discharged.                               |
| 4 | Settled down to a steady job. Effectively honorably discharged.                                      |
| 5 | Shady escapade leads to arrest. Lose 1 points of Soc and spend 4 years in prison. Lose all benefits. |
| 6 | Serious injury. Lose 1d6-3 (minimum 1 point) points from any one of: Str, Dex, Con, or Cha.          |



## PRIOR HISTORY EXAMPLE

This example takes you through the steps used in creating a 6th level Rogue named *Kaane Haamasir*. The familiar steps of determine the ability scores of a character, selecting a race, and choosing a class are not detailed here; instead simply the results of those steps are shown.

### 1) ABILITIES

**Str: 16, Dex: 11, Con: 14, Int: 9, Wis: 8, Cha: 16, Edu: 14, Soc: 10**

An energetic young man, not bright enough to keep from getting into trouble, but charming enough to be able to talk his way out. Usually...

### 2) RACE

**Mixed Human.**

Kaane elects to be a mixed race human, as this race has the greatest flexibility when developing a character.

### 3) HOMEWORLD

**Very High Technology, Non-Agricultural Vacuum world**

Kaane rolls a 6 on the World technology table, meaning he is from a Very High Technology homeworld. Rolling a 10 on the world trade classification indicates that it is "Va Na" or a Non-Agricultural Vacuum world. These worlds are usually mining and manufacturing centers run by a large interstellar corporation.

Kaane's Very High Tech homeworld means he can add T/Computer to his class skill list, plus three other skills. He selects T/Mechanical and T/Communications from the Non-Agricultural list (remember that a character can select skills up to 2 tech bands lower than his own) and T/Astrogation from the Vacuum world list. These skills become class skill regardless of which class Kaane selects.

Kaane also gets the following feats: Vessel/Grav, Vacc Suit and selects Zero-G/Low Gravity Adaptation from the world list.

### 4) CLASS

**Rogue**

Kaane does not want to live the life of a corporate drone, and selects the Rogue Class. Here is what Kaane looks like at first level:

**Kaane Haamasir**

*1st level Rogue, 18 years old. Height: 195 cm, Weight: 170 kg*

**Abilities:** Str: 16, Dex: 11, Con: 14, Int: 9, Wis: 8, Cha: 16, Edu: 14, Soc: 10

**Skills:** T/Mechanical-0, Intimidate-3, Bribery-1, Driving (Vessel/Grav)-3, T/Computer-3, Astrogation-2, Innuendo-1, T/Communication-1

**Feats:** *Armor Proficiency (Light), Armor Proficiency (Medium), Weapon Proficiency (Swordsman), Weapon Proficiency (Marksman), Fence Stolen Goods, Fast Talk*

**Stamina:** 8

**Lifeblood:** 14

**Speed:** 9 meters

**BAB:** +0

**Experience:** 0

### 5) UNIVERSITY AND PRIOR HISTORY

As a rogue, Kaane does not have the opportunity to go to University, so he sets off to make his fortune among the stars and enrolls in the Rogue Prior History career.

### 6) ROGUE PRIOR HISTORY TERM 1

**Duty Assignment:** For Term 1, Kaane rolls a 6 for duty assignment and does some Information Gathering for the group he has hooked up with.

**Survival:** He rolls a 9 on 1d20 for survival, subtracting -1 for his Intelligence modifier for a total of 8 against a Survival DC of 5, making it through the term without problems.

**XP Bonus:** Checking to see if he earns an XP bonus, Kaane rolls an 11 on 1d20 (no modifiers for an XP Bonus check) against a DC of 7, earning himself an additional experience point bonus for this term. He rolls a 1 on 1d4 for a bonus of 1000XP.

**Cash Bonus:** Unfortunately for Kaane however, he only rolls a 16 on 1d20 when determining if he earns a cash bonus as well this term. With the -1 penalty of his Intelligence modifier, for a total of 15 is 5 points below the DC of 20 needed for some extra cash.

In all, Kaane has aged 4 years (he is now 22), earned a total of 5000XP (4000XP for survival and 1000xp for the bonus), and is now 3rd level.

**Kaane Haamasir**

*2nd level Rogue, 18 years old. Height: 195 cm, Weight: 170 kg*

**Abilities:** Str: 16, Dex: 11, Con: 14, Int: 9, Wis: 8, Cha: 16, Edu: 14, Soc: 10

**Skills:** T/Mechanical-0, Intimidate-4, Bribery-1, Driving (Vessel/Grav)-4, T/Computer-3, Astrogation-2, Innuendo-1, T/Communication-1, Appraise-2

**Feats:** *Armor Proficiency (Light), Armor Proficiency (Medium), Weapon Proficiency (Swordsman), Weapon Proficiency (Marksman), Fence Stolen Goods, Fast Talk, Connections (Underworld)*

**Stamina:** 17

**Lifeblood:** 14

**Speed:** 9 meters

**BAB:** +0

**Experience:** 1000

# PRIOR HISTORY

7

## Kaane Haamasir

3rd level Rogue, 22 years old. Height: 195 cm, Weight: 170 kg

**Abilities:** Str: 16, Dex: 11, Con: 14, Int: 9, Wis: 8, Cha: 16, Edu: 14, Soc: 10

**Skills:** T/Mechanical-0, Intimidate-5, Bribery-4, Driving (Vessel/Grav)-4, T/Computer-3, Astrogation-2, Innuendo-1, T/Communication-1, Appraise-2, Gather Information-2

**Feats:** Alertness, Armor Proficiency (Light), Armor Proficiency (Medium), Connections (Underworld), Weapon Proficiency (Swordsman), Weapon Proficiency (Marksman), Fence Stolen Goods, Fast Talk

**Stamina:** 23

**Lifeblood:** 14

**Speed:** 9 meters

**BAB:** +2

**Experience:** 5000

## 7) ROGUE PRIOR HISTORY TERM 2

**Continued Employment:** For Term 2, Kaane rolls a 12 on 1d20 to see if he manages to continue his employment with his present gang (a DC of 2), easily earning himself a spot with his comrades for another term.

**Duty Assignment:** Rolling on the duty assignment table results in a 15, showing us that Kaane spends this term 'acquiring' certain items on behalf of himself and/or his comrades.

**Survival:** A survival check roll of 20 (-1 for his Int modifier) against a DC of 6 lets Kaane breezing through this term without a hitch.

**XP Bonus:** A roll of 12 for his XP bonus (DC6) earns Kaane another experience bonus award this term. Rolling 1d4 to see what the XP bonus is this term Kaane gets a 2, for a bonus of 2000XP.

**Cash Bonus:** His luck continues to hold with a roll of 17 while checking for a possible cash bonus. Even with a -1 penalty due to his Intelligence, his final total of 16 is just enough to earn him a free roll on the cash benefits table this term. Rolling 1d6 on the table for a roll of 4 increases Kaane's bank account balance by a welcome Cr30,000.

At the end of this term, Kaane is 4 years older (26 years old), has earned an additional 6000XP (4000XP for survival and 2000XP bonus) for a total of 11,000XP, and is now 5th level.

## Kaane Haamasir

4th level Rogue, 22 years old. Height: 195 cm, Weight: 170 kg

**Abilities:** Str: 17, Dex: 11, Con: 14, Int: 9, Wis: 8, Cha: 16, Edu: 14, Soc: 10

**Skills:** T/Mechanical-0, Intimidate-6, Bribery-4, Driving (Vessel/Grav)-4, T/Computer-3, Astrogation-2, Innuendo-1, T/Communication-1, Appraise-4, Gather Information-3

**Feats:** Alertness, Armor Proficiency (Light), Armor Proficiency (Medium), Connections (Underworld), Weapon

Proficiency (Swordsman), Weapon Proficiency (Marksman), Fence Stolen Goods, Fast Talk

**Stamina:** 31

**Lifeblood:** 14

**Speed:** 9 meters

**BAB:** +3

**Experience:** 6000

## Kaane Haamasir

5th level Rogue, 26 years old. Height: 195 cm, Weight: 170 kg

**Abilities:** Str: 17, Dex: 11, Con: 14, Int: 9, Wis: 8, Cha: 16, Edu: 14, Soc: 10

**Skills:** T/Mechanical-0, Intimidate-6, Bribery-6, Driving (Vessel/Grav)-6, T/Computer-3, Astrogation-2, Innuendo-1, T/Communication-1, Appraise-4, Gather Information-3

**Feats:** Alertness, Armor Proficiency (Light), Armor Proficiency (Medium), Connections (Underworld), Weapon Proficiency (Swordsman), Weapon Proficiency (Marksman), Fence Stolen Goods, Fast Talk, Improved Search

**Stamina:** 37

**Lifeblood:** 14

**Speed:** 9 meters

**BAB:** +3

**Experience:** 11,000

## 8) ROGUE PRIOR HISTORY TERM 3

**Continued Employment:** For Term 3, Kaane rolls a 4 to re-enlist (DC2). The boss questions his loyalty but eventually decided to let him stay.

**Duty Assignment:** He rolls a 12 for duty assignment and helps the gang smuggling the stolen goods to another world.

**Survival:** He rolls a 7 for survival (DC6), -1 for his Intelligence, getting himself injured when the deal goes bad. A result exactly equal to the Survival DC results in a wound and a 1000XP bonus (being shot or stabbed is a great motivation to learning. Kaane won't likely do THAT again...).

**XP Bonus:** Rolling a 17 for his XP bonus check (DC6) shows he learned a great deal from this experience. A roll of 2 again on 1d4 gives Kaane an additional bonus of 2000XP this term.

**Cash Bonus:** With only a roll of 7 (-1 for his Intelligence for a total of 6), unlike last term, Kaane's smuggling efforts this term did not earn him a cash bonus, possibly due to being shot and robbed of the goods...

Kaane, after another 4 years is now 30, has earned 7000XP this term (4000XP for survival, 1000XP for being wounded, and a 2000XP bonus) for a total of 18,000XP, and is 6th level.

## Kaane Haamasir

6th level Rogue, 30 years old.

Height: 195 cm, Weight: 170 kg

**Abilities:** Str: 17, Dex: 11, Con: 14, Int: 9, Wis: 8, Cha: 16, Edu: 14, Soc: 10

**Skills:** T/Mechanical-0, Intimidate-8, Bribery-7, Driving (Vessel/Grav)-6, T/Computer-3, Astrogation-2, Innuendo-1, T/Communication-1, Appraise-4, Gather Information-4

**Feats:** Alertness, Armor Proficiency (Light), Armor Proficiency (Medium), Connections (Underworld), Weapon Proficiency (Swordsman), Weapon Proficiency (Marksman), Fence Stolen Goods, Fast Talk, Improved Search, Brawling

**Stamina:** 45

**Lifeblood:** 14

**Speed:** 9 meters

**BAB:** +4

**Experience:** 18,000

## 9) MUSTERING OUT OF PRIOR HISTORY AS A ROGUE

Kaane decides to get out while the getting is good - or at least before the boss decides to rub him out. He has spent three terms as a Rogue, and that earns him three separate rolls on the benefits table. Kaane decides to use one roll on the material benefits table and rolls a 5. This gains him a free High Passage, probably left over from the smuggling caper. His last two rolls he chooses to use on the cash table rolling a 2 and a 5 respectively. The first roll earns him Cr10,000 and the second roll nets him an additional Cr50,000 for a total of Cr60,000. With his starting cash of Cr2500, his Cash Bonus during the second term of Cr30,000, and his mustering out cash, Kaane begins adventuring with a hefty cash balance of Cr92,500.

## Kaane Haamasir

6th level Rogue, 30 years old. Height: 195 cm, Weight: 170 kg

**Abilities:** Str: 17, Dex: 11, Con: 14, Int: 9, Wis: 8, Cha: 16, Edu: 14, Soc: 10

**Skills:** T/Mechanical-0, Intimidate-8, Bribery-7, Driving (Vessel/Grav)-6, T/Computer-3, Astrogation-2, Innuendo-1, T/Communication-1, Appraise-4, Gather Information-4

**Feats:** Alertness, Armor Proficiency (Light), Armor Proficiency (Medium), Connections (Underworld), Weapon Proficiency (Swordsman), Weapon Proficiency (Marksman), Fence Stolen

Goods, Fast Talk, Improved Search, Brawling

**Stamina:** 45

**Lifeblood:** 14

**Speed:** 9 meters

**BAB:** +4

**Experience:** 18,000

**Credits:** 92,500

**Possessions:** 1 High Passage





# COMBAT

Conflict of some kind is integral to any good story, and nowhere more so than in a role-playing game.

This does not mean that every session should involve blazing guns and flashing blades. There are many types of conflict, and most of them can be resolved without violence. A campaign in which violence is commonplace is likely to go off the rails for one of two reasons.

- Combat becomes so routine that it is no longer exciting or perceived as a threat to the characters. This is temporarily alleviated by dumping more bad guys with bigger guns on the players, but in the end this is self-defeating.
- Character turnover is so quick that nobody can even remember their latest adventurer's name, let alone develop his or her personality.

Combat should be used sparingly. Most fights should support the plot, though the occasional random brawl or ambush also serves to keep the characters alert or off balance. Remember that in Traveller (as in real life) weapons, and especially firearms, are deadly. Local law enforcement will usually become involved in any exchange of fire, or any combat that leaves bodies lying around. This may not be much of a problem on an airless asteroid in deep space, but on most planets the characters will have to tread carefully.

## STAGING COMBAT

One way to keep fight scenes fresh and exciting is to stage combat in unusual places. Action movies often make use of this device. For example, a fight that takes place on a moving bus or train is far more interesting than one that seems to occur on a gray featureless plain without obstructions or cover.

Throw in plenty of distractions - fleeing bystanders, vehicles, local animals, runaway baggage carts or whatever - to make the scene come alive (and to allow characters to make dramatic use of the scenery). Have stray shots smash things or hit bystanders.

Remember environmental hazards. Vac suit tears, diving into brambles when seeking cover, broken glass on the ground or falling into deep water while wrestling with a foe can all make a fight scene more tense at the time and memorable afterward.

Combat is intense and stressful. Characters often suffer from tunnel vision, focusing on one enemy to the exclusion of all else. Anyone wanting to remain fully aware of everything around him should be required to make frequent skill checks (e.g. Spot), or he will simply fail to notice anything that does not happen right in front of him.

Intimidation and trickery also play a part. People don't always see what's really there - they can only see what's

visible. Sometimes an enemy can be bluffed into fleeing or surrendering, or intimidated into panicked submission.

Finally, remember that armed combat is deadly. Smart people make use of cover and concealment (there is a difference!), and maneuver for a better position rather than just blasting away from where they are.

## NEW OR MODIFIED RULES

Unless otherwise noted, all of the standard d20 combat rules are used in T20, including Initiative, the Surprise Round, rolling to hit, Armor Class (AC), attacks of opportunity, etc. In most cases, we have chosen to supplement rather than change most of the standard d20 combat system. In particular we have introduced an additional measure of health for characters, NPCs and creatures, in addition to a new concept called damage dice reduction.

## ENCOUNTER DISTANCE

### (RULES ADDITION)

Various additions have been made to the standard d20 rules, to cover situations arising in a technology-rich environment.

### SPOTTING OTHER VESSELS

When an encounter between one or more vessels (including vehicles) occurs, all vessel commanders involved must make T/Sensor check. A successful check means that vessel and its crew are aware of the other vessels involved. If a vessel is without sensors, they must rely on their own visual acuity, and a Spot check may be used instead. In either case, the base DC for the task is 20.

The following circumstances can affect the T/Sensor or Spot skill check:

**Target Size:** The size of a target also has a bearing on how easily it may be noticed. Smaller objects are harder to deal with than larger ones. Add the size modifier of the vessel to the DC for any sensor or spot task. Size modifiers are as follows: Colossal -16, Gigantic -12, Huge, -8, Large -4, Medium +0, Small +4, Tiny +8, Diminutive +12, Fine +16. This modifier applies to both T/Sensor and Spot checks.

**Running Silent:** A vessel may attempt to avoid detection and scanning by "running silent". If a vessel takes no actions (other than movement), attempts no active sensor checks (passive scans are allowed), fires no weapons, and otherwise does nothing which might reveal its presence, add +15 to any DC when another vessel is attempting to use their sensors on the silent vessel. This is only effective against T/Sensor systems, and does not prevent a vessel from being spotted visually.

**Jamming:** The sensor operator may attempt to spend the round providing defensive sensor jamming against



incoming targeting lock attempts by enemy vessels, hopefully decreasing the chance of being hit. Jamming will also aid in foiling attempts at detection, tonnage and classification estimations, and identification by other vessels. This is a Full Action.

The sensor operator must make a T/Sensors skill roll and add the sensor system model number to this result. This total will establish the vessel's Jamming rating for the round. Any other vessel attempting to target or otherwise scan the vessel must use the vessel's Jamming rating as the DC for these tasks rather than the standard DC for the current round.

This is only effective against T/Sensor systems, and does not prevent a vessel from being spotted visually.

**Passive Scans:** Encounter-related sensor scans are done as 'active' scans, which basically means the target of the scan will know it is happening. Active sensor scans against commercial and civilian vessel by anyone other than the appropriate authorities is highly frowned upon by most, and even considered a hostile act by some captains. Passive sensor scans on the other hand will likely go undetected unless the target is actively watching for it, and even then they may miss it.

All a sensor operator has to do to perform a passive scan is notify the referee in advance of the skill check itself. This will add +10 to the DC of the task however. If the target of the scan is expecting such an action, it may make a T/Sensor skill check (DC20) to spot it. If the target is wary but not actively expecting the scan, increase the DC to 30. No matter what the base DC, a passive scan will only be successful if the opposing ship is doing something capable of being detected, such as launching a small craft, engaging active sensors, retracting a turret, even opening an airlock might be detectable by a passive sensor scan.

This is only effective against T/Sensor systems, and does not prevent a vessel from being spotted visually.

**Not Moving:** A vessel that is not moving is harder to spot than one that is not. Add +5 to the DC for stationary vessels. This modifier applies to both T/Sensor and Spot checks.

**Camouflage:** The Combat Engineering skill can be used to attempt to camouflage a vessel from being spotted. In this case, the base DC is instead 25 + the Combat Engineering skill modifier of the individual that installed the camouflage. This is only effective against visual detection, and does not prevent a vessel from being spotted by sensors.

Advanced camouflage equipment may make a camouflage attempt effective against sensors. Examples include radar-absorbent camouflage netting and thermal signature masking.

**Six or More Vessels:** A group of vessels is easier to spot than an individual vessel, even if the vessels are

smaller than medium size. Subtract -2 from the DC. This modifier applies to both T/Sensor and Spot checks.

**Moonlight:** Nighttime, but with moonlight or equivalent illumination available. Add +5 to the DC. This is only effective against visual detection, and does not prevent a vessel from being spotted by sensors.

**Starlight:** Nighttime or in space. No moon, but a clear and star-filled sky. Add +10 to the DC. This is only effective against visual detection, and does not prevent a vessel from being spotted by sensors.

**Deep Darkness:** Overcast skies at night, or similar lack of lighting. Add +20 to the DC. This is only effective against visual detection, and does not prevent a vessel from being spotted by sensors.

**Total Darkness:** No available illumination at all such as in a deep cave. Impossible without sensors. This is only effective against visual detection, and does not prevent a vessel from being spotted by sensors.

#### ENCOUNTER AWARENESS DIFFICULTY

Circumstance	DC
Base	20
Target size	+/-4 per size category
Running silent	+15
Jamming	Special
Passive scan	+10
Not moving	+5
Camouflage	Special
Six or more Vessels	-2
Moonlight	+5
Starlight	+10
Deep Darkness	+20
Total Darkness	Impossible

#### HIDING AND SPOTTING

If creatures are trying not to be seen, it's usually harder to spot them, but creatures that are keeping low to avoid being spotted also are less likely to notice other creatures. If a group (of people or animals) is hiding, its members can only move at half their normal overland speed. They also suffer a -2 penalty on their Spot checks to notice other creatures because they are staying low.

Instead of a base DC of 20 for others to spot them at the standard spotting distance, the DC is 25 + the hider's Hide skill modifier. The modifiers from the Encounter Awareness Difficulty table still apply, except for the size modifier (which is already part of the character's skill modifier). A character whose Hide ranks, Dexterity modifier, and armor check penalty total -6 or lower actually has a lower DC than if he or she weren't hiding. In such cases, simply calculate the Spot DC as if the character wasn't hiding (according to the Spotting Difficulty table). If a creature gets a special bonus to Hide because of camouflage, spe-



**VISUAL ENCOUNTER RANGES**

<i>Terrain</i>	<i>Detection and Distance</i>	<i>Hexes</i>	<i>Basic Range</i>
Arcology, popular starport, dense pedestrian and vehicle traffic	2d4 X 75m (avg. 375m)	5T	Close
City or town center, moderate pedestrian and vehicle traffic	3d6 X 150m (1575m)	1S	Short
Suburban neighborhood, light pedestrian and vehicle traffic	6d6 X 300m (6300m)	4S	Medium
Smoke, heavy fog, dense clouds	2d4 X 75m (avg. 375m)	5T	Close
Jungle, dense forest	2d4 X 150m (750m)	10T	Close
Heavy mountainous terrain	3d6 X 150m (1575m)	1S	Short
Rugged hills or low mountains	6d6 X 150m (3150m)	2S	Short
Light forest, low rolling hills	6d6 X 300m (6300m)	4S	Medium
Scrub, brush, or bush	2d6 X 1.5km (10.5km)	7S	Long
Grasslands, plains, at sea, or other open terrain with little cover	3d6 X 1.5km (15.0km)	10S	Very Long
Observer is in flight, clear skies	4d6 X 1.5km (18.0km)	12S	Very Long
Observer is in flight, cloudy skies	3d6 X 1.5km (15.0km)	10S	Very Long
Observer is in flight, dusk or dawn	2d6 X 1.5km (10.5km)	7S	Long
Observer is in flight, heavy clouds or night	1d6 X 1.5km (5.0km)	3S	Short

**SENSOR ENCOUNTER RANGES (VEHICLES ONLY)**

<i>Sensor Model</i>	<i>Detection</i>	<i>Encounter Distance</i>	<i>Hexes</i>	<i>Basic Range</i>
Model/1	up to 5km	1d3 X 1.5km (avg 3km)	2S	Short
Model/2	up to 10km	1d3+6 X 1.5km (10km)	7S	Long
Model/3	up to 50km	2d6+8 X 1.5km (22km)	15S	Very Long
Model/4	up to 100km	30km	20S	Extreme
Model/5	up to 500km	30km	20S	Extreme
Model/6	up to 1000km	30km	20S	Extreme
Model/7	up to 5000km	30km	20S	Extreme
Model/8	up to 10,000km	30km	20S	Extreme
Model/9	beyond 10,000km	30km	20S	Extreme

**SENSOR ENCOUNTER RANGES (SMALL CRAFT AND STARSHIPS ONLY)**

<i>Sensor Model</i>	<i>Detection</i>	<i>Encounter Distance</i>	<i>Hexes</i>	<i>Basic Range</i>
Model/1	up to 15,000km	1d20 X 750km (avg 3km)	10T	Close
Model/2	up to 45,000km	1d3 X 15,000km (10km)	2S	Short
Model/3	up to 75,000km	1d2+3 X 15,000km (22km)	3S	Short
Model/4	up to 120,000km	1d3+5 X 15,000km	7S	Long
Model/5	up to 240,000km	1d8+8 X 15,000km	12S	Very Long
Model/6	up to 580,000km	1d4+16 X 15,000km	18S	Extreme
Model/7	up to 4,800,000km	300,000km	20S	Extreme
Model/8	up to 9,600,000km	300,000km	20S	Extreme
Model/9	beyond 9,600,000km	300,000km	20S	Extreme

## SIZE MODIFIERS TO ATTACK BONUS AND ARMOR CLASS

Size	Animal or Item Weight (kg) or Vehicle Volume (vl)	Size Modifier	Starships and Smallcraft Tonnage (tons)	Weight in Pounds (d20 size)
Fine	up to 0.05	+8	-	0.11 (1/8)
Diminutive	0.05 to 0.5	+4	-	1.1 (1)
Tiny	0.5 to 5	+2	-	11 (8)
Small	5 to 30	+1	-	66 (60)
Medium	30 to 250	0	-	550 (500)
Large	250 to 2000	-1	1 ton	4400 (4000)
Huge	2000 to 15,000	-2	1-9 tons	33,000 (32,000)
Gargantuan	15,000 to 115,000	-4	10-99 tons	253,000 (250,000)
Colossal	115,000 to 1,315,000	-8	100-999 tons	253,000 or more
Enormous	1,315,000+	-10	1000-9999 tons	-
Monstrous	-	-12	10,000-99,999 tons	-
Stupendous	-	-14	100,000-999,999 tons	-
Incredible	-	-16	1,000,000+ tons	-

cial coloring, and so on, use that bonus rather than the contrast bonus from the Spotting Difficulty table.

Additionally, the other creatures do not automatically spot hiding creatures at one-half the encounter distance. Instead, that is the distance at which the other creatures can make Spot checks to notice the hiding creatures. These are normal Spot checks opposed by the hiders' Hide checks.

### ENCOUNTER RANGE

The range of the encounter depends on whether contact was made visually or through the use of sensors. Encounters at visual range will usually start much closer than those where even poor sensors were involved. Sensors may well be able to detect and become aware of an opponent long before the vessels actually get within combat encounter range (30km) of one another. In these cases, the encounter range will automatically start at 30km distance. If none of the commanders involved detects one another, the encounter will begin at one-half the normally rolled range with all parties automatically aware of each other.

The T or S following the Hexes entry represent the number of hexes on the Tactical Plot and the Strategic Plot as detailed under the Advanced Vehicle and Starship Combat rules (pg. 169).

### MISSED ENCOUNTERS

The rules for spotting assume that both sides will eventually notice each other; the rules simply establish the distance at which they do so. But sometimes you want to take into account the possibility that the two groups will

miss each other entirely. To handle these possibilities, simply let there be a 50% chance that the others encountered and the PCs don't get any closer but rather pass by each other, such as when one group is moving north and the other east. (Creatures following the PCs' trail, of course, always close with them.)

## COMBAT STATISTICS

### ATTACK BONUS (RULES MODIFICATION)

Unlike standard d20 games, T20 uses Dexterity rather than Strength as a bonus for melee attacks, reflecting the changes in how armor works and the emphasis of natural speed and finesse rather than brute force. Your attack bonus with a melee weapon is:

**Base attack bonus + Dexterity modifier + size modifier**

### DAMAGE (RULES MODIFICATION)

If an attack is successful, roll the weapon's listed damage. If the attack is against a lifeform apply the full damage against the target's Stamina rating. In addition, a successful attack against a target may inflict Lifeblood damage against lifeforms or Structural Integrity damage against equipment, vehicles, and ships. The amount of such damage is determined by reducing the original damage roll based on the Armor Rating or AR of the target.

Damage Reduction by AR: Roll all the damage dice, but then remove one die from the damage roll for each point of AR the target possesses. Always remove the lowest rolls first. Whatever the target's Armor rating, leave one

die (the highest one) on the table. If there are still points of Armor rating to be accounted, subtract the remaining points from the remaining damage.

**Minimum Weapon Damage:** If penalties to damage, through any means, bring the damage result below 1, a hit deals no damage to the target.

*Example 1: A character attacks a bug-eyed monster and hits, rolling 3d10 for damage (she's firing a Laser Rifle). The damage dice come up 4, 7, and 4 for a total of 15 points of damage. Since the target is a lifeform, this damage is immediately applied against its remaining Stamina. We now determine how much (if any) Lifeblood damage has been inflicted. The bug-eyed monster has an Armor rating of 5, so we must first remove up to 5 dice of damage if possible. We can't obviously because a Laser Rifle only does 3d10 damage. We remove 2 dice from the damage roll, both of the fours because the lowest rolls are removed first. This leaves 7 points of Lifeblood damage, and also 3 points of Armor rating, to account for. Subtracting these 3 points from the Lifeblood damage, the Laser Rifle inflicts an additional 4 points of lifeblood damage to the bug-eyed monster.*

*Example 2: Two grav tanks are taking shots at one another, both with an Armor rating of 12 and firing Heavy Fusion Guns (6d20 damage). One of the tanks scores a hit on its opponent and rolls 6, 12, 8, 4, 15, and 11 for a total of 56 points of damage. Since the target is a vehicle it has no stamina points. Instead we must reduce the damage to account for the target's armor and apply any remaining damage to the Structural Integrity of the vehicle. We remove five of the dice leaving just the 15. This accounts for 5 of the 12 points of Armor rating of the target. Applying the remaining 7 factors of armor against the remaining damage roll of 15 leaves the attack inflicting a total of 8 points of Structural Integrity damage.*

### Scaling Damage Between Lifeforms, Vehicles, and Starships

The scale of armor and weapon power between lifeforms, vehicles, and starships is quite drastic. To reflect this when playing T20 and running combats involving lifeforms, vehicles, and/or starships at the same time apply the following damage modifiers. In all cases where extra dice are rolled, they should be of the same type as the base damage of the weapon itself (d4, d6, d8, etc.).

**Lifeforms attacking Vehicles:** When a lifeform attacks a vehicle using a personal weapon, automatically reduce the damage by 5 dice before applying any reductions due to armor.

**Lifeforms attacking Starships:** A lifeform attacking a starship or small craft with a personal weapon will automatically reduce the damage by 10 dice before applying any reductions due to armor.

**Vehicles attacking Lifeforms:** A vehicle rolls an additional 5 dice of damage when an attack against a lifeform hits.

**Vehicles attacking Starships:** A vehicle attacking a starship or small craft with must reduce its damage by 5 dice before applying any reductions due to armor.

**Starships attacking Lifeforms:** Starship weapons ignore personal armor as if it does not exist, in addition to rolling an extra 10 dice of damage when attacking any Lifeforms.

**Starships attacking Vehicles:** Starships weapons against vehicles may roll an extra 5 dice of damage. In addition, roll twice on the Internal Damage Location tables.

### ARMOR CLASS (AC) (CONVERSION NOTES)

When using creatures or characters from other d20 systems, you may use the Armor Class (AC) normally for determining if an attack successfully hit or not. However, when it comes to damage reduction due to AR, if the armor is manufactured and detailed in T20, use the T20 specifications and ratings. If the armor type is not list, or is natural armor, divide the standard d20 armor bonus by 3, rounding up. This will allow you to convert most AC ratings from other d20 games into the standard 1-15 AR range T20 also uses.

### Vehicle and Starship Armor Class (rules addition)

The AC for a vehicle or starship is calculated differently. Dexterity modifiers and shield bonuses do not apply when dealing with a vehicle or ship. In addition, either the pilot/driver or a computer may control the evasive defense of a vessel. Computers are very adept at providing fairly reliable, if somewhat predictable evasive routines. However, nothing can replace an experienced pilot or driver at the helm.

To reflect this, vessels using a computer to control their evasive maneuvers are limited to a maximum Agility modifier equal to the computer model number divided by 2 (round down), or the vessel's Agility rating, whichever is lower. A pilot or driver controlling the evasive maneuvers of a vessel may use the full Agility rating of the vessel as a modifier. Allowing a computer to handle evasive maneuvers is considered a free action for the pilot or driver. If the pilot or driver handles evasive maneuvers themselves, this is considered a standard action.

**10 + Armor bonus + Agility modifier + Size modifier**

### ARMOR RATING (AR) (RULES ADDITION)

The armor worn by an individual or the armor installed on a vehicle or ship not only makes it harder to inflict damage on that person or vessel, it will also reduce the amount of damage if an attack does get through. While this value



is used in calculating the overall AC of a person or vessel, the Armor Rating or AR should also be kept track of on a character sheet for easy reference. Note that the shield bonuses are not used when recording personal AR.

## STAMINA (RULES ADDITION)

Stamina represents a character's ability to withstand heavy exertion, accumulated minor wounds, fatigue, and other minor physical impairments and injuries. A higher-level character may have a much larger Stamina reserve to rely upon, developed from years of training and experience. Stamina is modified by Constitution.

**Unconscious (0 or Fewer Stamina Points):** When a character reaches 0 Stamina points he or she will fall unconscious from a combination of exhaustion, accumulated minor damage, etc. Any further Stamina damage received by an unconscious character is taken directly against Lifeblood instead (no armor adjustments apply here) until the character has healed to at least 1 Stamina point. The character will remain unconscious for at least 10 minutes, after which they may attempt a Fortitude save (DC15) to recover consciousness. If the save is failed the character may try again every 10 minutes until successful, someone revives them, or they are healed.

## LIFEBLOOD (RULES ADDITION)

In addition to Stamina each lifeform, be it a character, NPC, or bug-eyed monster also has a Lifeblood rating that represents its ability to withstand the traumatic damage and injuries that often accompany futuristic weaponry. The Lifeblood rating is generally equal to the lifeform's Constitution score, but may vary due to size and other factors.

**Dying (0 to -9 Lifeblood):** When a being's Lifeblood drops to 0 or lower, it is dying. At the end of each round, beginning with the round in which Lifeblood fell to 0 or lower, the being must make a Will save (DC15) to avoid losing consciousness and a Fort save (DC15) to avoid losing 1 more Lifeblood. Once unconscious it will automatically lose 1 additional Lifeblood point at the end of each round, no Fort save allowed. If the being reaches -10 Lifeblood, it is dead. Each round a being remains conscious it does not automatically lose additional Lifeblood and may attempt any type of action other than a move action. However an action is attempted while in this condition, the being must make an additional Will and Fort save (both DC15) after the action to see if the stress causes him/her/it to fall unconscious and/or lose additional lifeblood.

**Dead (-10 or lower Lifeblood):** If a character or other being ever reaches -10 Lifeblood, they have died. It is also possible to die even if a being has remaining lifeblood; for example, certain types of poisoning can reduce a character's Constitution score, which if reaches 0 also will cause death.

## STRUCTURAL INTEGRITY POINTS (SI) (RULES ADDITION)

Vehicles (including robots), small craft, and starships do not have a Stamina or Lifeblood rating. Instead these craft use a Structural Integrity or SI rating to measure damage against them. This SI rating is based on the overall size of the craft, and is determined when the vessel is design and constructed (see the Vehicle or Starship Design rules, pg. 233 or 253).

### Non-Functional (0 or fewer Structural Integrity):

When a vessel's structural integrity drops to 0 or lower, it is rendered completely non-functional. Nothing will work until repairs are made. Any further damage received will automatically cause internal damage (roll on the Damage Location table for each hit), and may end up completely destroying the craft.

**Destroyed:** It is difficult to completely destroy a vehicle, small craft, or starship - but it can be done. A craft that takes an amount of damage greater than or equal to twice (x2) its original Structural Integrity rating has been destroyed completely. Destroyed craft cannot be repaired at all. Thus a 100-ton starship could take up to 200 structural integrity points of damage before being destroyed.

## SPEED (RULES MODIFICATION)

The speed of a character is based primarily on their race and the type of armor they are wearing.

**Virushi** move 6 meters, or 3 meters when wearing medium or heavy armor.

**Humans, Luriani, and Sydites** move 9 meters, or 6 meters when wearing medium or heavy armor.

**Vargr** and **Ursa** move 12 meters, or 9 meters when wearing medium or heavy armor.

**Aslan** move 12 meters, or 9 meters when wearing medium or heavy armor.

## INITIATIVE (RULES ADDITION)

**Vehicle, Small Craft, or Starship Initiative:** When a vessel becomes aware of any opponent(s), it must make an initiative check. An initiative check is a 1d20 roll, adding the Agility bonus of the vessel (if any).

**Vehicles:** If the commander of the vessel has the Tactics (I or II) feat, they may add their WIS modifier to this roll.

**Small Craft and Starships:** If the commander of the vessel has the Ship's Tactics feat, they may add a +2 modifier to this roll.

These Initiative check results determine in what order vessels will act during each round of the encounter. Each vessel may take an action in their initiative order (highest

to lowest) every round. If two or more vessels have the same initiative check result, they will act in order based on the vessel Agility bonus (highest to lowest). If there is still a tie, have each side roll 1d6 with the highest roll acting before the lowest roll. Reroll until all ties are broken.

**Unaware:** This is the equivalent of being caught flat-footed for vehicles, small craft, and starships. Vessels that are unaware of their opponents may not use their Agility bonus when calculating their AC if attacked. An unaware combatant may not take any actions during the surprise round.

## ACTIONS IN COMBAT

### THE COMBAT ROUND (RULES MODIFICATION)

Each hex or square is equal to 1.5 meters (or roughly 5 feet). Each combat round is 6 seconds.

### ATTACKS OF OPPORTUNITY (RULES MODIFICATION)

**Threatened Area:** A character threatens a 1.5 meter radius around himself (every adjacent hex or square). Unlike the standard d20 rules, using firearms and other self-powered weapons do not provoke an attack of opportunity when fired at an opponent within the Threatened Area.

### ATTACK ACTIONS

#### Attack (rules modification)

**Critical Hits:** In addition to the normal effects of a critical hit, the armor of a target is also ignored and the target takes the full damage roll against its Lifeblood or Structural Integrity rating. Against vehicles and starships, a critical hit also earns an additional roll on the appropriate Internal Damage Location table. Regardless of whether the victim of a critical hit is a lifeform, vehicle, or starship, reduce its the armor bonus by -1 until repaired.

**Shooting into a Crowd:** When shooting at a target that is within 3 meters of an ally, the shooter suffers a -4 penalty to hit due to the need for careful aim to avoid hitting their own comrade.

#### Called Shot

As a full action, a shooter may attempt to shoot at a specific item or location on a target such as its head, a weapon in hand, or a radio pack on the target's back. If the attack is successful, and the target is holding the object that was shot, the target must make a Reflex save (DC25) to avoid dropping the item (unless it is on a sling or otherwise rigged to prevent such an event, or, obviously, it is a body part), in addition to any damage inflicted on the target item.

The attack roll is made normally as if shooting at the lifeform in possession of the target, and applying the following modifier based on the size of the target in question:

#### Called Shot Modifiers

Item Size	Modifier	Example
Fine	-12	Ring on hand, Button on jacket
Diminutive	-8	Foot, Hand, Eye, Heart, Hand Computer
Tiny	-6	Head, Leg, Arm, Hat on head
Small	-5	Chest, Groin, Small Weapon, Backpack
Medium	-4	Medium Weapon
Large	-2	Large Weapon
Huge	-1	

#### Burst Fire (rules addition)

Weapons that fire a burst of 2, 3, 4, 10, 20, or 100 rounds may improve the attacker's odds of hitting a target or inflict additional damage. The attacker must decide whether to spray the target, increasing the chances of scoring a hit, or to fire a precise, grouped burst in the hope of inflicting greater damage. Either sort of burst fire is considered a standard action. Characters with more than one attack per round may take this action for each attack. See the Damage rules (pg. 148) for more information on applying damage.

#### Burst Fire Effects

Burst Size	Attack Bonus	Extra Damage
1 round	+0	+0 damage
3 round burst	+1	+1 die of damage
4 round burst	+2	+2 dice of damage
10 round burst	+3	+3 dice of damage
20 round burst	+5	+5 dice of damage
100 round burst	+10	+10 dice of damage

#### Suppressive Fire (rules addition)

Any personal weapon with a rate of fire greater than two may be used to produce covering and suppressive fire, in an attempt to get hostiles to keep their heads down. This is considered a full round action. Anything moving or taking an action that is not under 100% cover, is within a 5 block/hex (7.5 meters) arc of fire in front of the character's weapon, and within the first range increment of the weapon using suppressive fire, may be hit. Check only once per available target, up to a number of targets equal to one-half the normal rate of fire for the weapon. Roll to hit normally but with a -4 penalty due to the inaccuracy of this type of fire. If anything is actually hit, use Suppressive Fire Damage table. See the Damage rules (pg. 148) for more information on applying damage.

**Rate of Fire 10 or Greater:** If the rate of fire of the weapon is 10 or greater, targets within the second range increment of the weapon, and an 8 block/hex arc (12

meters) may also be hit. Roll to hit normally but at a -8 penalty. If anything is actually hit, use Suppressive Fire Damage table below.

Anything beyond these ranges are unlikely to be hit, but if you do want to check, extend the possible area to be hit out to the range of the weapon, along a 8 block/hex wide (12 meters) path from the attacker. The to hit roll at these ranges will be at -10, and of course no more than a number of targets may be hit than have been rounds fire.

This effect lasts until the character's next round action.

## Suppressive Fire Damage

RoF	Extra Damage
3-4 rounds	none
10 rounds	+1 die of damage
20 rounds	+2 die of damage
100 rounds	+4 dice of damage

## MOVE ACTIONS

### Reload (rules addition)

Reloading a personal weapon is considered a move action and does provoke a possible attack of opportunity.

## MISCELLANEOUS ACTIONS

### Activate an Item (rules addition)

You may turn on a flashlight, activate a weapon or other similar action. This is a free action.

### Mount or Dismount a Vehicle (rules addition)

Mounting or dismounting a vehicle is a full round action, and may subject the unit to an attack of opportunity. At the beginning of the next round the unit is considered to be in the vessel, or just adjacent to the vessel if dismounting.

### Open An Iris Valve, Sliding Door, or Standard Door (rules addition)

A character may open any standard door, sliding door, or iris valve as a standard action. Moving through the doorway takes an additional move action, and closing the doorway requires a final standard action. If conflicting commands are given to a sliding door or iris valve (one character activates it to open and another activates it to close) will cause the doorway to remain in the position it was at the start of the round and ignore all commands for the round.

### Open a Hatchway (rules addition)

Opening a hatchway is a full round action. Moving through the hatch takes an additional move action, and closing a hatch requires another full round action. Opening or closing a hatchway may provoke an attack of opportunity.

### Open an Airlock (rules addition)

Activating an airlock to open or close is a standard action, but the airlock will not finish opening or closing until the fourth round after the command was given. It takes 3 rounds to compress or decompress the airlock, and one full round to open or close the doorway. Once a command to open or close has been given to an airlock, it cannot be overridden until the cycle completes.

### Put on a Pressure Suit (rules addition)

It takes 2 full round actions to put on a vac suit, and 5 full round actions to put on battle dress or combat armor and seal it. An Intelligence check (DC10) must be made once the suit is on to ensure that its environmental integrity is intact. This check is reduced to DC 5 if the character or someone assisting them has the Armor (Vac Suit) feat. If failed, the suit does not provide any defense against explosive decompression.

### Patch a Pressure Suit Breach (rules addition)

Applying a patch to a breach in a vac suit, battle dress or combat armor is a full round action. An Intelligence check (DC15) must be made to properly apply the patch and seal the breach. This check is reduced to DC 10 if the character or someone assisting them has the Armor (Vac Suit) feat.

## INJURY AND DEATH

### (RULES MODIFICATION)

Rather than Hit Points, T20 uses Stamina and Lifeblood to represent how difficult it is to kill a character or lifeform.

**What Stamina Represents:** Stamina represents a character's ability to withstand heavy exertion, accumulated minor wounds, fatigue, and other minor physical impairments and injuries. A higher-level character has much larger Stamina reserve to rely upon developed from years of training and experience, but is modified by their Constitution.

**What Lifeblood Represents:** Lifeblood represents a character's ability to withstand traumatic injury. The Lifeblood rating is generally equal to the lifeform's Constitution score, but may vary due to size and other factors.

**d20 Note:** Stamina points are the basic equivalent of Hit Points, with some minor changes. Character from other d20 games using Hit Points or equivalent translate exactly.

**Effects of Damage:** Damage has no detrimental effect on a character until their current Stamina or Lifeblood points reach 0 or lower.

At 0 Stamina, a character falls unconscious through general battering and fatigue. At 0 or fewer Lifeblood a character is dying. At -10 or lower Lifeblood, a character is dead.





**Massive Damage:** Because of T20's Lifeblood rules, the d20 Massive Damage rule should not be used, as it is unnecessary. Any creature taking 50 or more points of Lifeblood damage is likely to be dead anyway...

#### EFFECTS OF WOUNDS ON STAMINA AND LIFEblood

See the sections on Stamina and Lifeblood (above) for full details.

<b>Stamina 0 or less:</b>	The character is unconscious. Further damage is dealt directly to Lifeblood.
<b>Lifeblood 0 to -9:</b>	The character is dying.
<b>Lifeblood -10 or lower:</b>	The character is dead.

#### HEALING DAMAGE

See Medical Technology (pg 215)

#### DAMAGE TO PERSONAL EQUIPMENT

Personal equipment only takes SI damage. If an item takes damage equal or exceeding its total SI rating, it is destroyed beyond repair. If not destroyed, for each point of damage taken there is a 5% chance that the equipment will malfunction each time it is used. There is an even

(50/50) chance the item will either fail to work at all, or work but produce incorrect and improper results.

#### MOVEMENT AND POSITION (RULES MODIFICATION)

The standard scale equals 1 inch on the tabletop, or 1.5 meters in the game world. If using grid or hex maps, 1 hex/grid square equals 1.5 meters.

##### Standard Scale

One inch = 1.5 meters

One hex/grid square = 1.5 meters

"Next to" or "adjacent" = 1 inch (1 hex/square or 1.5 meters) away

30mm figure = A human-size (Medium) lifeform occupies an area 1 inch (1 hex/grid square or 1.5 meters) across.

One round = 6 seconds

#### TACTICAL MOVEMENT

**Movement in Combat:** If a character takes an action that requires a full round or more to complete, she may only take a 1.5 meter step.

## TACTICAL SPEED

Race	No Armor or Light Armor	Medium Armor or Heavy Armor
Aslan	18m	15m
Vargr, Ursa	12m	9m
Human, Luriani, Sydite	9m	6m
Virushi	6m	3m

## COMBAT MODIFIERS

In addition to the standard combat modifiers from the d20 System, T20 introduces a few new modifiers that apply in a science-fiction setting.

### ARMOR PIERCING ROUNDS (RULES ADDITION)

Armor piercing rounds are valuable when attacking armored targets. For each Armor Piercing (AP) bonus of the round, subtract -1 from the Armor Rating (AR) of the target. At no time, however, may the total AR penalty exceed the actual armor rating of the target. Any weapon capable of firing projectiles may use Armor Piercing ammunition. The Armor Piercing bonus of a round may never exceed half the technological level of its manufacture, rounded down. For example, an armor piercing round manufactured on a TL9 world could have a maximum AP bonus of +4.

Multiply the cost of a normal round by x10 to determine the cost of a version of the round with an AP rating of +1. For higher AP bonus, multiply the base cost of a +1 AP round by the total bonus of the round. For example a round that would normal cost Cr1 with no AP bonus would increase to Cr10 per round for a +1 AP bonus round, and to Cr70 for a +7 AP bonus round.

The availability of AP rounds in general will vary from world to world, depending on the local law level. The more powerful AP rounds will usually not be available to the public at all, instead being reserved for use by the local military. Exactly what sort of AP ammunition is publicly available depends upon the local Law Level.

### GRAVITY (RULES ADDITION)

The local gravity can have a major effect on activities in combat, unless a character is acclimatized to such environments through the Heavy Gravity Adaptation, Zero-G/Low Gravity Adaptation, or Improved Zero-G/Low Gravity Adaptation feats. Modifiers apply to all attack, skill and save checks.

Local Gravity	Check Modifier
Zero Gravity	-4
Trace Gravity (0.1 - 0.3 G)	-2
Low Gravity (0.4 - 0.7 G)	-1
Standard Gravity (0.8 - 1.2 G)	-0
Heavy Gravity (1.3 - 1.5 G)	-1
Oppressive Gravity (1.6G or higher)	-3
Weapons with recoil (in Low Gravity or less)	-2

## RANGE (RULES ADDITION)

The range modifiers for melee and ranged weapons works as detailed in the d20 System rules, thrown weapons have a maximum of 5 range increments, and all other ranged (non-melee) personal weapons have a maximum range of 10 increments. Modern and future vehicle weapons have a maximum range of 15 increments. Range for communications, sensors, and ship's weaponry works a bit differently.

### Personal or Vehicle Communication and Sensor

**Ranges:** Vehicle and personal weapons each have a range increment listed for them. This represents the range at which the weapon is most accurate. For each additional increment beyond, the weapon's accuracy is reduced by -2 (applied to the attacker's to hit roll), and the damage roll is reduced by 1 die. See the Damage rules (pg. 148) for more information on applying damage.

Range	Distance (in Kilometers)
Close	up to 1
Short	up to 5
Medium	up to 50
Long	up to 500
Continental/Very Long	up to 5000
World-wide/Extreme	up to 10,000

**Starship or Spaceship Communications, Sensors, and Weapon Ranges:** Ship's weaponry, Sensors, and Communications are handled differently because of the distances involved. These systems are simply rated by their standard range band (close, short, medium, long, very long, and extreme). For each range band past a system's standard range it suffers a -2 penalty to any skill checks, attack rolls, etc., and any damage roll is reduced by 1 die. For weapons, treat Extreme 1 - 4 as a single range band, Extreme.

Range	Hexes	Distance (in Kilometers)
Visual	(0)	up to 50
Close	0	up to 15,000
Short	1-3	up to 45,000
Medium	4-5	up to 75,000
Long	6-8	up to 120,000
Very Long	9-16	up to 240,000
Extreme 1	17-20	up to 300,000
Extreme 2	21-24	up to 360,000
Extreme 3	25-28	up to 420,000
Extreme 4	29-32	up to 480,000
Far	33-320	up to 4,800,000
System-wide	321+	beyond 4,800,000

### RELATIVE SPEED (RULES ADDITION)

The difference between the current speed of the attacker and defender has an impact on how easily the tar-

get can be hit. A fast moving target is much more difficult to hit than a slow target. These modifiers apply to vehicle and personal combat only.

<i>Relative Speed Difference</i>	<i>Target AC Modifier</i>
0-25 kph	+0
26-50 kph	+1
51-100 kph	+2
101-200 kph	+4
201-400 kph	+8
401-600 kph	+10
601-800 kph	+12
801-1000 kph	+14
1001+ kph	+16

## SPECIAL ATTACKS AND DAMAGE

### SUBDUAL DAMAGE (RULES MODIFICATION)

The d20 subdual damage rules are not needed in T20. Instead simply apply any damage meant to 'subdue' rather than kill an opponent to their current Stamina score. Ranged weapons may not be used when attempting to 'subdue' an opponent, except for those firing special non-lethal ammunition, such as baton rounds or "beanbags".

### ATTACKING VEHICLE OCCUPANTS (RULES ADDITION)

It is possible to attempt to attack someone riding within an open-topped vehicle, or riding on the outside of a vehicle (in a saddle mount for example). Operators and passengers with an enclosed vehicle may not be attacked directly (except perhaps with a Called Shot action).

When attacking someone within an open-topped vehicle, the target is assumed to be under partial hard cover (the vehicle). This is usually about 50% cover unless the target is standing in which case the cover would be about 25%.

When riding on the outside of a vehicle, a target does not enjoy any cover and may be attacked normally. The shooter must specify whether he is attempting to hit the vehicle or a rider on the vehicle.

### HIGH EXPLOSIVE ROUNDS (RULES ADDITION)

Due to their nature, high explosive rounds do one (or more) extra die of damage in addition to the weapon's normally listed damage.

### AREA EFFECT WEAPONS (RULES ADDITION)

Mortars, artillery, grenades and similar weapons are area effect weapons. They each have a listed Area of

Effect (AoE). Anything within this radius when the weapon hits may make a Reflex or Agility save (DC15) to take only 1/2 the rolled damage. Anyone or anything failing its save will take the full damage from the weapon (unless reduced by armor).

Anything within twice the listed area of effect for the weapon, but outside the listed area of effect, may make a Reflex or Agility save (DC 15) to avoid taking any damage at all. Anyone or anything failing its save will take 1/2 damage from the weapon (unless reduced by armor).

The saving throws need only be made once for a given attack; apply the result to both Stamina damage and Lifeblood or Structural Integrity damage.

**Ship's Weapons:** The weapon systems installed on small craft and starships are much more powerful than their vehicle and personal counterparts. When a ship's weapon is used in combat against anything other than another starship or small craft, the weapon has an area effect based on the type of weapon it is:

### Ship's Weapons Area Effect

<i>Weapon System</i>	<i>Area of Effect (AoE)</i>
Lasers	5 meters per USP rating
Missiles and Energy Weapons	10 meters per USP rating
Meson Guns	10 meters per USP rating
Nuclear Missiles	100 meters per USP rating
Particle Accelerators	1 meter per USP rating

USP Ratings are explained in the Starships section of these rules.

### DEMOLITIONS (RULES ADDITION)

Using explosives to damage, penetrate, or breach an object requires using a charge of the proper size, and properly placing the charge for maximum effect.

**Penetration Charge:** A penetration charge of the proper size provides just enough power to penetrate the given structural material and armor, breaking any sealed environmental integrity (possibly causing explosive decompression), and causing damage.

**Breaching Charge:** A breaching charge of the proper size penetrates the given structural material and armor, breaking any sealed environmental integrity (possibly causing explosive decompression), causing x10 damage, and leaving a hole approximately 1 meter in diameter. Moving through a breach hole is treated as if moving through an open hatchway (a move action).



## TYPE OF CHARGE

<i>Structural Material</i>	<i>Penetration</i>	<i>Breach</i>	<i>Damage</i>
Wood	250 grams	4kg	1d6
Rock/Stone	500 grams	7.5kg	1d8
Interior Starship wall	600 grams	9kg	1d10
Concrete	750 grams	11kg	1d12
Reinforced Concrete	1kg	15kg	2d8
Vehicle Hull:	1kg	15kg	2d8
Vehicle Armor:	+1kg per armor rating	+15kg per armor rating	-
Interior Starship Bulkhead:	5kg	750kg	4d20
Starship Hull:	8kg	120kg	6d20
Starship Armor:	+10kg per armor rating	+150kg per armor rating	-

**Placing a Charge:** 2 full round actions, DC15. A character may place a single, non-tamped charge of 10kg or less (basically a satchel charge).

**Carefully Placing a Charge:** 3 minutes, DC10. A character may place a single, non-tamped charge of any size.

**Tamping a Charge:** 6 minutes, DC20. A character may place a single, tamped charge of any size. A properly tamped charge will do twice the normal damage.

**Failing a Placement or Tamping Check:** There will not usually be any indication that the charge has been incorrectly placed until it is detonated. When an incorrectly-placed charge is detonated, the person who placed the charge must make another Demolition skill check (DC15). If the check is successful, the charge detonates but fails to penetrate or cause a breach, and does only one-half its normal damage. If the check is failed, the charge does not detonate correctly. It will not cause any damage to the intended target, though it may pose a hazard to anyone coming back to try to re-use it.

**Damage to a Demolition Charge:** If a prepared demolition charge is hit by an attack, roll 1d20. If the roll is less than the damage inflicted on the charge then it goes off prematurely. Nuclear explosives are very unlikely to be set off in this manner due to their design, but a casing breach will create a radiation hazard.

### FORCE FIELDS (RULES ADDITION)

Force fields or 'black globe generators' absorb any and all energy, of whatever form, that contacts the field. They are the most effective form of defense available for any ship, but unfortunately they are not commercially available, found only as recovered alien artifacts of immense value. Energy is absorbed and diverted to special capacitors, doing no damage to the ship.

The drawback to force fields is that while any incoming energy is absorbed, any outgoing energy is also

absorbed. A ship operating a black globe force field cannot maneuver, use its sensors or communications systems, fire its own weapons, or even see outside the ship while within an active force field.

The black globe generator might seem to be somewhat less than useful given the limitations, were it not for that fact that it can be 'flickered'. Each round, the screens operator decides at what rate to flicker the force field at from 0 up to the USP rating of the black globe generator itself. Each rate represents a 10% block of time, thus a flicker rate of 4 would mean the force field is flicked 'on' 40% of the time during this combat round. The force field will absorb a percentage of the damage equal to the flicker rate X 10% (round up) from any incoming AND outgoing attack this round. If a ship operating a black globe at a flicker rate of 4 would normally take 20 points of damage from an attack, the force field would absorb 8 points. If the same ship operating the black globe attacks another ship and hits for 12 points of damage, would actually only inflict 7 points on the other ship, after its own force field absorbed 5 points of the outgoing energy.

Capacitors used for the black globe generator are able to store up to 36 points of damage as EPs (Energy Points) for every ton of them available. The primary drawback to this defense system is if the available capacitor storage is exceeded because of damage absorbed by the force field the capacitors will explosively discharge, inflicting the stored EP as damage to the ship. Fortunately however, this stored energy may be diverted from the capacitors to power the ship's other systems as needed, but only when the generator is flicked 'off'. Because of this there is a limit to the maximum amount of power than can actually be drawn from the capacitors during a combat round, based on the flicker rate and the maximum output rate of the ship's power plant. A ship can draw down from the capacitors a maximum of 100% of its maximum power plant output per round, -10% for every point of the globe flicker rate

that round. For example, a ship operating a black globe with a flicker rate of 4 and a power plant with a maximum output per round of 1000EPs, could draw up to 400EPs from the capacitors each round (if the power is available). This energy can be used for any necessary ship's function. Using Capacitor energy to power a Jump drive has unpredictable and often disastrous effects.

Any black globe can be set to a flicker rate of 10, regardless of the actual USP rating of the generator. A flicker rate of 10 is not really flickering at all but rather the force field is in operation 100% of the time during the round and ALL incoming and outgoing damage is absorbed.

Some types of weapons are more effective at 'overloading' a force field due to the nature of their attack and the power behind them. While this effect does not increase the amount of damage done, it does increase the amount of actual energy that has to be absorbed by the field.

#### Weapon Efficiency vs. Black Globe Force Fields

Weapon Type	Extra Energy Absorbed
Lasers, Plasma Gun	None
Fusion Gun, Non-Nuclear Missile	Absorbed Damage X 2
Particle Accelerator	Absorbed Damage X 5
Meson Gun	Absorbed Damage X 20
Nuclear Missile	Absorbed Damage X 100

**Invisibility:** Because a black globe generator absorbs all incoming energy, this has the effect of rendering a ship effectively invisible. This won't help much when already in combat if a ship suddenly turns on its force field to hide, its enemies will easily be able to plot the future position of the ship based on its previous trajectory; the now 'invisible' ship cannot alter its current course and speed while under the protection of the field. The enemy's plot predictions will always be correct.

This trick does come in handy when jumping into an enemy system on a pre-plotted course with the black globe generators running at a flicker rate of 10. It will be impossible for the enemy to detect the presence of the ship until it decides to turn off the generator and reveal itself to bombard a planet or engage an enemy fleet with complete tactical surprise. Of course, there are risks...

#### INDIRECT FIRE (RULES ADDITION)

Indirect fire is a method of attacking a ranged target that cannot be seen by the firing weapon. It requires someone with the Forward Observer skill be in a position to observe the target and in direct communication with the gunner firing the weapon. The basic DC for a gunner to hit a target through indirect fire is 40 minus the skill rank of the forward observer. Subtract -2 from the DC for each subsequent round spent acquiring the target, to a maxi-

mum of -10DC modifier prior to firing the first shell. Thereafter, the DC can be reduced by -2 for each shell observed by the forward observer.

Calling in an attack or adjusting fire are full round actions. The attack will commence the turn after the call is made, and arrive the turn after that. Thus an indirect fire attack requires 3 rounds to complete.

**To Hit Modifiers:** Range and Relative speed modifiers apply to indirect fire attacks.

**Missed Shots:** Shots that miss have to land somewhere. If using squares for maps, roll 1d8 to determine which direction the round lands away from the target, counting round clockwise from 1 (directly over). Roll 1d6 if using hexes. The distance the round lands from the target is 1d4 squares/hexes + the number of range bands distance to the target.

**Fire for Effect:** Once the target is hit, the gunner may begin firing for effect. Since the target location has been locked into the weapon there is no need to see if a hit occurs on each subsequent round, it is automatic. When firing for effect, the gunner may launch an attack each round rather than every 3rd round as when adjusting fire.

#### MESON ATTACKS (RULES ADDITION)

Attacks by meson weapons do not use the vehicle or ship's Armor rating when calculating the vessel's AC. Instead the rating of any Meson Screens installed are used in place of the Armor rating. This is because meson weapons pass straight through armor. The only effective defense against a meson attack is a meson screen. Certain hull configurations are less susceptible to meson attacks due to targeting difficulty while others are particularly susceptible to the fire of a meson weapon.

Meson attacks also inflict radiation damage.

#### Vehicle or Starship Armor Class vs. Meson

**Attacks:** 10 + Meson Screen rating + Hull Configuration Modifier (see below) + Agility modifier + size modifier

Ship Hull Configuration	AC Modifier
Needle/Wedge	+2
Cone	+1
Cylinder	+0
Closed Structure	-3
Sphere	-4
Flattened Sphere	-2
Dispersed Structure	+5
Planetoid	-6
Buffered Planetoid	+4

**SUBSTANCE ARMOR RATING AND THICKNESS**

<i>Substance</i>	<i>TL</i>	<i>Max AR</i>	<i>Thickness</i>
Paper	1	3	up to 40mm +1 AR per +20mm thickness (22cm)
Rope	0	5	up to 60mm +1 AR per +30mm thickness (33cm)
Synthetic Fibers	7	10	up to 15mm +1 AR per +15mm thickness (15cm)
Glass	1	8	up to 5mm +1 AR per +5mm thickness (5cm)
Ice	0	2	up to 80mm +1 AR per +40mm thickness (44cm)
Wood	0	6	up to 150mm +1 AR per +150mm thickness (150cm or 5')
Brick, Rock, Concrete	0	25	up to 120mm +1 AR per +120mm thickness (120cm or 4')
Reinforced Concrete	5	25	up to 90mm +1 AR per +90mm thickness (90cm or 3')
Iron	1	10	up to 60mm +1 AR per +60mm thickness (60cm or 2')
Steel	5	15	up to 30mm +1 AR per +30mm thickness (30cm or 1')
Aluminum	7	15	up to 45mm +1 AR per +45mm thickness (45cm or 1.5')
Hard Steel	6	20	up to 15mm +1 AR per +30mm thickness (15cm or 6")
Composites	8	25	up to 10mm +1 AR per +20mm thickness (10cm or 4")
Industrial Ceramics	9	25	up to 5mm +1 AR per +10mm thickness (5cm or 2")

**TL:** The technological level at which this substance first becomes generally available.

**Base AR:** The base AR of an object up to the given thickness.

**Maximum AR:** The maximum possible AR of an object regardless of its thickness. Materials capable of ARs of 11+ are suitable for use as chassis and armor for vehicles. Materials capable of ARs of 15+ are suitable for use as small craft and starship hull and armor.

**Thickness:** The AR rating of an object that is not technically 'armored' is based on the type of substance it is made of and how thick the substance is. The thicker a substance is the higher its overall AR will be. Obviously it takes a much greater thickness of timber than steel to stop a bullet.

**Vehicles:** For Vehicle Armor, figure thickness in centimeters rather than millimeters; maximum AR is equal to the vehicle TL.

**Ships:** For Smallcraft and Starship Armor, figure thickness in 10s of centimeters rather than centimeters; maximum AR is equal to the TL of the vessel.

**RADIATION ATTACKS (RULES ADDITION)**

Some weapons inflict radiation damage in addition to their normal damage. When determining radiation damage from nuclear missiles, and particle accelerators (but not meson guns), use the rating of any installed Nuclear Dampers (if any) in addition to the Armor rating when determine the AC of the targeted ship. Against the type of radiation produced by meson guns, armor is ineffective and only nuclear dampers will have any effect.

**ATTACKING OBJECTS**

**Penetrate:** If any damage remains after applying the effects of the Armor Rating of the material/object, the attack/explosive has penetrated the material/object, breaking any sealed environmental integrity (possibly causing explosive decompression), and the remaining damage is applied against any item(s) beyond/within.

**Breach:** To breach a material/object, a cumulative total of 35 points of SI damage per Armor Rating must be inflicted. A breach creates a hole about 1 meter in diameter and breaks any sealed environmental integrity (possibly causing explosive decompression). If any damage remains, it is applied against anything beyond/within the breached area. Moving through a breach hole is treated as if moving through an open hatchway (a move action).

**Destroying an Item:** The penetration and breach rules are used when attempting to inflict damage on an object encased within (such as in a metal box) or just beyond a covering object (perhaps behind a starship bulkhead) made of the given material. If the attack is intended to simply destroy an object made of a given material, for example crushing a metal box, it must inflict an amount of damage equal to the Structural Integrity rating of the object itself (usually based on size if not otherwise specified).



## OBJECT ARMOR RATING AND STRUCTURAL INTEGRITY

Item	AR	SI
Rope	0	1
Synthetic Rope	0	1
Light Fixture	0	2
Simple Wooden Door	0	2
Small Wood Crate	0	4
Metal Storage Barrel	1	6
Heavy Wooden Door	2	7
Fireproof Box	2	4
Metal Door	5	10
Brick, Rock, or Concrete Wall (30cm thick)	3	17
Reinforced Concrete Wall (1 meter thick)	9	50
Steel Chain	5	2
Handcuffs	5	1
Interior Wooden Wall	0	2
Interior Metal (Hard Steel) Wall	5	8
Bulkhead	10	50

## BASIC VEHICLE AND STARSHIP COMBAT

These basic rules for vehicle and starship combat presented here are designed to allow for more roleplaying and involvement of the characters, rather than a map and miniature approach (which is available in the Advanced Rules that follow later). Movement and maneuvering are abstracted to allow for cinematic battles as vessels attempt to maneuver into a position of pursuit and advantage against their opponents, or frantically try to shake the pursuit of an opponent that is hot on their tail.

Range is similarly abstracted, needing only to note whether the range for all vessels involved for each round is Close, Short, Medium, Long, Very Long, or Extreme.

The term vessel is used to refer to starships, small craft, or vehicles as a general inclusive group. If the term starship, small craft, or vehicle is specifically used, it refers to those types of craft only.

## ACTIONS IN BASIC COMBAT

Most personal actions detailed earlier and found in the d20 core rule books are not appropriate while a character is a passenger or crewmember on board a vessel (unless approved by the Referee). Specific exceptions to this are personal attack actions, which are possible if a character is able to fire a weapon out of an open window, hatch or other opening in the vessel.

In these cases, the attack by the character is handled normally, except the attack is also considered to be a Burst Fire attack of 10 rounds (ignore the action requirements in

this case). This reflects the additional time involved during vehicle combat rounds. Note that it is still possible for a character to take the Burst Fire action. In such a case, multiply the number of rounds fired by the character by 10 to determine the effects of the Burst Fire.

## THE COMBAT ROUND

When individual personnel are not involved, and a combat is between only vehicles or vehicles and starships (including small craft) operating within the atmosphere of a planet, each combat round is 1 minute long under these basic rules. When combat involves only starships and small craft, the length of each combat round is 20 minutes under these basic rules.

## NEW ACTIONS

In addition to personal attack actions, the following new actions are available to crewmembers aboard a vessel, small craft, etc. These are broken down by the crew position that would usually handle the action, and ideally a separate character will handle each position. This will usually give each character an opportunity to do something and contribute to the combat based on their diverse skills, but a character may freely take action from any crew position if they are qualified and have enough time to complete the action this round.

### Captain/Commander Actions

**Command:** The vessel's commander may use his or her Leader skill to rally the crew and improve morale and performance. Make a leadership skill check (DC15). If successful all crewmembers may enjoy a bonus to all skill checks, saving throws, and attack rolls this round, equal to the commander's Leader skill rank divided by 3 (round down). This is a standard action.

**Tactics:** The vessel's captain may use his or her knowledge of Tactics (for vehicles) or Ship's Tactics (for small craft and starships) to help position the vessel into a better defensive and offensive posture. The use of this feat is a full round action for the captain/commander, but will impart a bonus to all attacks and defenses equal to the captain's Wisdom or Intelligence ability bonus, whichever is higher. Treat any penalty as +0.

### Pilot/Driver Actions

#### All Vessels

**Adjust Speed:** Increase or decrease the vehicle speed, up to an amount equal to its maximum acceleration. This is a move action and requires no skill check.

**Adjust Range:** A pilot may attempt to adjust the range between their craft and another. An opposed Pilot skill check must be made between both pilots, applying the modifiers. The pilot with the higher skill check result

## ADJUST RANGE MODIFIERS

<i>Circumstance</i>	<i>Modifier</i>
Higher Current Speed	+1 per 10kph difference in speed
Higher Acceleration	+1 per difference in maximum acceleration
Vehicle Agility	+0-6

## COLLISION AVOIDANCE

<i>Situation</i>	<i>DC</i>
Base	5
Traffic (5 or more vessels within short range)	+5
Heavy brush	+10
Small debris field, heavy traffic, light woods	+15
Asteroid field, light density	+20
Asteroid field, average density	+25
Asteroid field, heavy density	+30
Every 6 points of speed (starships and small craft)	+5
Very Slow (vehicles only)	+0
Slow or Offroad speed (vehicles only)	+5
Cruising speed (vehicles only)	+10
Fast (vehicles only)	+15

## EVASIVE MANEUVERS

<i>Result</i>	<i>AC Bonus</i>
1-10	+0
11-20	+1
21-28	+2
29-33	+4
34-38	+6
39+	+8

may elect to increase, decrease, or maintain the distance between the vehicles. This action applies to vehicles only, and is a move action for BOTH pilots. If the other pilot has already taken a move or full action this round, the check goes unopposed. If the other pilot has not taken a move or full action this round, opposing a range adjustment will count as their move action for the round.

**Avoid Collision:** When a vessel is moving at short or close range through a debris field, traffic, an asteroid belt, a planetary ring, or similar situation where there is a reasonable chance of collision with another object, the pilot must make an Avoid Collision check each round. This is a full action.

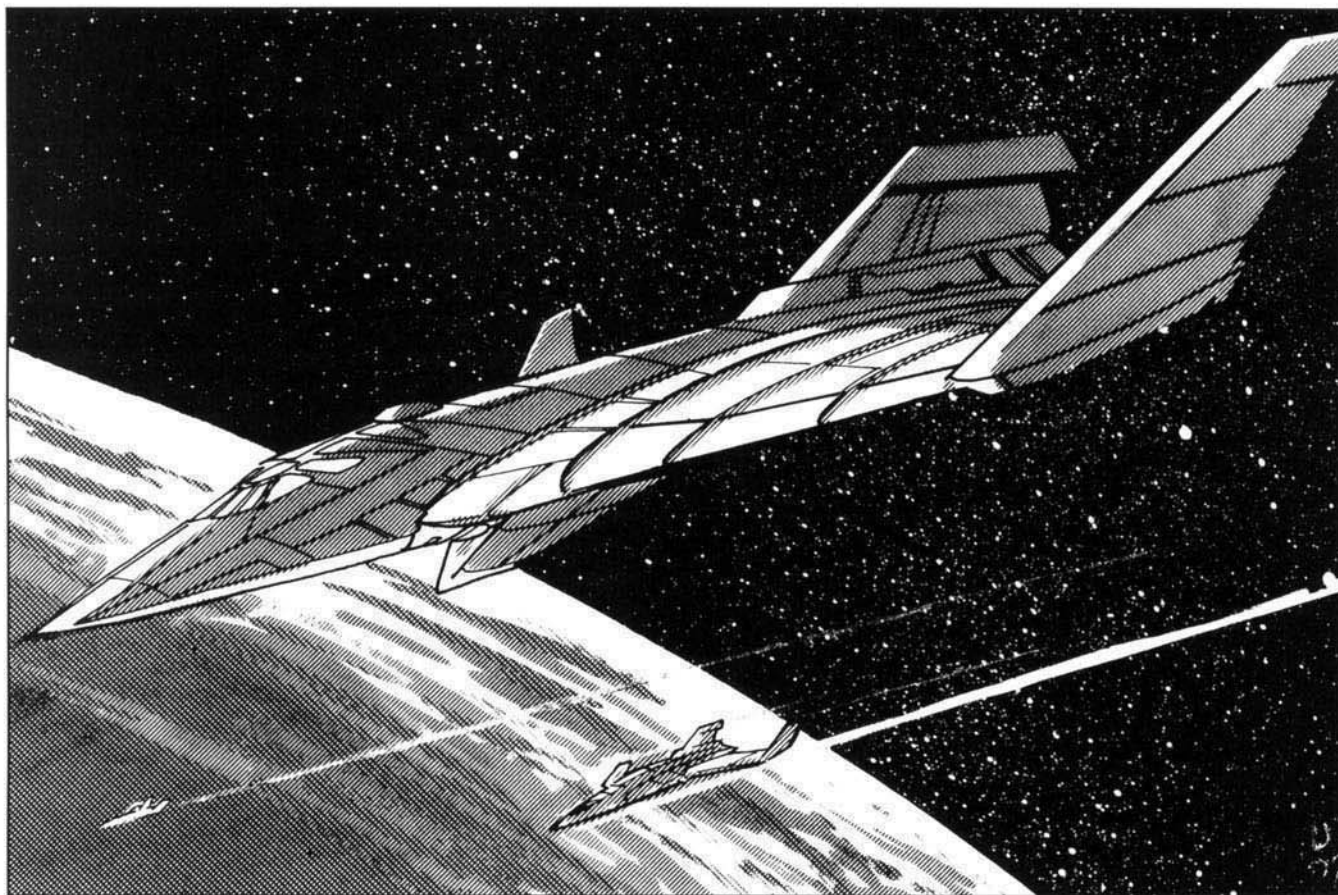
**Break Pursuit:** If a vessel is being pursued (see Pursuit below) the pilot or driver may break the pursuit with a successful opposed Pilot or Driver skill check against his opponent. Once the pursuit has broken and the pursuing vessel loses all accumulated attack bonuses against that target. This is a full round action.

**Evade Attack:** The pilot/driver operates the vessel in an erratic manner in an attempt to avoid being hit by opposing weapons fire. This is a full round action and allows the pilot/driver to make a Pilot/Drive skill on the Evasive Maneuvers table to determine the defensive AC bonus imparted to the vessel this round.

**Move:** The pilot/driver keeps the vessel on its current course and heading, remaining at the current speed. This is a move action and requires no skill check.

**Pursuit:** If a pilot/driver makes a successful opposed Pilot/Driver skill check against another vessel, the successful pilot/driver has placed his vessel in pursuit of his target maintaining the current range and matching the target ship move for move. Once a pursuit has been established, it must be maintained each round to take advantage of the position. No skill check is required to maintain a pursuit. It is automatically maintained unless the target attempts to Break Pursuit action, manages to extend the range to Medium or greater, or succeeds in outpacing the speed of the pursuing vessel by 7+ points (for starships and small craft) or by 50kph (for vehicles). Establishing the initial pursuit is a full round action, as is maintaining a pursuit.

For each round (after the first) that a vessel maintains pursuit of another vessel, it may add a cumulative +1 bonus to hit when attacking the vessel being pursued, up to a maximum of +4. While in pursuit of a target, a vessel loses its agility bonus to its AC if it comes under attack itself. This is a full round action and may only be attempted at Short range or closer and both ships must be at the same speed when the pursuit is begun.



**Ram:** Ramming is a potentially suicidal maneuver in which a pilot intentionally crashes his vessel into the hull or chassis of another vessel. This action may only be attempted at close range, and if the ramming vessel is moving faster than the target. See Vessel Collisions for more information.

To successfully ram another vessel requires an opposed Pilot/Drive skill check between both vessels. This is a full round action.

#### Pilot Actions

##### *Starships and Small Craft Only*

**Atmospheric Entry:** The pilot may attempt to transition the ship out of orbit and into the atmosphere of a planet. Once a ship has successfully entered an atmosphere, all movement is handled as if it were any other aircraft in flight and now uses the Vehicle Maneuver Actions instead. This is a full action with a base DC equal to the World Atmosphere UWP rating + the World Size UWP rating. Exotic, Corrosive, or Insidious atmospheres should be treated as Standard unless specified otherwise. Attempting this action may provoke an Attack of Opportunity. This action may be taken by starships and small craft only.

**Dock Ships:** The pilot may attempt to dock one ship with another allowing passage between both ships for cargo and crew. This is usually a small craft docking with a starship, but it is possible to dock some starships together. Both ships must be moving at the same speed, and there must be no opposition to the attempt. If this is a hostile docking attempt, the target ship must have been rendered incapable of maneuvering. This is a full action with a DC of 20, and may provoke an Attack of Opportunity. Only starships and small craft may take this action.

**Orbital Insertion:** The pilot may attempt to insert the ship into orbit around a planet. In an orbital insertion fails, the ship fails to enter the proper orbit, and the orbit will steadily begin to decay drawing the ship towards the planet's atmosphere in an uncontrolled reentry (see Atmospheric Reentry). This is a full action with a base DC of 15, and may provoke an Attack of Opportunity. Only starships and small craft may take this action.



## Astrogator Actions

*Starships and Small Craft Only*

**Range Check:** At the beginning of each round, each ship must make a T/Astrogation skill check. The ship with the highest result may elect to increase, decrease, or maintain the range for the round. This is a standard action and applies to starships and small craft only.

## Communications Operator Actions

*All Vessels with communications equipment*

**Tactical Communication:** The Comms Officer can establish and maintain communications between allied vessels using the normal rules for communication (see T/Communications skill). If there is significant interference or a lot of communications going on (e.g. due to bad comm. discipline among a fleet), the DC is increased; treat as Considerable Noise (+10). Deliberate comms jamming will increase DC as described under the T/Communications skill. These modifiers do stack. If reliable communications are not established, vessels cannot act in concert, and Fleet Tactics skill cannot be applied. Maintaining communications is a full round action.

**Comms Jamming:** The Comms Officer can attempt to jam local communication as a full action. See the T/Communications skill for details.

**Intercept Enemy Communications:** As a full-round action, the Comms Officer may attempt to intercept enemy communications. This requires a T/Communications skill check at a DC of (20 + enemy comm. system number). Encryption (if any) must also be broken. Knowledge of enemy intentions can be valuable to a commander, if she knows how to use it. A vessel commander may make a Ships Tactics or Tactics check at a DC of 15 to gain an advantage from intercepted comms. If successful, the commander gains knowledge of the enemy's dispositions or intentions. This translates to a one-time +10 bonus to any skill check affecting the enemy (e.g. a pilot's attempt to evade a sudden attack, or a gunner's precise shot just as the enemy vessel turns to present a better target.) Of course, the enemy must have communications for them to be intercepted.

## Computer Operator Actions

**Computer Fire Control:** Rather than having individual gunners handle the vessel's weaponry, the computer is handling both targeting and fire control this round. Attacks are handled normally, but the Main Computer Model Number is used in place of Gunnery skill rank and no sensor bonuses are allowed. This is a free action, but the computer may not be used to handle targeting for gunners this round. The computer operator should make the attack rolls for the computer this round.

$1d20 + \text{Computer model number} + \text{size modifier} + \text{targeting bonus} + \text{range penalty} = \text{AC hit.}$

**Computer Targeting:** The vessel's computer is handling targeting for all weapons this round, leaving the sensor operator to handle other tasks instead. This is a free action, but the computer may not be used to handle fire control for the vessel this round. The computer operator should roll  $1d20 + \text{the Main Computer Model Number}$  to check for success for each vessel that is to be targeted. The DC for this task is 15 or the current Sensor Jamming rating of the target. If successful, all gunners on the vessel may add a bonus equal to the Main Computer Model Number / 3 to their attack rolls this round.

## Sensor Operator Actions

**Sensor Jamming:** The sensor operator may attempt to spend the round providing defensive sensor jamming against incoming targeting lock attempts by enemy vessels, hopefully decreasing their chance of getting hit. The operator rolls  $1d20 + \text{his T/Sensor skill} + \text{the Sensor Model Number of the vessel}$  to set the vessel's Sensor Jamming rating for this round. This rating is the DC that any opposing vessel will have to beat in order to obtain a target lock or other sensor scan on the sensor operator's vessel. This is a full round action.

**Sensor Targeting:** The sensor operator may attempt to spend the round providing improved fire control and targeting data to the gunners, hopefully increasing their chances of hitting their targets. The sensor operator should roll  $1d20 + \text{his T/Sensors skill} + \text{the Sensor Model Number}$  to check for success for each vessel that is to be targeted. The DC for this task is 15 or the current Sensor Jamming rating of the target. If successful, all gunners on the vessel may add a bonus equal to the Main Computer Model Number to their attack rolls this round. This is a full round action.

## Gunner Actions

**Attack:** A gunner may attack any target within the range of the weapon system they are manning. The gunner attacks by making a Gunnery skill check roll adding the USP rating of the weapon system, along with any Range, Computer Targeting, Sensor Targeting, or other modifiers in effect this round for his vessel. This is a full round action.

$1d20 + \text{Gunnery skill} + \text{size modifier} + \text{targeting bonus} + \text{range penalty} = \text{AC hit.}$

**Point Defense Sandcasters:** A target defending against a missile, laser, plasma, or fusion attack may fire defensive sand if the vessel has any sandcaster mounts/turrets/batteries and gunners that have not already acted this round. Gunners

and mounts/turrets/batteries used in point defense may not be used to attack later in the same round. Defensive sand adds the sandcaster USP/UVP rating to the target's defense score for this attack. As many point defense sandcasters may be fired as are available, each adding their USP/UVP rating to the target's defense total.

**Point Defense Lasers:** A target defending against a missile attack may fire defensive lasers if the vessel has any laser mounts/turrets/batteries and gunners that have not already acted this round. Gunners and mounts/turrets/batteries used in point defense may not be used to attack later in the same round. The defending gunner makes an attack roll against a DC of 16 + the owning vessel's computer USP/UVP. If the defending gunner hits, the missile attack fails. The defender may attempt to shoot down an incoming missile attack with as many point defense laser mounts/turrets/batteries as they have available.

*Point Defense Laser: 1d20 + Gunnery skill +  
(Computer USP/UVP) + Weapon UVP/USP  
Missile's Defense: 16 + Missile USP/UVP*

**Point Defense Repulsors:** A target defending against a missile attack may fire repulsors if the vessel has any repulsor mounts/turrets/batteries and gunners that have not already acted this round. Gunners and mounts/turrets/batteries used in point defense may not be used to attack later in the same round.

*Point Defense Repulsor: 1d20 + Gunnery skill +  
(Computer USP/UVP) + Weapon UVP/USP  
Missile's Defense: 10 + Missile USP/UVP*

**Reload Vessel or Vessel's Weapon:** A crewmember (usually the gunner) may spend the round reloading one (1) spent missile rack, one (1) spent sandcaster or other individual weapon system. This is a full round action.

### Engineer/Mechanic Actions

**Damage Control:** An engineer may attempt to effect temporary and jury-rigged repairs to damaged systems on a vessel in an attempt to bring them back online and/or improved degraded performance due to inflicted damage. This is a full round action. See Repairing Damage (pg. 168) for more information. This is a full round action.

**Power Routing:** If a the power plant of a vessel or vessel takes damage and its power output is reduced, there may not be enough power available each round to power all the vessel's drives, weapons and other systems at the same time. In this case, the engineer must reallocate power to the various systems as she deems necessary and appropriate.

Drives, weapons, or other systems without power in a round may not be used. This is a full round action.

**Excess Power Routing:** If a vessel can produce excess power (in the form of Energy Points or EP) beyond what is needed for its drives, subsystems, and agility rating, it may apply this extra power in a couple of ways.

**Emergency Agility:** An engineer/mechanic may attempt to temporarily improve the performance of a vessel's drive system, thereby increasing the defensive agility of the vessel making it harder to hit. The engineer/mechanic must make a T/Engineering or T/Mechanical skill check as appropriate (DC15). If successful the vessel's agility is improved to a rating equal to the vessel's maximum agility rating based on the installed drive train or maneuver drive. While using emergency agility, all weapon systems and screens are temporarily offline. This is a full round action.

For each round this is kept up, another appropriate skill check must be made, but a -1 per subsequent round. If the attempt fails, there is a chance that the drive system has been damaged. Make another skill check DC 20, to avoid permanently reducing the vessel's drive rating by a factor of one until the vessel can be brought into port and the system overhauled and repaired properly.

**Overpower Weapons:** An engineer/mechanic may attempt to temporarily improve the weapon factor of a vessel's weapon system, thereby increasing the damage they inflict if they hit a target. The engineer/mechanic must make a Technical: Engineering or Mechanical skill check as appropriate (DC15). Add +1 to the DC for each factor of overpowering attempted up to a maximum factor of 9. If successful add +1 die of damage for every factor of overpowering. While using overpowered weapons, the vessel or vessel may not accelerate, decelerate, or maneuver, and the agility rating is temporarily reduced to 0. This is a full round action.

For each round this is kept up, another appropriate skill check must be made, but a -1 per subsequent round. If the attempt fails, there is a chance that the weapon system has been damaged. Make another T/Engineering skill check DC 20, to avoid permanently reducing the weapon rating by a factor of one until the vessel can be brought into port and the system overhauled and repaired properly.

### DAMAGE (RULES ADDITION) COLLISIONS

If two vessels collide, both will inflict an amount of damage on the other based on their current Structural Integrity rating and their current speed. In most cases, this will result in the destruction of vessels of the same size or of smaller vessels colliding with larger vessels. Starships and small craft colliding with large asteroids, moons, or other natural celestial objects are destroyed upon impact.

## VEHICLE INTERNAL HIT LOCATION

**Affected Area**

d100 Internal Hit Location

**Chassis**

- 01-02 **Miscellaneous Systems:** Treat as a Visual system hit if no miscellaneous systems installed or intact.
- 03-04 **Visual Systems:** Treat as a Communication systems hit if no visual systems installed or intact.
- 05-07 **Communication Systems:** Treat as a Sensor system hit if no comm. systems installed or intact.
- 08-10 **Sensor Systems:** Treat as an Appendage hit if no sensor system installed or intact.
- 11-14 **Appendages:** Treat as a Weapon mount hit if no appendages installed. Treat as a Chassis hit if no weapon mounts installed or intact.
- 15-18 **Weapon Mounts:** Treat as an Appendage hit if no weapon mounts installed. Treat as a Chassis hit if no appendages installed or intact.
- 19-25 **Drive Train:** Treat as a Power plant hit if no drive trains installed or remaining intact.
- 26-30 **Control Systems:** Treat as additional Chassis SI damage if no control systems installed or intact.

**Engine Compartment**

- 31-35 **Fuel Tanks:** Treat as a Drive train hit if no fuel tanks installed or intact.
- 36-40 **Drive Train:** Treat as a Power plant hit if no drive trains installed or remaining intact.
- 41-45 **Power Plant:** Treat as a Control system hit if no power plant installed or intact.
- 46-50 **Control System:** Treat as additional Chassis SI damage if no remaining control systems intact.

**Passenger/Cargo Compartment**

- 51-64 **Cargo Area:** Treat as an Unoccupied Facility hit if no cargo is aboard or remains intact.

**Internal Electronics**

- 65-66 **Onboard Computers:** Treat as a Miscellaneous system hit if no onboard computers installed or intact.
- 67 **Miscellaneous Systems:** Treat as a Visual system hit if no miscellaneous systems installed or intact.
- 68 **Visual Systems:** Treat as a Communication systems hit if no visual systems installed or intact.
- 69 **Communication Systems:** Treat as a Sensor system hit if no comm. systems installed or intact.
- 70 **Sensor Systems:** Treat as an Operational Control-Control system hit if no sensor system installed or intact.

**Passenger and Crew Facilities**

- 71-78 **Unoccupied Facility:** Treat as an Occupied facility hit if no unoccupied facilities available or intact.
- 79-80 **Weapon Mounts:** Treat as an Appendage hit if no weapon mounts installed. Treat as a Passenger hit (the Gunner) if no occupied facilities available or intact. If no gunner, then treat as additional Chassis SI damage if no (living) driver operating the vehicle.
- 81-86 **Occupied Facility:** Treat as a Passenger hit if no occupied facilities available or intact.
- 87-90 **Passenger:** Treat as an Operational Control-Control system hit if no (living) passenger in the facility.

**Operational Control**

- 91-95 **Control System:** Treat as a Robotic brain hit if no remaining control systems intact.
- 96-97 **Robotic Brain:** Treat as a Driver hit if no robotic brain installed or intact.
- 98-100 **Driver:** Treat as additional Chassis SI damage if no (living) driver operating the vehicle.



## DAMAGE EXPLANATIONS

Unless specified otherwise, the owner/pilot/driver of the vehicle may decide which specific systems are hit if more than target one is possible.

**Miscellaneous System:** One or more miscellaneous electronic systems are hit and disabled.

**Visual System:** One or more visual electronic systems are hit and disabled.

**Communications System:** One or more communications systems are hit and disabled.

**Sensor System:** One or more sensor systems are hit and disabled.

**Appendage:** One or more appendages are hit and disabled.

**Weapon Mount:** One or more weapon mounts are hit and disabled.

**Drive Train:** One or more of independent drive trains are hit and disabled.

**Control System:** The vehicle immediately becomes out of control, with no chance of recovery. The vehicle will slow at its standard deceleration rate and/or begin to fall out of the sky unable to keep itself aloft. Unless otherwise damaged and inoperable, all other systems aboard remain functional.

**Fuel Tank:** The fuel tank is hit and ruptured, losing all fuel within.

**Power Plant:** One or more power plants are hit and disabled reducing the available power to the vehicle.

**Cargo Area:** One or more items of cargo aboard are hit and destroyed.

**Onboard Computer:** One or more onboard computers are hit and disabled.

**Unoccupied Facility:** An unoccupied passenger or crew facility is hit and rendered unusable.

**Occupied Facility:** An occupied passenger or crew facility is hit and rendered unusable. Apply damage (randomly if more than one occupant) equal to one-half the total SI damage inflicted with this hit until all damage has been applied or no occupants remain standing. Any personal armor worn by the victim(s) applies.

**Passenger:** A specific passenger is hit. Apply damage equal to one-half the total SI damage inflicted with this hit. Any personal armor worn by the victim applies.

**Robotic Brain:** The robotic brain operating the vehicle is hit and disabled. The vehicle immediately becomes out of control, with no chance of recovery. The vehicle will slow at its standard deceleration rate and/or begin to fall out of the sky unable to keep itself aloft. Unless otherwise damaged and inoperable, all other systems aboard remain functional.

**Driver/Pilot:** The operator of the vehicle is hit. Apply damage equal to the total SI damage inflicted with this hit. Any personal armor worn by the victim applies. If the operator falls unconscious or dies, the vehicle immediately becomes out of control, with no chance of recovery until the drive/pilot is moved so another may attempt to regain control. The vehicle will slow at its standard deceleration rate and/or begin to fall out of the sky unable to keep itself aloft. Unless otherwise damaged and inoperable, all other systems aboard remain functional.

<i>Vehicle Speed</i>	<i>Damage on Target</i>
Not Moving	-
Very Slow	Vehicle SI x 0.1
Slow	Vehicle SI x 0.25
Cruising Speed	Vehicle SI x 0.5
Fast	Vehicle SI
Max Speed	Vehicle SI x 2
<i>Target</i>	<i>Damage on Vehicle</i>
Lifeform	CON Score + Armor Rating
Another Vehicle	Its Damage on Target
Stone/Concrete/Steel	SI x 3
Large Tree	SI x 2
Wooden Structure	SI x 1.5
Small Tree	SI x 1.25
Plant (shrub or bush)	SI x 1.1
Another Vehicle	See Vehicle Speed above

## VEHICLE INTERNAL DAMAGE

In addition to Structural Integrity damage, vehicles may also take internal damage to their subsystems and components.

**Critical Hits:** A vehicle will suffer internal damage on a critical hit. In this circumstance, the attacker ignores the armor rating (AR) of the vehicle and inflicts the full amount of damage rolled against its chassis SI rating. For most weapons, this damage is doubled on a critical hit (though some weapons may have a greater multiplier).

In addition, the attack also scores an Internal Hit on one of the subsystems, components, occupants, or other item with the vehicle itself. To determine where the remainder of the damage is applied, the attacker rolls once on the Vehicle Internal Hit Location table.

**Affected Area:** If a vehicle is hit with a weapon that has an area of effect (this includes all starship and small craft

## SMALL CRAFT AND STARSHIP INTERNAL DAMAGE LOCATIONS

### All Weapons

1d100	Subtable
01-23	Miscellaneous
24-50	Fuel
51-72	Fire Control
73-89	Engineering
90-92	Screens
93-94	Electronics
95	Crew
96+	Special

### Radiation Weapons (Particle Accelerators, Nuclear Missiles, and Meson Guns)

1d100	Subtable
01-45	Fire Control
46-88	Electronics
89-97	Crew
98+	Special
Weapon Platform	Modifier
Pulse Laser	+5 (does not apply to the radiation table)
Nuclear Missile	+20 (does not apply to the radiation table)
Spinal Mount	+40 (applies to both tables)

### Miscellaneous Subtable

1d100	Specific Location
01-40	Cargo Hold
41-60	Staterooms
61-70	Small Craft
71-75	Ship's Vehicle
76-80	Engineering/Vehicle Shop
81-85	Sickbay/Lab
86-90	Low Berths
91-92	Ship's Locker
93-94	Magazine
95-96	Fuel Purification
97-98	Gravitics
99-00	Life Support

### Special Subtable

1d100	Specific Location
01-02	Frozen Watch/Ship's Troops/Low Passengers Dead
03-05	Fire Control Out
06-10	Roll on the Crew subtable
11-20	Power Plant Disabled
21-35	One Hanger/Boat Deck/Vehicle Storage
36-65	Jump Drive Disabled
66-80	One Screen Disabled
81-90	Maneuver Drive Destroyed
91-95	Computer Destroyed
96-98	Bridge Destroyed
99-00	Vessel Vaporized

### Crewmember Attack Subtable (Optional)

1d100	Equivalent Effect
01-25	1 attack for 1d4 damage
26-50	1 attack for 1d6 damage
51-60	1 attack for 1d8 damage
61-70	1 attack for 1d10 damage
71-80	1 attack for 3d6 damage
81-90	1 attack for 3D10 damage
91-95	1d3 attacks for 3d6 damage each (apply armor separately against each)
96-98	1d3 attacks for 3d10 damage each (apply armor separately against each)
99	1d3 attacks for 6d6 each (apply armor separately against each)
00	Character is blasted into tiny bits, burned to a cinder, or is dramatically killed in some other way.

All damage is lethal, i.e. inflicts Lifeblood damage.

### Fuel Subtable

1d100	Specific Location
01-20	Purification Plant or Fuel Feed Equipment
21-100	Fuel Tanks

### Fire Control Subtable

1d100	Specific Location
01-70	Battery
71-85	100-ton Weapon Bay
86-90	50-ton Weapon Bay
96-100	Spinal Mount

### Engineering Subtable

1d100	Specific Location
01-29	Maneuver Drive
30-65	Jump Drive
66-100	Power Plant

### Screens Subtable

1d100	Specific Location
01-34	Repulsors
35-67	Nuclear Damper
68-100	Meson Screen

### Electronics Subtable

1d100	Specific Location
01-40	Sensors
41-80	Communications
81-100	Computer

### Crew Subtable

1d100	Specific Location
01-20	Flight/Command Crew
21-40	Gunnery Crew
41-60	Engineering Crew
61-100	Other Crew

## SMALL CRAFT AND STARSHIP INTERNAL DAMAGE LOCATIONS

### Tracking Internal Damage

Mark damaged systems with an X for each hit they take. Mark each repair with a / (slash) to show that a system has only been temporarily repaired. Erase all marks when damage has been permanently repaired.

Any subsequent hit to a previously damaged system will destroy all battlefield repairs that have been completed. All battlefield repairs are temporary at best. If a system is completely damaged it is disabled and no longer functions at all, until repaired.

### Damage Explanations

How damage affects individual systems is detailed below in alphabetical system order.

**Appendage:** The duty rating of the appendage is reduced by one level. Heavy would become Medium, a Medium appendage reduced to a Light appendage, and a Light appendage would be rendered inoperable.

**Cabin/Small Stateroom/Bunks:** 1d3 of the crew and passenger quarters has been damaged or rendered unusable, reducing the available living space for the crew and passengers.

**Cargo Hold:** 10% (round down) of the cargo hold space, and any cargo within, are damaged or destroyed.

**Computer:** The model number of a specific computer system (targeting, autopilot etc) is reduced by 1 for every hit taken. If model number reaches zero, the system is inoperable.

**Crew:** 10% of the crew within the affected area (a minimum of one person aboard small ship, probably several crewmembers aboard a larger vessel) is seriously injured by secondary effects of the weapon. The Referee may simply assume the character is "down" and out for the duration of the fight, or may use the optional Crewmember Attack Table. Each affected person is automatically hit by the equivalent of the weapon attack listed, representing hull spallation, electrocution, fire, etc.

**Engineering Shop:** One of the engineering shops aboard the vessel has been damaged or rendered inoperable, reducing the available machining and workshop support for the engineering staff.

**Frozen Watch:** Some vessels carry excess crewmembers in low berths, to be awakened in the event of crew casualties. Damage to the low berth area will kill these personnel.

**Fuel:** 10% of the available fuel stores on board have been lost. If the vessel runs out of fuel, the power plant will shut down.

**Fuel Feed:** Fuel feed becomes erratic. The ship can maneuver, fire etc, but any attempt to Jump will result in a catastrophic Misjump 25% of the time and a minor Misjump 50% of the time.

**Fuel Purification:** The efficiency of the ship's fuel purification system is reduced by 10%, increasing the time it takes to refine fuel for the tanks.

**Gravitics:** Gravity aboard the vessel is reduced by 10% each time this system is hit. If gravity is reduced to less than 80% the ship is considered to be a low gravity environment. If gravity is reduced to 30% or less, consider the ship to be a trace gravity environment. If gravity is reduced to 0%, the ship and its inhabitants are left in a zero-g environment. Apply any gravity modifiers as appropriate.

**Jump Drives:** A jump drive can take up to its Jump rating (1-6) in hits before failing to work at all. Each hit will reduce its effective Jump range by 1 parsec.

**Laboratory:** One of the undamaged labs aboard the vessel has been damaged or rendered inoperable, reducing the available lab and research support for the science staff.

**Low Berth:** 1d4 of the Low Berths aboard have failed or been damaged, killing the occupants inside (if any).

**Maneuver Drives:** A maneuver drive can take up to its acceleration rate (1-6 Gs) in hits before failing to work at all. Each hit will reduce its effective acceleration rate by 1-G.

**Passengers:** 5% of the passengers or crew have been either injured or killed, with a minimum of 1.

**Power Plants:** A power plant can take up to its power rating (1+) in hits before failing to work at all. Each hit will reduce its power rating, and thus its output (possibly limiting the number of subsystems that may be operated during each round).

**Sensors:** Reduce the model number of the sensor system by 1 for each hit taken. This will reduce the effective range of the system. If the model number is reduced to zero or less, the system is disabled completely (but not destroyed).

**Ship's Locker:** The ship's locker has been hit destroying 10% of the contents within. If the locker's displacement is one ton or less, it is destroyed.

**Ship's Vehicle:** 1d3 vehicles have been hit. Treat as if an attack had hit each vessel and apply the damage from this attack against each normally.

**Sickbay:** One of the undamaged sickbays have been damaged or rendered inoperable, reducing the available lab and surgical support for the medical staff.

**Small Craft:** 1d2 small craft (1-99 tons) have been hit. Treat as if an attack had hit each vessel and apply the damage from this attack against each normally.

**Staterooms:** 1d20 staterooms have been damaged or rendered unusable, reducing the available living space for the crew and passengers.

**Vehicle Shop:** One of the vehicle shops aboard the vessel has been damaged or rendered inoperable, reducing the available machining and workshop support for the vehicle and mechanical staff.

### Ship's Weaponry Damage Explanations

**50-ton Weapon Bay:** Reduce the bay's attack rating by 1. If the attack rating is ever reduced to zero or less, the bay is rendered inoperable.

**100-ton Weapon Bay:** Reduce the bay's attack rating by 1. If the attack rating is ever reduced to zero or less, the bay is rendered inoperable.

**Battery:** A battery, whether it consists of 1 turret or 10 or more, has been struck and damaged. Reduce the battery's attack rating by 1. If the attack rating is ever reduced to zero or less, the battery is rendered inoperable.

**Magazine:** 10% of the ammo stored in the ship's magazines has been destroyed (causing no additional damage).

**Meson Screen:** Reduce the defense rating of the system by 1. If reduced to zero or less, the system is rendered inoperable.

**Nuclear Dampers:** Reduce the defense rating of the system by 1. If reduced to zero or less, the system is rendered inoperable.

**Repulsors:** Reduce the defense rating of the system by 1. If reduced to zero or less, the system is rendered inoperable.

**Spinal Mount:** Reduce the weapon's attack rating by 1. If the attack rating is ever reduced to zero or less, the weapon is rendered inoperable.



weaponry), all systems listed under the Affected Area take full damage. If there are sub-areas listed, the damage is applied only to those systems listed under the sub-area. For example, a hit to a vehicle's engine compartment would affect the fuel tanks, drive train, power plant, and control system. If the hit were in the Chassis, specifically in the External Electronics sub-area, the only systems affected would be miscellaneous, visual, comm., and sensors. Appendages, weapon mounts, and control systems would not be affected even though they are part of the chassis because they are listed as part of a separate sub-area instead.

### SMALL CRAFT AND STARSHIP INTERNAL DAMAGE LOCATIONS

If a small craft or starship takes any SI damage after any armor has reduced the total, roll once on the appropriate Internal Damage Location table. If a component rolled does not exist, move one row down on the table until a result occurs with a component that does exist. If the end of the table is reached and no installed component has been found, the shot passes through the vessel without causing further damage.

Use this section for determining hit locations on small craft and starships, and tracking damage to the vessel. All tables use 1d100.

### BATTLEFIELD REPAIRS

Field repairs are no substitute for a complete repair job, but when time is of the essence, these 'patches' may mean the difference between survival and extinction. A damaged system can be temporarily repaired up to an effective factor equal to its original undamaged factor -1. When such repairs are complete the system will begin functioning at its repaired level. When not in combat, an appropriate skill check (DC15) should be made by the chief engineer/mechanic every 1d6 days to be sure that nothing goes amiss with the patches until a proper repair job can be carried out.

### DAMAGE CONTROL OFFICER

One character should be designated damage control officer (DCO). This person is responsible for oversee all in-battle repairs, and thus will make all dice rolls for that position. It is best if this person has appropriate skills (Leader, plus Technical: Engineering, Mechanical, Electronics, or Gravitics) and feats such as Damage Control, Jury Rig, and/or Miracle Worker. On smaller ships the DCO is most likely the Chief Engineer. If there is no Chief Engineer and no-one has any appropriate feats and skills, select any character not otherwise occupied to make all DCO rolls.

**Damage Control:** This feat allows the chief engineer or DCO to more quickly and accurately assess the damage and implement a plan of repair. Reduce the repair DC by 5.

**Jury Rig:** Unorthodox but usually effective solutions are the hallmark of this feat, giving a +2 bonus to all repair checks.

**Miracle Worker:** When attempting to repair a system, the chief engineer may attempt to use this feat, but it must be declared before the repair check roll is made. If the skill check is successful, the system is automatically repaired to its original rating less one factor. This feat can only be used once per damaged system until fully repaired.

**Skill Synergy:** For every 5 ranks, or portion thereof the DCO possesses in the appropriate skill (e.g. Gravitics for a maneuver drive) for the repair add +1 to all repair checks.

### THE ENGINEERING CREW

For the Engineering crew to be most effective, it must be fully staffed. If the vessel has taken crew losses in the battle, these will affect the performance of the engineering crew by an equivalent factor.

Each round the DCO must specify the percentage of the engineering crew she needs for damage control, in 5% increments, up to the remaining percentage of the crew. For example, if a ship has suffered 45% crew losses so far, the DCO can request up to 55% of the crew, in 5% increments (100% - 45% losses = 55% remaining). These crewmembers are not available for any other task this round.

Every 10% (or less) shortage in available engineering crew incurs a -1 penalty to all repair checks this round. So if the DCO allocated only 75% of the total crew to damage control, she would suffer a -3 penalty.

### REPAIR RANK

The repair rank of the engineering crew is equal to the average appropriate skill rank of each member of the engineering crew (round down). This will be used when making any repair checks.

### ENGINEERING SHOPS

A sufficient number of available engineering shops to support the engineering crew (1 shop per 20 engineers) will greatly improve the chances of expedient repairs by adding a +2 bonus to all repair checks.

### MAKING A BATTLEFIELD REPAIR

Using the Battlefield Repairs table, find the skill and DC required for the repair. If the chief engineer or DCO has the Damage Control feat, reduce the DC by -5.

The chief engineer or DCO now rolls 1d20, adding the Repair Rank of the engineering crew for the appropriate skill and any shop bonus, crew loss penalties, or other bonuses the chief engineer/DCO provides. If the roll total is greater than the required DC, remove one recorded hit

**BATTLEFIELD REPAIRS**

<i>System to be Repaired</i>	<i>Skill Required</i>	<i>DC</i>
<b>Engineering</b>	-	-
Jump Drive	T/Engineering	40
<b>Maneuver Drive</b>	<b>T/Engineering</b>	<b>36</b>
Power Plant	T/Engineering	26
<b>Screens</b>	<b>T/Electronics</b>	<b>38</b>
Fire Control or Vehicle Weapons	T/Electronics or T/Mechanical	36 or 34
<b>Low Berths</b>	<b>T/Medical or T/Electronics</b>	<b>36 or 34</b>
Electronics	T/Electronics	24
<b>Mechanical</b>	<b>T/Mechanical</b>	<b>22</b>
Other Miscellaneous	T/Mechanical or T/Electronics	20 or 20
<b>Grav Units</b>	<b>T/Gravitics</b>	<b>20</b>
Personal Equipment	T/Electronics or T/Mechanical	20 or 20

from the system. For example a maneuver drive that had taken 3 previous hits would now be marked as having taken only 2 hits, improving its effective factor by 1.

A critical success (a natural 20 on the skill check die roll) will result in one extra hit being repaired on the system this round. If the extra repair was not needed, it is wasted and may not be applied to another system.

These DCs assume 6-second personal combat rounds. A repair check is a full round action for both the chief engineer/DCO and the members of the engineering crew applied to the task.

**Take10:** Increase time required to 1 minute (1 vehicle combat round, 10 personal combat rounds), reduce DC by 10.

**Take20:** Increase time required to 1 hour (1 ship combat round, 60 vehicle combat rounds, 600 personal combat rounds), reduce DC by 20

**PERMANENT REPAIRS**

Battlefield repairs will get a vessel by temporarily, but sooner or later (usually sooner), the damage will need to be completely repaired at a proper shipyard or maintenance facility. A class C starport will typically have sufficient facilities to handle repairs to any vessel under 1000 tons, but will be unable to handle repairs to Jump drives. Repairs can be completed at a rate of 1 SI damage per day of repair work, and 1 system can be repaired completely (regardless of the amount of damage) per week.

Material costs for repairing SI damage are Cr100 per point of damage repaired or (if necessary) the total cost of replacement. For systems the material cost is 10% of the original value of the system per hit it has taken. If someone other than the engineering crew is hired to handle the repairs, the cost will be Cr1,000 per day plus material expenses.

For class B starports, any vessel up to 10,000 tons may be accommodated and Jump drives can be repaired, but the costs will increase to Cr120 per point of SI repaired. Up to 2 SI can be repaired per day, and up to 2 systems repaired per week.

Class A starports can accommodate any size vessel and also repair Jump drives. Costs at these starports rise to Cr150 per SI repaired, but up to 5 SI can be repaired per day, and up to 3 systems per week.

**ADVANCED VEHICLE AND STARSHIP COMBAT**

The advanced rules presented here are for those who enjoy a detailed representation of combat, and are designed for use with miniatures without requiring large amounts of room. You should be aware that these rules are much more complex and involved than the basic rules, and it will take considerably more time to run.

Two Megahex maps are needed for advanced combat. A megahex (pg. 171) is a large hex made up of smaller hexes. Each small hex should be able to fit a 25mm miniature or other token to represent the vessels involved in the battle. The larger hex should be 20 smaller hexes across in size. One of these megahexes will represent the Strategic Plot for the combat; the other will represent the Tactical Plot.

**Strategic Plot:** The strategic plot is used to plot the movements of all vessels at short range or farther from one another (1 or more hexes). Vessels enter the Strategic Plot along the megahex side opposite of their direction of travel. If a vessel moves beyond the edge of the Strategic Plot megahex, the combat encounter is ended as the vessel is out of range.

Because of the large amounts of time involved at this level, a vessel on the strategic plot may choose to add +5 to its attack rolls or +5 dice of damage to any attacks that hit each round, but not both. This reflects the large number of attacks that could be mounted within such a long round of combat. Vessels at the strategic level may still attack vessels currently at the tactical level as long as they are within range.

## Strategic Plot Ranges

Range	Hexes
Close	0 (same)
Short	1-3
Medium	4-5
Long	6-8
Very Long	9-16
Extreme	17+

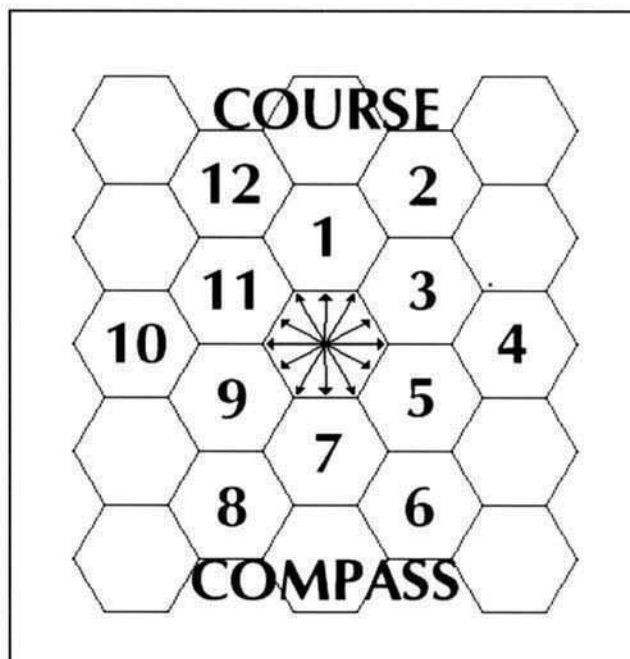
**Tactical Plot:** The Tactical Plot is used to plot the movements of all vessels at short range or closer to one another (in the same hex on the strategic plot). Vessels at the tactical level may attack with their weaponry every round, but do not enjoy the attack or damage bonuses that vessels at the strategic level do. Vessels at the tactical level may still attack vessels currently at the strategic level as long as they are within range.

Vessels enter the Tactical Plot along the appropriate megahex edge corresponding to the hex side they crossed on the Strategic Plot. The Referee rolls 1d6 to determine the exact hex a vessel will start in. A vessel retains its original speed and heading. If the vessel is 'moving through' the hex and has not ended its turn yet, it may continue to maneuver at tactical level. The opposing vessel(s) may each make an Attack of Opportunity on the passing vessel at any point during its maneuvers through the Tactical Plot. Of course the passing vessel may also engage other vessels present in the Tactical Plot if they wish.

If a vessel moves out of the borders of the Tactical Plot megahex, combat immediately switches back to the strategic level and the vessel should be moved to its new location on Strategic Plot. All vessels involved should immediately finish resolving this round of combat at the strategic level with the following bonus adjustments depending on the number of tactical rounds that were remaining.

## Shortened Tactical Combat

Rounds Left	Adjusted Strategic Plot Combat Bonuses
1	No further attacks
2-3	+1 to hit or +1 dice of damage
4-9	+2 to hit or +2 dice of damage
10-19	+3 to hit or +3 dice of damage
20	+5 to hit or +5 dice of damage



**Course Heading:** The course heading of the vessel determines the direction it will travel when it moves each round. There are 12 possible course headings that a vessel may have, but it may only be traveling in a single direction at one time. Each course heading is equal to 30 degrees on a compass. If a vessel's course heading would even exceed 12, start again at 1 and continue clockwise. If the course heading would fall below 1, instead start again at 12 and continue counter clockwise.

When moving along a course heading of 2, 4, 6, 8, 10, or 12, the course is first plotted to a position equal to course heading -1, and next moved to its normal course heading position. For example, a vessel with a course heading of 2 would first move to the hex marked 1 on the Course Compass, and its next move would be to the hex marked 2. If the vessel course heading were 10, it would move first move to position 9, and next to position 10.

## MULTILEVEL COMBAT

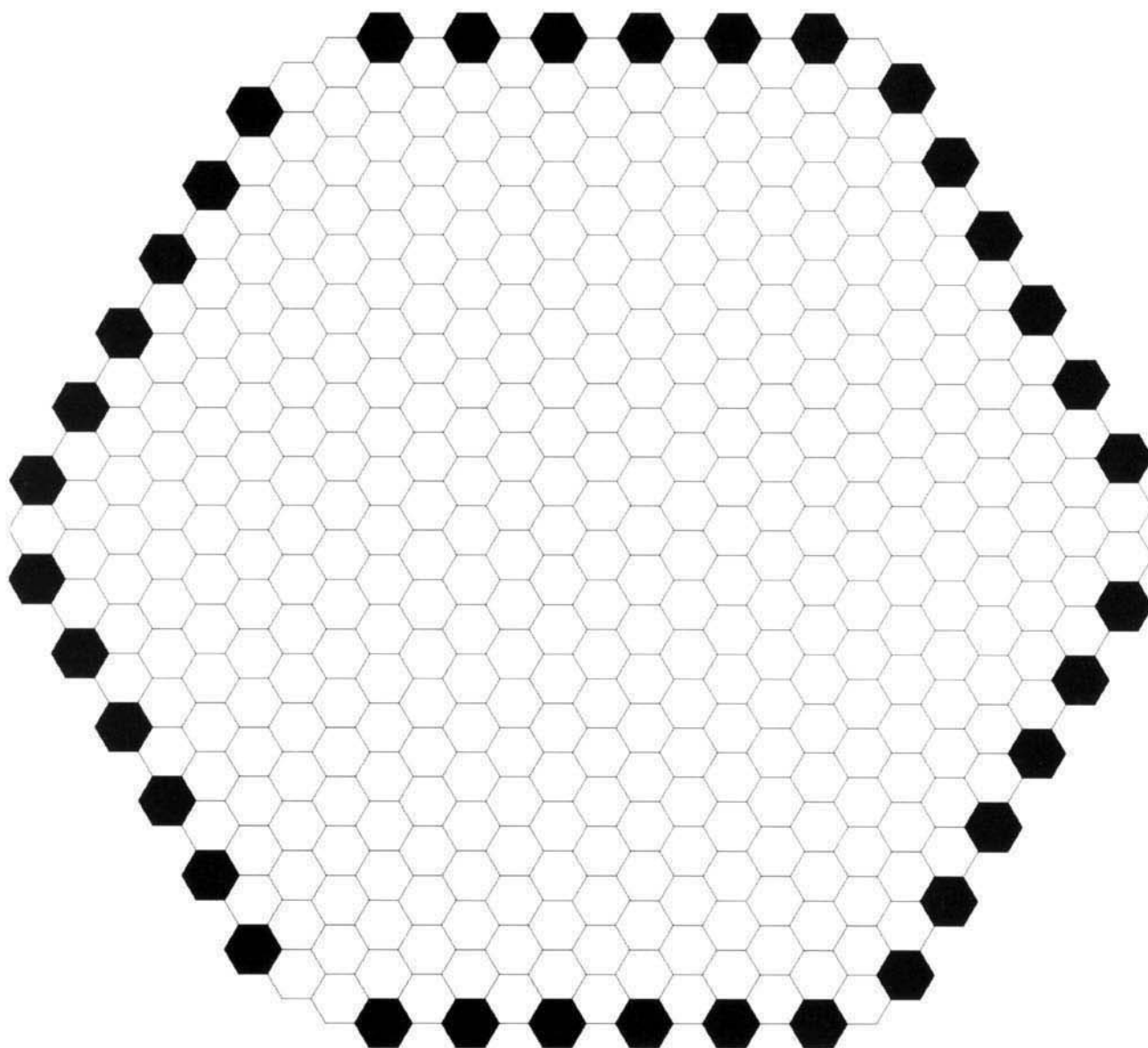
If there are vessels involved in the combat at both the strategic and tactical levels, handling the time difference in rounds can be handled in one of two ways.

1) Vessels on the Strategic Plot may attack each 'tactical' round (losing their normal to hit or damage dice bonus), but may only move once every 20 tactical rounds.

2) Vessels on the Strategic Plot may only move and attack once every 20 rounds, but enjoy their to hit and damage dice bonus even when attacking vessels on the Tactical Plot.



## ADVANCED COMBAT MEGAHEX



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Conditions/Speeds	Check Modifier
<b>Speed</b>	
Very Slow	+2
Slow	+1
Cruising Speed	0
Fast	-2
Maximum Speeds	-5
<b>Obstructions</b> (Ground Vessels only)	
Moderate (undergrowth, mild traffic)	-2
Heavy (thick undergrowth, heavy traffic)	-4
<b>Obstructions</b> (Flying Vessels only)	
Moderate (low hills, mild air traffic)	-2
Heavy (mountains, cityscape, heavy air traffic)	-4
<b>Surface Conditions</b> (Ground Vessels only)	
Poor (Uneven terrain)	-2
Bad (Ice, snow, mud, uneven slope)	-4
Very Bad (Deep snow)	-6
<b>Atmospheric Conditions</b> (Flying Vessels only)	
Poor (slight turbulence)	-2
Bad (heavy turbulence, storms)	-4
Very Bad (severe turbulence, hurricane)	-6
<b>Visibility</b>	
Poor (night, fog, moderate rain)	-1
Bad (moonless night, heavy storm)	-2

If the check is successful, the maneuver is completed without incident, and the vessel may continue its turn normally.

## ADVANCED VEHICLE COMBAT

### THE COMBAT ROUND

Each round on the Strategic Plot represents 10 minutes in the game environment, while each hex is roughly equal to 1.5 kilometers. On the Tactical Plot, each hex is roughly 75 meters across, while each round represents 30 seconds in the game environment.

### ATTACKS OF OPPORTUNITY

The threat area of a vehicle in combat on the Tactical Plot is 75m, or every hex/square adjacent to its current position. Attacks of opportunity are not possible on the Strategic Plot. Any crewmember serving as a gunner on a vehicle with an attack of opportunity and with a weapon capable of coming to bear may take action against the target.

### ADVANCED ACTIONS

Except for the Astrogator and Pilot (or Driver), all actions from the basic rules for crewmembers of a vehicle

remain the same under the advanced combat rules. Astrogators are not used on planetary-based vehicles and should be ignored, while Pilots and Drivers have a completely different set of actions available to them. The basic pilot/driver actions should be ignored.

### Pilot/Driver Actions

A driver operates all ground and water based vehicles, including hovercraft. Pilots operate everything else, including flying small craft and starships within a planetary atmosphere. When operating in a vacuum, the pilot of a small craft or starship has a different set of actions available to him (see Advanced Space Combat pg. 176).

All move actions and some full round actions require the vessel pilot or driver to make a maneuver check when attempting these maneuvers. The pilot or driver must make an appropriate skill check vs. the listed DC for the action. Apply any of the following condition modifiers listed below that may be appropriate to the current situation.

**Maneuver Skill Check:**  $1d20 + \text{Pilot or Driver Skill} + \text{Vehicle or Ship Agility}$

**Accelerate/Decelerate:** A vessel may increase or decrease its speed by an amount equal to its standard acceleration rate. A vessel may never exceed its maximum rated speed, unless using emergency agility. This is a move action with a base DC of 0. A skill check should only be needed when making this maneuver on difficult terrain.

**Bank/Turn:** Move full speed for half distance, change direction by up to 45 degrees (1 hex facing), move remaining distance in the new direction. This is a move action with a base DC of 5.

**Bootleg Turn:** Move full speed for half distance, change direction by up to 180 degrees (3 hex facings), move remaining distance in the new direction. Legged vessels may not perform this action. This is a full action with a base DC of 25, and may provoke an Attack of Opportunity. Applies to non-legged ground vehicles ground only.

**Climb/Dive:** May increase or decrease altitude by changing the angle of climb by up to 45 degrees. Move the vehicle its full distance along its current heading, after which you may increase or decrease the range between two vehicles by an amount equal to 1 hexes per 10kph of acceleration. A dive will also add to the speed of the craft by an amount equal to its acceleration rate (the effects of which apply on the next round). A climb adds no speed. Applies to flying and subsurface vessels only. This is a move action with a base DC of 0. A skill check should only be needed when making this maneuver in difficult conditions such as bad weather.

**Curve/Slip:** Move full speed. At any point during movement, the vessel may shift left or right one hex but still continue to move in the original direction and heading. This is a move action with a base DC of 0. A skill check should only be needed when making this maneuver on difficult terrain or at higher speeds.

**Emergency Deceleration:** Increase or decrease the vessel speed by an amount equal to three times its standard acceleration rate. This is a full action with a base DC of 25, and may provoke an Attack of Opportunity.

**Extreme Climb/Dive:** May increase or decrease altitude by changing the angle of climb by up to 90 degrees. Move the vehicle its full distance along its current heading, after which you may increase or decrease the range between two vehicles by an amount equal to 2 hexes per 10kph of acceleration. An extreme dive will also add to the speed of the craft by an amount equal to twice its acceleration rate (the effects of which apply on the next round). An extreme climb adds no speed. Applies to flying and subsurface vessels only. This is a full action with a base DC of 15, and may provoke an Attack of Opportunity.

**Hard Bank/Sharp Turn:** Move full speed for half distance, change direction by up to 120 degrees (2 hex facings), move remaining distance in the new direction. This is a full action with a base DC of 15, and may provoke an Attack of Opportunity.

**Hard Curve/Swerve:** Move full speed. At any point during movement, the vessel may shift left or right two hexes but still continuing to move in the original direction and heading. This is a move action with a base DC of 10, and may provoke an Attack of Opportunity.

**Hover:** Vessel hovers in place without any movement. This may only be attempted once a vessel has reached a speed of zero. This is a full action with a base DC of 10, and may provoke an Attack of Opportunity. Applies to rotary aircraft, hovercraft, grav vessels, small craft, and starships only.

**Land:** Return the vessel to the ground safely and reducing speed to zero. Applies to flying vessels only, and does not require any additional deceleration checks. This is a full action with a base DC of 15, and may provoke an Attack of Opportunity.

**Loop:** Move in a full vertical circle, ending the loop where you began it. This is actually a two round maneuver, with the loop being completed at the end of the second round after it was begun. The skill check must be made both rounds to complete successfully. Applies to flying vessels only. This is a full action with a base DC of 25, and may provoke an Attack of Opportunity.

**Move:** The pilot/driver keeps the vessel on its current course and heading, remaining at the current speed. This is a free action with a base DC of 0. A skill check should only be needed when making this maneuver on difficult terrain.

**Rapid Acceleration/Deceleration:** Increase or decrease the vessel speed by an amount equal to twice its standard acceleration rate. This is a full action with a base DC of 10, and may provoke an Attack of Opportunity.

**Regain Control:** Regain control of a vessel after failing a previous maneuver attempt. This is a full action with a base DC of 20, and may provoke an Attack of Opportunity.

**Take Off:** Bring the vessel off the ground and up to cruising speed. Applies to flying vessels only, and does not require any additional acceleration checks to bring the vessel up to speed. This is a full action with a base DC of 10, and may provoke an Attack of Opportunity.

**Tight Loop:** Move in a full vertical circle, ending the loop where you began it. Unlike the Loop, the tight loop only takes one round to complete but is much more difficult. The loop is completed at the end of the round after all other vehicles have moved. If more than one vehicle is performing a tight loop in the same round, they will complete their loops in Initiative order. Applies to flying vessels only. This is a full action with a base DC of 35, and may provoke an Attack of Opportunity.

### FAILED DRIVING MANEUVERS

If the driver of a ground or water based vehicle fails to make a Maneuver check, they lose temporary control of the vessel. Each subsequent round, first check to see if the vehicle crashes. If the vehicle does not crash, the pilot/driver may once again attempt to regain control of the craft. This may continue until the vessel either crashes, the driver/pilot regains control, or the driver/pilot gives up. The latter is only an option where escape craft or ejection seats are available. Roll 1d100 and consult the table below to determine the severity of the loss of control encountered. This roll is modified by the current speed of the vessel.

1d100	Loss of Control Result*	Regain Control DC	Chance of Crash
01-51	Minor Loss of Control	10	10%
52-84	Major Loss of Control	16	25%
85-100	Severe Loss of Control	22	50%

\* Applies to ground vehicles only

Speed	Modifier
Very Slow	-25
Slow	-10
Cruising Speed	+/-0
Fast	+10
Max Speed	+25



## CRASH DAMAGE

Speed	Base Damage	Penetrating Damage
Very Slow	1d3-1	1d4-2 rolls on the Internal Damage Table
Slow	1d4	1d6-2 rolls on the Internal Damage Table
Cruising Speed	1d6	1d6 rolls on the Internal Damage Table
Fast	1d8	1d8 rolls on the Internal Damage Table
Max Speed	1d10	1d10 rolls on the Internal Damage Table

Vehicle or Item Size	Damage Multiplier	Ship Size
up to 0.05vl	0.1	-
0.05 to 0.5vl	0.2	-
0.5 to 5vl	0.5	-
5 to 30vl	1	-
30 to 250vl	2.5	-
250 to 2000vl	5	1 ton
2000 to 15,000vl	7.5	1-9 tons
15,000 to 115,000vl	10	10-99 tons
115,000 to 1,315,000vl	25	100-999 tons
1,315,000+ vl	50	1000-9999 tons
-	75	10,000-99,999 tons
-	100	100,000+ tons

**Minor Loss of Control:** The vessel begins maneuvering somewhat erratically. If maintaining the current speed is dependent on active control of the pilot/driver, the craft will begin to lose speed at a rate equal to its acceleration rate. Aircraft will not lose speed, but will instead lose altitude at a rate equal to one-third of their current speed. All crew and passengers are at -2 to all attack rolls, skills checks, and saving throws until control is regained.

The vessel will pretty much stay on its present course. In all cases, check for possible collisions with other vehicles, buildings, structures, the ground, etc, which may now be in the path of the craft.

**Major Loss of Control:** The vessel enters a severe skid or dive, dramatically reducing the efficiency of any crew or passengers within, resulting in a -4 modifier to all attack rolls, skills checks, and saving throws until control is regained. If maintaining the current speed is dependent on active control of the pilot/driver, the craft will begin to lose speed at a rate equal to its acceleration rate. Aircraft will not lose speed but will lose altitude at a rate equal to two-thirds of their current speed.

If using squares for mapping roll 1d4 to determine the new direction of travel for the vessel. For hexes, roll 1d6. In all cases, check for possible collisions with other vehicles, buildings, structures, the ground, etc, that may now be in the path of the craft.

**Severe Loss of Control:** The vessel enters a spin, extreme dive, or other severe situation, which should be

determined by the Referee as appropriate. Those within can do nothing much beyond clinging on to something, resulting in a -8 modifier to all attack rolls, skills checks, and saving throws until control is regained. If maintaining the current speed is dependent on active control of the pilot/driver, the craft will begin to lose speed at a rate equal to its acceleration rate. Aircraft will lose altitude at a rate equal to their current speed.

Be sure to check for possible collisions with other vehicles, buildings, structures, the ground, etc., that may now be in the path of the vessel.

**Regain Control:** This is the pilot or driver skill check DC required to successfully regain control of the craft.

**Chance of Crash:** This is the percentage chance that a ground vehicle will crash each round the vessel remains out of control. The vessel does not necessarily hit anything; it may flip, roll over, etc.

## Crashes

If a vehicle crashes on its own (i.e. it was not involved in a collision with another vehicle, a building, etc.) the amount of damage it suffers will depend on how big the vehicle is and what speed it was travelling. Roll the base damage listed for the speed of the vehicle, and multiply this by the size damage multiplier as determined on the Crash Damage table. The damage is adjusted SI damage is expressed in the percentage of the total original SI value of the vessel that is lost in damage.

## Collisions

A collision occurs whenever a vessel impacts with something else such as another vessel, a building, a space station, the ground, etc. Speed plays a very large part in the damaging effects of collisions, as does the type of collision. Apply the damage total in full to both vessels. See Crashes above for information on determining the speed-related damage of a vessel when it collides. Note that if one vessel is totally destroyed in the crash, it inflicts only the amount of damage necessary to destroy it on the other craft. After that, there is nothing left to cause damage!

**Head-on:** Both vessels are headed almost directly at one another. Add the speed damage of both vessels together, and apply this damage to both craft.

**Opposing Angle:** Both vessels are headed at a 30-60

### ROUNDS UNTIL IMPACT

Altitude	Distance	RUI	Notes
Orbital	10,000km or higher	105	
Extreme	1000km to 10,000km	33	Sub orbital
Very High	100km to 1000km	11	
High	10km to 100km	3	Above most storm systems and weather patterns
Average	2km to 10km	2	
Low	1km	1	
Very Low	100m to 1km	1	+5 to the Regain Control DC
Treetop	under 100m	0	Immediate crash, no chance of control

degree angle or less towards one another. Add one half the speed damage of the target vehicle to the speed damage of the striking vessel.

**T-Bone:** A vessel strikes another vessel at a near 90-degree angle, or strikes a building or other stationary object. Use the speed damage of the striking vessel.

**Complimentary Angle:** Both vessels are headed in a direction similar to one another (within 30-60 degrees). Subtract one half the speed damage of the target vessel from the speed damage of the striking vessel.

**From Behind:** One vessel strikes another directly from behind. Subtract the speed damage of the target from the speed damage of the striking vessel.

### FAILED PILOTING MANEUVERS

If a pilot in control of an aircraft, grav vehicle, or a starship or spacecraft operating in atmosphere fails a Maneuver check, another check should immediately be made at the same DC as the Maneuver check. If this second check is also failed, the vessel has gone into a flat spin making it even more difficult to regain control (+5 to the Regain Control Maneuver DC). To make matters worse, each round that a vessel is in flat spin the pilot and any passengers on board must make a Fortitude save (DC15) to avoid blacking out from the excessive G forces being caused by the spin.

While a vessel in flight is not under the control of a pilot (or auto-pilot), it will begin to lose altitude. The table above shows how many Round Until Impact (RUI) it will take before the vessel impacts with the surface, based on the original altitude of the craft. The pilot may attempt each round to regain control of the craft up until the time of impact.

If all attempts to control the vessel have failed, the vessel will crash into the surface. Just before this happens, the pilot has one further chance to try and at least make it a somewhat controlled crash (same DC as previous attempts). If the crash is controlled, subtract the DC from

the skill check roll total. The occupants of the ship (including the pilot) may use this difference as a modifier to their Fortitude save (DC25) to see if they survive the crash.

A vessel that crashes in this manner is effectively destroyed and cannot be rebuilt into a serviceable machine again. Individual components and subsystems may have survived the impact intact or only partially damaged.

If someone does survive, roll on the table below to determine the severity of their injuries. The pilot modifier used to survive may also be applied to the roll on this table, as may any Fortitude modifier the PC or NPC has.

### Crash Survival

1d20	Extent of Injuries
1-5	Life Threatening: Both Stamina and Lifeblood reduced to 0.
6-15	Serious: Lose all but 1 Stamina and one-half remaining Lifeblood.
16-20	Minor: Lose one-half remaining Stamina and one-quarter remaining Lifeblood
21+	Cuts and bruises. Lose one-quarter remaining Stamina and 1d4 Lifeblood.

### VEHICLE DAMAGE AND INTERNAL HITS

Under these advanced rules, each internal subsystem and component onboard a vehicle has a specific SI rating based on its size. Rather than immediately rendered inoperable when hit, subsystems take damage against their SI rating, and only if that SI rating is reduced to 0 or lower are any consequences suffered. Specific consequences are specified under the Internal Damage descriptions.

**Critical Threats to Vehicles:** A critical threat on a vehicle will still cause internal damage if the attack succeeds and penetrates any armor installed, even if the hit turns out not to be a critical hit. Half of the total damage is applied against the SI rating of the vehicle's chassis just like a normal attack. To determine where the remainder of

the damage is applied, the attacker rolls once on the Vehicle Internal Hit Location table (above).

For example, an attacker rolls a natural 20 on his attack roll, scoring a critical threat but fails (rolling a 12) on his next throw to see if the hit is a critical one. He still may roll on the Internal Hit Location table and apply damage to a subsystem or component if he does enough damage to get through the target's armor.

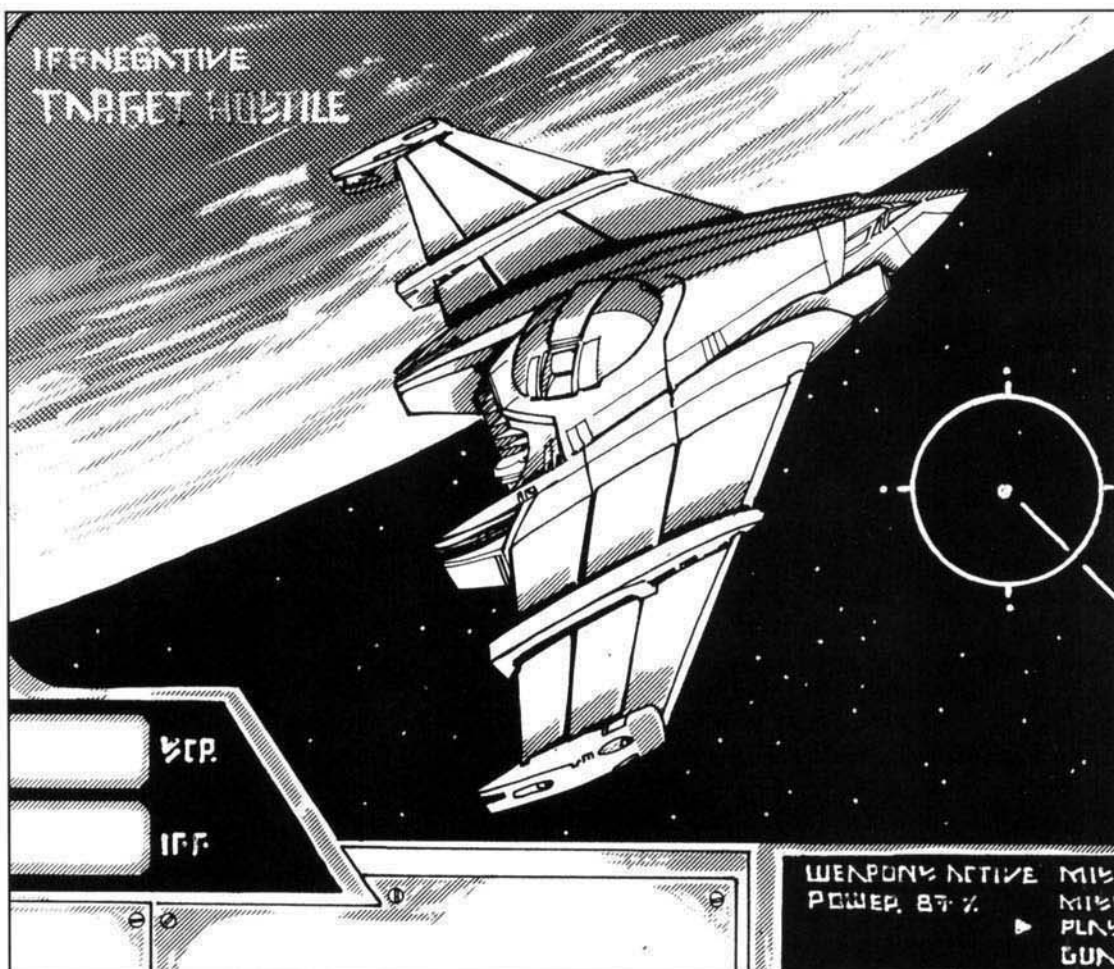
**Critical Hits to Vehicles:** A critical hit on a vehicle allows the attacker to ignore the armor rating

of the vehicle and inflict the full amount of damage rolled. For most weapons, this damage is doubled on a critical hit (though some weapons may have a greater multiplier). Half of the total damage is applied against the SI rating of the vehicle's chassis just like a normal attack. To determine where the remainder of the damage is applied, the attacker rolls once on the Vehicle Internal Hit Location table (above).

**Carrying Over Damage:** If a system or component is destroyed, and some remains to be applied, follow the specified flow of damage listed for that system. For example, a hit is applied to the Visual Systems of a vehicle, and there still remain a few points of damage to apply even after rendering the visual systems inoperable. The description for a Visual System hit states that if there are no installed or intact visual systems onboard the vehicle, treat the hit as a Comm. system hit. So the remaining damage would now be applied against the SI rating of the Comm. System.

## ADVANCED SPACE COMBAT

When operating within the atmosphere of a world, moon, or other celestial object, a small craft or starship



functions as if they were nothing more than oversized and megapowered vehicles. But when they leave the confines of that atmosphere, the speeds and distances involved require somewhat different handling. Space is big and to get anywhere within a reasonable amount of time involves traveling at incredible speeds.

### THE COMBAT ROUND

Each round on the Strategic Plot represents 20 minutes in the game environment, while each hex is roughly equal to 15,000 kilometers. On the Tactical Plot, each hex is roughly 750 kilometers across, while each round represents 1 minute in the game environment.

The ship's Astrogator rather than the Pilot should handle all ship maneuvers on the Strategic Plot. If two ships enter the same hex, further combat between them should be resolved on the Tactical Plot. They do not have to end their turn in the same hex; merely passing through is sufficient to trigger the switch to the Tactical Plot.

This swapping of responsibility also has the advantage of allowing a player with an Astrogator character to have



an active part within the combat rather than simply being an observer.

### ATTACKS OF OPPORTUNITY

The threat area of a vehicle in combat on the Tactical Plot is 750km, or every hex/square adjacent to its current position. Attacks of opportunity are not possible on the Strategic Plot. Any crewmember serving as a gunner on a ship with an attack of opportunity and with a weapon capable of coming to bear may take action against the target.

### ADVANCED ACTIONS

The following actions replace the actions available to the Astrogator and Pilot under the basic rules.

**Accelerate:** The ship moves forward 1-6 hexes (based on the maneuver drive rating of the vessel) in the exact direction of the current heading. Actual ship heading does not change, but speed increases by the number of hexes shifted. This is a move action with a base DC of 0.

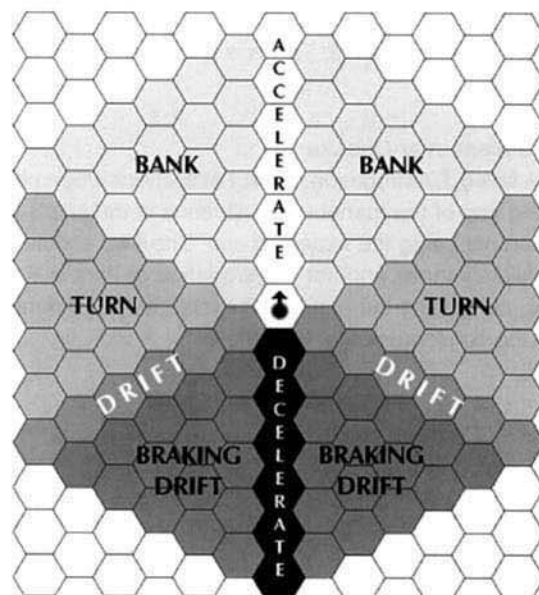
**Atmospheric Entry:** The pilot may attempt to transition the ship out of orbit and into the atmosphere of a planet. Once a ship has successfully entered an atmosphere, all movement is handled as if it was any other aircraft in flight and now uses the Vehicle Maneuver Actions instead. This is a full action with a base DC equal to the World Atmosphere UWP rating + the World Size UWP rating. Exotic, Corrosive, or Insidious atmospheres should be treated as Standard unless specified otherwise. Attempting this action may provoke an Attack of Opportunity.

**Bank:** Shift the ship forward, right or left, up to a number of hexes equal to its maneuver drive rating. Adjust the recorded heading of the ship by 2 in the direction of the bank. Banking left reduces the heading, banking right increases the heading. Speed increases by the number of hexes shifted. This is a move action with a base DC of 10.

**Braking Drift:** Shift the ship backward, right or left, up to a number of hexes equal to the maneuver drive rating of the ship. Actual ship heading does not change, but speed decreases by the number of hexes shifted. This is a move action with a base DC of 10.

**Decelerate:** The ship moves back 1-6 hexes in the exact opposite direction of the current heading. Actual ship heading does not change, but speed decreases by the number of hexes shifted. This is a move action with a base DC of 0.

**Dock:** The pilot may attempt to dock one ship with another ship or a stardock, allowing passage between both ships for cargo and crew. This is usually a small craft docking with a starship, but it is possible to dock some starships together. Both ships must be moving at the same speed, and there must be no opposition to the attempt. If this is a hostile docking attempt, the target ship must have been rendered incapable of maneuvering. This is a full action with a



DC of 20, and may provoke an Attack of Opportunity.

**Drift:** Shift the position of the ship along Heading 5 up to a number of hexes equal to the maneuver drive rating of the ship. Adjust the recorded heading of the ship by 1 in the direction of the drift. Drifting left reduces the heading, drifting right increases the heading. Speed does not change. This is a move action with a base DC of 0.

**Evade:** Adds the Pilot's skill to the AC of the ship this round. This is a full action with a base DC of 0, and may only be attempted at Short or Close range.

**Maintain Course and Speed:** The ship does not accelerate or otherwise maneuver this round. Speed and Heading remain the same. This is a move action with a base DC of 0.

**Move:** You must move the ship a number of hexes equal to its current speed in the direction of its current heading. This is a required free action with a DC of 0, and must be performed before any other action by the ship this round.

**Orbital Insertion:** The pilot may attempt to insert the ship into orbit around a planet. In an orbital insertion fails, the ship fails to enter the proper orbit, and the orbit will steadily begin to decay drawing the ship towards the planet's atmosphere in an uncontrolled reentry (see Atmospheric Reentry). This is a full action with a base DC of 15, and may provoke an Attack of Opportunity.

**Turn:** Shift the position of the ship left or right anywhere from 2 to the maneuver drive rating of the ship in hexes. Adjust the recorded heading of the ship by 3 in the direction of the turn. Turning left reduces the heading, turning right increases the heading. Speed increases by the number of hexes shifted. This is a full action with a base DC of 20.

## Failed Maneuver Checks

A failed T/Astrogation or Pilot skill check when performing any of the maneuvers will result in the ship's final location not being the expected one. The pilot should immediately make another T/Astrogation or Pilot skill check, comparing the result to the table below to determine the consequence of the failure.

### Failed Maneuver Check

Result	Consequence
1-15	Course is off by 60 degrees: Accelerate becomes a Drift. A Bank becomes a Braking Drift. A Turn becomes a Decelerate. A Drift becomes Accelerate. A Braking Drift becomes a Bank. Decelerate becomes a Turn.
16-25	Course is off by 30 degrees: Accelerate becomes a Turn. A Bank becomes a Drift. A Turn becomes a Braking Drift or Accelerate. A Drift becomes a Bank or Deceleration. A Braking Drift becomes a Turn. Decelerate becomes a Drift.
26+	Course is off by 15 degrees: Accelerate becomes a Bank. A Bank becomes a Turn or Accelerate. A Turn becomes a Drift or Bank. A Drift becomes a Braking Drift or Turn. A Braking Drift becomes a Drift or Decelerate. Decelerate becomes a Braking Drift.

## SPECIAL CONSIDERATIONS

Certain factors can make starship maneuvering more tricky than usual.

**Gravity:** The gravity of a world or large planetary body can affect the course of a ship if it passes within its gravity well. The gravity well of a world or similar body (e.g. a large asteroid or gas giant moon) consists of the 6 hexes immediately adjacent to the hex containing the body itself. Larger bodies, such as gas giants, may cover several hexes and will have a proportionately larger "gravity well". Each hex will affect the course of ship slightly differently.



Apply the following effects to a ship's position after it finishes its initial movement at speed, but before the ship makes any other maneuvers or actions:

Hex	Adjustment
1	Move ship down one hex
2	Move the ship one hex to the (lower) left adjacent hex
3	Move the ship one hex to the (upper) left adjacent hex
4	Move the ship up one hex
5	Move the ship one hex to the (upper) right adjacent hex
6	Move the ship one hex to the (lower) right adjacent hex

These effects do not change the ship's course heading, only its actual position.

**Orbit:** If a ship ends its movement in the gravity well of a planet with a speed of 1, it will enter orbit. A successful Orbital Insertion maneuver is also required.

**Landing:** If a ship ends its movement in the same hex as a planet with a speed of 1, they will have landed safely. A successful Atmospheric Entry maneuver is required if the planet has an atmosphere.

**Crashing:** If a ship ends its movement or moves through the same hex as a planet with a speed greater than one will crash.

**Boarding:** If two ships end their turn in the same hex with the same speed, they may attempt to board.

**Missiles:** Once launched, a missile moves in a manner similar to a ship, from the location it was first launched in the programmed heading accelerating at a constant rate of 6G per round for a maximum of 6 rounds. The difference is that a missile may only change its course (alter its future position marker placement) by a total of 6 hexes during the course these 6 rounds. Once it has altered its course by a total of six hexes it may no longer maneuver.

## SQUADRONS

Ships of the same type and armament are often grouped together in multiples of up to 10. These groups are known as squadrons. A squadron moves and fights as if it were a single ship, its weapons organized into batteries. Each squadron will have a BAB equal to the average Gunnery skill rank of the weapon gunners aboard each ship. The AC of a squadron is equal to average AC of all ships in the squadron.

At the start of the squadron's round, the squadron commander may attempt to make a Leader skill check against a DC equal to the AC of the targeted ship. If successful, the squadron commander may add +2 to her attack rolls for the squadron this round.





# PRESTIGE CLASSES

9

## BIG GAME HUNTER

	Base Attack Bonus	Fort Save	Ref Save	Will Save	Special
1st	+1	+0	+1	+1	Trapping
2nd	+2	+0	+2	+2	Sixth Sense
3rd	+3	+1	+2	+2	Far Shot
4th	+4	+1	+2	+2	Species Specialization
5th	+5	+1	+3	+3	Deliberate Shot
6th	+6	+2	+3	+3	Animal Specialization
7th	+7	+2	+4	+4	Intuitive Tracking
8th	+8	+2	+4	+4	Species Specialization
9th	+9	+3	+4	+4	Animal Specialization
10th	+10	+3	+5	+5	Animal Specialization

## BIG GAME HUNTER CLASS SKILLS

Class Skill	Key Ability	Class Skill	Key Ability
Animal Empathy*	Cha	Liaison	Cha
Gambling	Int	Handle Animal	Cha
Hide	Dex	Intuit Direction	Wis
Jump	Str	Knowledge	Edu
Leader	Int	Listen	Wis
T/Medical	Edu	Move Silently	Dex
Navigation	Edu	Ride	Dex
Search	Int	Spot	Wis
Survival	Wis		

\*Exclusive Skill

Skill Points per Level: 4 + Int modifier

## SPECIES SPECIALTIES

Carnivores	Herbivores	Omnivores	Scavengers
Siren	Filter	Gatherer	Carrion-eater
Pouncer	Intermittent	Eater	Reducer
Killer	Grazer	Hunter	Hijacker
Trapper			Intimidator
Chaser			

## BIG GAME HUNTER

### PRESTIGE CLASS

The worlds of charted space have produced some terrifyingly powerful or cunning creatures. The Big Game Hunter takes their existence as a challenge and matches his stealth and cunning against their formidable natural abilities. He may or may not kill the animal after stalking it; many hunters use a holo camera rather than a rifle.

**Characteristics:** A Hunter is self-reliant and confident in his or her abilities. Often contemptuous of clumsy city-dwellers, the Hunter is proud of his knowledge of the environment and the habits of his prey. He may take this attitude to an extreme, seeking ever more dangerous creatures to stalk or choosing ridiculous challenges like hunting giant armored carnivores armed only with a crossbow. Other hunters are obsessed with obtaining the finest high-tech tools and gadgets to augment their skills. All Hunters prefer stealth and subtlety to a direct approach to problems.

**Background:** A Hunter can come from any background, though he or she will usually have a "Backwoods" upbringing. A Hunter's most important attributes are intelligence and stealth skills - plus weapon proficiency, of course.

**Adventuring:** Hunters can be very useful in the wilds of a planet, and often have good weapon skills too. An individual may know several powerful people, having acted as a guide on safaris or hunting trips, or may have poached rare animals for a rich person's collection.

### GAME RULE INFORMATION

**Requirements:** To become a Hunter, a character must meet the following requirements:

**BAB:** 5+

**Skills:** Survival 4+, P/Hunting 6+

**Feats:** Tracker

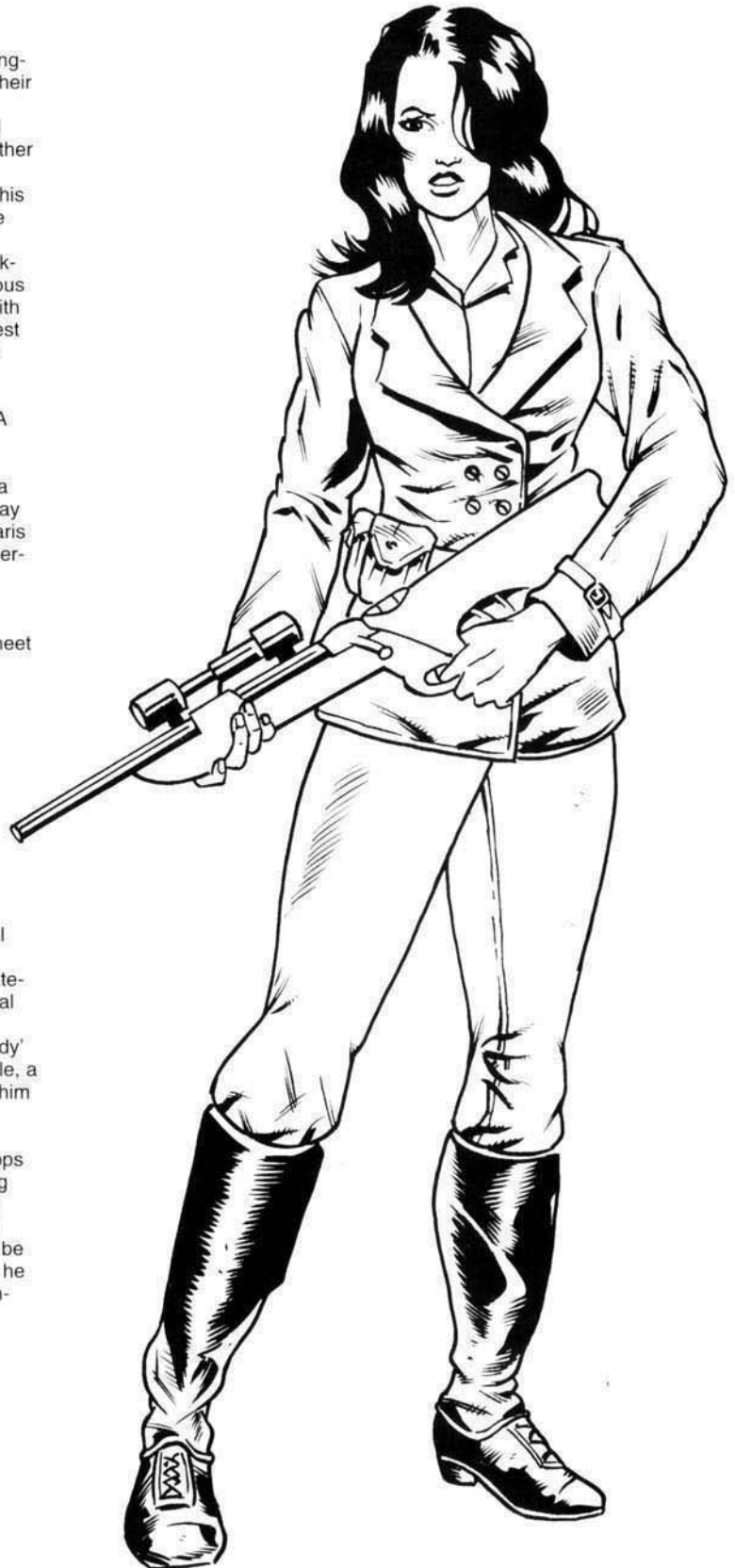
**Stamina Dice:** d8 + Con modifier per level

**Species Specialty:** The Hunter has studied and learned the habits and tendencies of a general category of animal types such as Pouncers or Grazers. Add a +2 circumstance bonus to all Tracking and Survival checks when hunting the specified category of animals.

**Animal Specialization:** The character has studied and learned the habits and tendencies of a specific (named) animal such as Grizzly Bears, or the Greater Crested Tusk-Boar. Requires Species Specialization (for the appropriate animal category). Add a +4 circumstance bonus to all Tracking and Survival checks when hunting this specific animal.

**Deliberate Shot:** Once per combat the Hunter may 'ready' a shot as a free action rather than standard action. For example, a Hunter moves to cover and sets up a deliberate shot allowing him to shoot the next creature to emerge from the nearby lake. Without the feat he could not both move and ready the shot.

**Intuitive Tracking:** The skilled Hunter eventually develops an 'intuition' when it comes to tracking their prey, often allowing him to pick up a trail even after it has 'gone cold'. In situations where the Hunter fails a P/Hunting skill check while tracking a creature, or in situations where the Hunter would not normally be allowed to make a skill check to pick up the trail of a creature, he may make a Wisdom check (DC15). If successful, he has managed to guess the correct direction the prey has taken.



## TAS FIELD REPORTER

	<i>Base Attack Bonus</i>	<i>Fort Save</i>	<i>Ref Save</i>	<i>Will Save</i>	<i>Special</i>
1st	+0	+0	+1	+1	Press Pass and Expense Account
2nd	+0	+0	+2	+2	Connections +1
3rd	+1	+1	+2	+2	Research +1
4th	+1	+1	+2	+2	Connections +2
5th	+1	+1	+3	+3	Carousing
6th	+2	+2	+3	+3	Connections +3/ Research +2
7th	+2	+2	+4	+4	TAS Membership
8th	+2	+2	+4	+4	Connections +4
9th	+2	+3	+4	+4	Research +3
10th	+3	+3	+5	+5	Connections +5

## TAS FIELD REPORTER CLASS SKILLS

<i>Class Skill</i>	<i>Key Ability</i>	<i>Class Skill</i>	<i>Key Ability</i>
Administration	Int	Bluff	Cha
Bribery	Cha	T/Communications	Edu
T/Computer	Edu	Liaison	Cha
Gather Information	Cha	Intimidate	Cha
Knowledge	Edu	Listen	Wis
Profession/Journalist	Wis	Read/Write Language	None
Sense Motive	Wis	Speak Language	None

**Skill Points per Level:** 8 + Int modifier



## TAS FIELD REPORTER

### PRESTIGE CLASS

The Travellers' Aid Society (TAS) is constantly updating its guides and providing its members with impartial, "insider" reports on events

across charted space. A Field Reporter researches and prepares these reports. In some quarters a TAS press card is highly

respected. In others, it is an incitement to being beaten up and dumped in an alley. TAS reporters are known

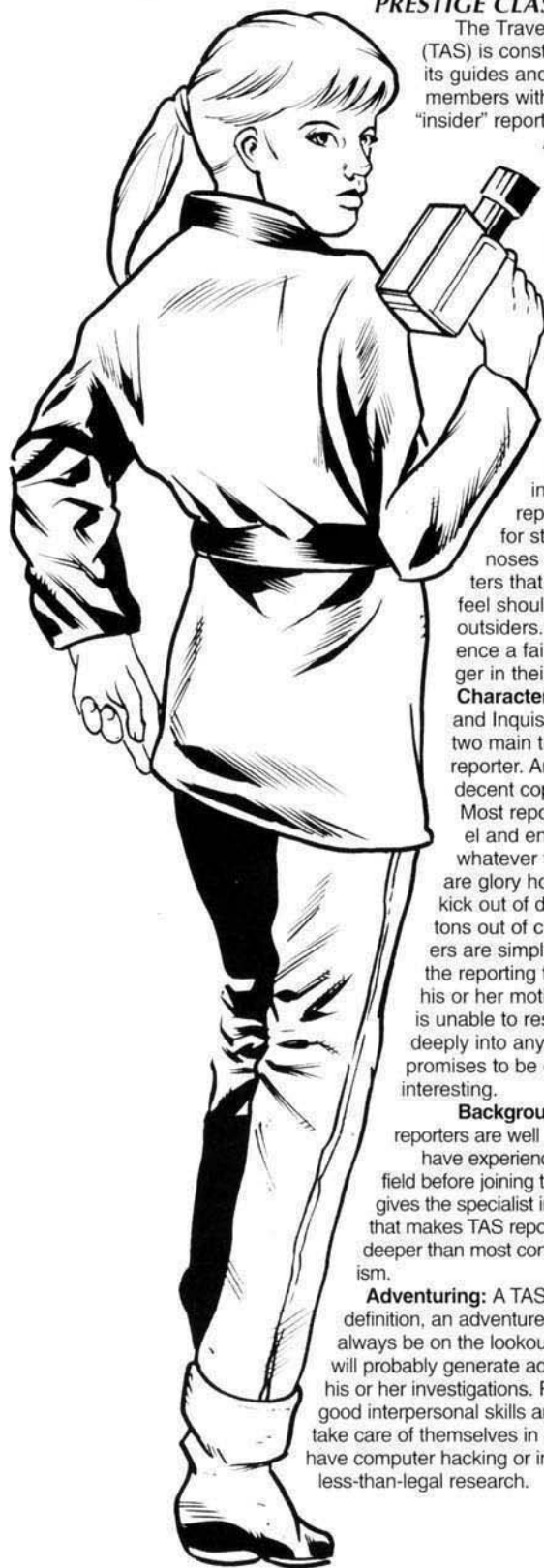
for sticking their noses deeply into matters that some people feel should not concern outsiders. They experience a fair amount of danger in their work.

**Characteristics:** Integrity and Inquisitiveness are the two main traits of the TAS reporter. An ability to write decent copy is useful too.

Most reporters like to travel and enjoy investigating whatever they find. Some are glory hounds who get a kick out of dragging skeletons out of closets, while others are simply dedicated to the reporting truth. Whatever his or her motivation, a reporter is unable to resist digging deeply into anything that promises to be even remotely interesting.

**Background:** Most TAS reporters are well educated and have experience in some other field before joining the TAS staff. This gives the specialist insider information that makes TAS reports so much deeper than most conventional journalism.

**Adventuring:** A TAS Reporter is, by definition, an adventurer. He or she will always be on the lookout for a story, and will probably generate adventure leads by his or her investigations. Reporters have good interpersonal skills and can usually take care of themselves in a fight. Some have computer hacking or intrusion skills for less-than-legal research.



### GAME RULE INFORMATION

**Requirements:** To become a TAS Field Reporter, a character must meet the following requirements:

**Skills:** P/Journalism 4+, Gather Information 8+, T/Electronics 4+

**Stamina Dice:** d6 + Con modifier per level.

**Carousing:** At 5th level a TAS reporter automatically gains this feat (as per the standard feat, see pg. 100). If the character has already selected this feat, they may select any other standard feat they are qualified for instead.

**Connections** Beginning at 2nd level and at every level after that (4th, 6th, 8th, and 10th) you develop an increasing range of contacts and informants in your personal news and information-gathering network. Add +1 per Connection bonus to any Gather Information checks when utilizing these contacts.

**Expense Account:** A reporter has an open expense account equal to Cr5000 per level per month. Expense funds not used one month do not carry over to the next month. If not used they are lost at the end of the month. These funds must be spent on story-related expenses, and the reporter must turn in a detailed expense report at the end of each month to account for its use. Any equipment or other non-consumable/expendable items must be turned into the local TAS bureau office. If the reporter wishes to keep an item bought using the expense account, he or she must reimburse the TAS bureau the full cost. If an expense report is not turned in, the amount spent will be deducted from the next month's expense account.

**Press Pass:** Having a valid press pass will gain a reporter access to some areas, people and information not available to the general public, such as the scene of a crime or access to certain governmental records. As a reporter becomes more experienced (and typically more well known) the value of their press pass also grows. For every 2 class levels, the TAS Field Reporter may add +1 to any Bluff or Intimidate skill check when dealing with authorities or company bureaucrats in an attempt to gain access to an area, view documents, or interview someone.

This may only be attempted once per encounter with any given group or individual.

**Research:** The character is skilled at sifting and analyzing data and information from various sources for the clues and evidence needed to put a report together. Allows the synergistic use of Knowledge and another information-related skill together with Gather Information skill. Beginning at 3rd level and at every level after that (6th and 9th), the character earns a +1 Research bonus.

Circumstances	Gather Knowledge Roll Adjustment
Multiple Sources	-1 per Knowledge or other skill used, if more than one is involved.
Per Research bonus	+1
Per Successful Source Skill Check	+5

**TAS Membership:** By 7th level, the TAS Reporter has usually done sufficient good work for the bureau that they are rewarded with a free membership in the Traveller's Aid Society. See the Traveller's Aid Society (pg. 17) for more information.

## ACE PILOT

	<i>Base Attack Bonus</i>	<i>Fort Save</i>	<i>Ref Save</i>	<i>Will Save</i>	<i>Special</i>
1st	+0	+0	+2	+0	Vessel Specialization
2nd	+1	+0	+3	+0	Personal Vessel
3rd	+1	+1	+3	+1	Unpredictable Maneuvers
4th	+2	+1	+4	+1	Vessel/Starship, Small Craft, Aircraft, or Grav
5th	+2	+1	+4	+1	Vessel Specialization
6th	+3	+2	+5	+2	Personal Vessel
7th	+3	+2	+5	+2	Ace Evasion
8th	+4	+2	+6	+2	Vessel/Starship, Small Craft, Aircraft, or Grav
9th	+4	+3	+6	+3	Vessel Specialization
10th	+5	+3	+7	+3	Personal Vessel

## ACE PILOT CLASS SKILLS

<i>Class Skill</i>	<i>Key Ability</i>	<i>Class Skill</i>	<i>Key Ability</i>
Gather Information	Cha	T/Communications	Edu
T/Computer	Edu	Driving	Dex
T/Electronics	Edu	Gambling	Int
Gunnery	Wis	Leader	Int/Cha
Knowledge	Edu	T/Mechanical	Dex
Pilot	Int/Dex	Recruiting	Edu
Spot	Wis	Survival	Wis

**Skill Points at per Level:** 2 + Int modifier

## ACE PILOT

### PRESTIGE CLASS

Some pilots are just plain special, with skills far beyond the ordinary. Some are smugglers, some naval fighter pilots, others serve in the Scout Service or do amazing things with a humble Free Trader starship.

**Characteristics:** Ace Pilots are usually arrogantly confident and just can't do something the safe and easy way if there's a flashier option. Most have dangerous hobbies like racing performance grav bikes. The typical Ace is obsessed with pushing the limits of his abilities and his craft, and is often insubordinate when given orders.

**Background:** Ace Pilots can gain their basic skills in a variety of services and careers. Anywhere that a character can find a suitable vehicle, he can become an Ace Pilot. Thus they can be found among Army grav tank pilots, Marine assault pilots or even commercial shuttle crewmembers.

**Adventuring:** An Ace Pilot can do things with a vehicle or starship that almost defy belief. They can land where a lesser pilot would simply crash, evade pursuit or give the captain an edge in space combat. If the team has a vehicle, an Ace Pilot can get the most out of it.

### GAME RULE INFORMATION

**Requirements:** To become an Ace Pilot, a character must meet the following requirements:

**Skills:** Pilot 8+

**Feats:** Ship Tactics, and Vessel/Starship, Vessel/Small Craft, Vessel/Grav, or Vessel/Aircraft.

**Stamina Dice:** d8 + Con modifier per level.

**Ace Evasion:** Once per round, if the vehicle an Ace is flying is hit for damage, he may make a Pilot skill check (DC equal the attack roll made to hit). If successful, the Ace has managed to evade the attack and the vehicle takes no damage.

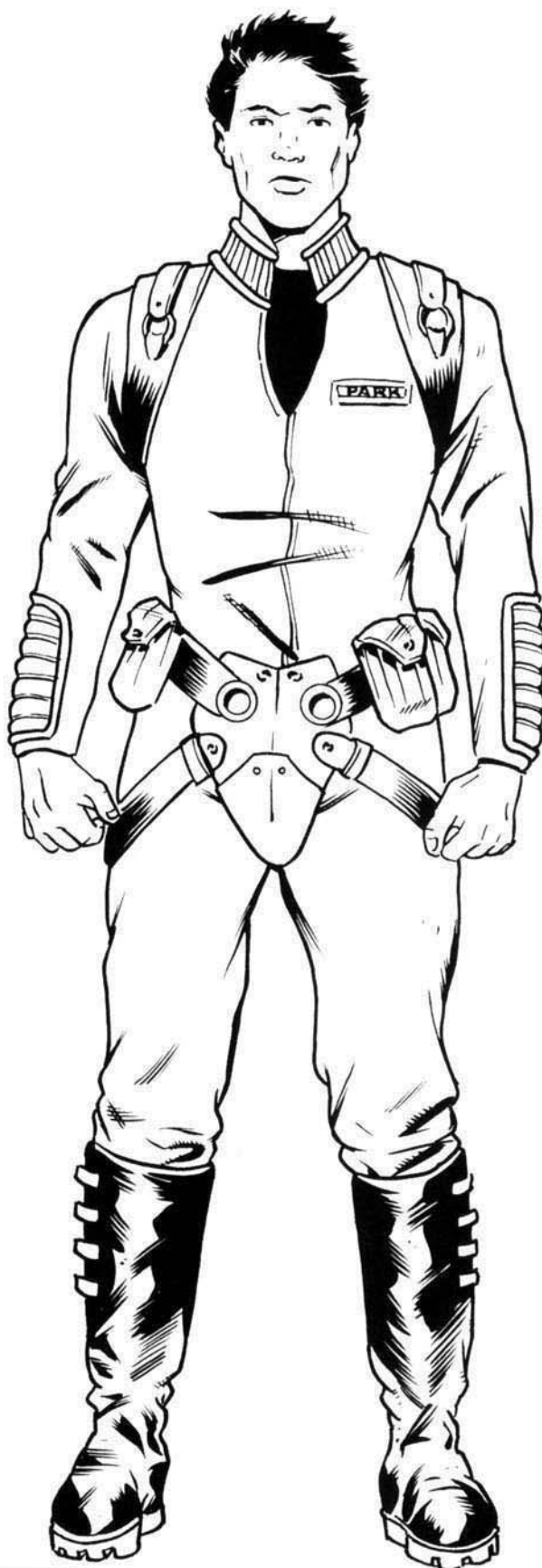
**Personal Vessel:** The character has chosen and in a sense, bonded with, a specific vehicle. When flying this specific vessel the character may add +4 to all piloting and gunnery skill checks. A character may only select one specific vessel per vehicle type (Starship, Small Craft, Aircraft, or Grav). A character may select a new vessel as their personal vessel at any time, but the character has only a +2 bonus with either vessel for the first year as they become accustomed to the new vessel and its idiosyncrasies. After a year of transition the character will enjoy the full +4 bonus when piloting the newly selected vessel, and lose all bonuses when piloting the former vessel.

**Unpredictable Maneuvers:** When an Ace Pilot is flying a craft, and makes any maneuver that is a Move action, they may add +2 to the AC (not AR) of the vessel against incoming computer (non-gunner) controlled attacks.

**Vessel Specialization:** The character is extremely familiar with a given general class of ship or craft, such as 200-ton Free Traders, 100-ton Scout Ships or 50-ton Fighters. When flying a vessel of this type the character may add +2 to all piloting and gunnery skill checks. This does not stack with personal vessel.

**Vessel/Starship, Small Craft, Vessel/Aircraft, or Grav:**

The character may select any of these three feats that they do not already have. If the character already has all three feats, they may select any feat from the general Feats list that they are qualified for.





# PSIONICS

The powers of the mind are incredible. Most intelligent beings have some latent psionic ability. But while this potential exists only a very rare few have learned how to harness these powers, whether through natural talent or more formal training.

## PSIONICS INSTITUTE

The Institute will examine those seeking to determine their psionic potential, and train those who wish to be trained, for the appropriate fees. Unfortunately, most Institutes do not advertise in the local paper and can be rather hard to find. Locating a Psionics Institute is often a source of adventure unto itself.

## DETERMINING PSIONIC POTENTIAL

A comprehensive examination will take two weeks time, cost Cr5000, and at the end of which the character will be provided with a comprehensive measure of their psionic potential. It should be noted that psionic potential severely declines as one gets older. The earlier someone is tested and trained, the more potential they are likely to have.

Some charity is available for the truly indigent who apply (Referee's decision, then have the character make a Charisma check (DC18) to be given a free examination). Characters being examined by the Institute due to selecting the PSI Training feat have this fee waived.

**The Examination:** The character determines his psionic potential by rolling 3d6, subtracting -1 for every 4 years of age (or fraction thereof) he is over the age of 18. For example, a 54 year old character being tested would roll 3d6-9 to determine his psionic potential ( $54 - 18 = 36 / 4 = +9$ ).

If a character has previously taken this exam, they do not roll again. Instead simply use the previous potential. If the character has aged a year or more since the last examination, the effects of age still apply and may reduce their potential if enough time has passed.

## TRAINING

Once it has been determined that a character has a psionic potential of 1 or more, he must be trained in the use of that potential immediately or it will continue to degrade with age. The only way to avoid the loss in potential with age is to be trained. The Institute of course offers such training for a fee of Cr100,000. The training takes 4 months of intensive study and training, during which time the character will be unable to attend to anything other than his basic needs.

Characters attending the Institute by selecting the Psi Training feat have this fee waived. Extremely gifted individuals (Psi score of 12 or higher) may apply for a scholarship if they cannot otherwise afford the training. In such cases, the Institute will take 95% of the character's assets and possessions and waive the remainder of the fee.

Once trained, the character may now record their psionic potential as their actual PSI score, and need no longer worry about the effects of further aging on their psionic ability.

## PSIONIC STRENGTH (PSI)

PSI represents the total psionic power a character is able to call upon before become too mentally exhausted to continue using their psionic abilities. Psionic feats, called talents, require a specific cost in Psi to empower

## PSIONIC STRENGTH BY AGE

Age	Max PSI*	Roll for PSI	Age	Max PSI*	Roll for PSI
up to 18	18	3d6	58	8	1d6-10
22	17	3d6-1	62	7	1d6-11
26	16	3d6-2	66	6	3d6-12
30	15	3d6-3	70	5	3d6-13
34	14	2d6-4	74	4	3d6-14
38	13	2d6-5	78	3	3d6-15
42	12	2d6-6	82	2	3d6-16
46	11	2d6-7	86	1	3d6-17
50	10	1d6-8	90	0	3d6-18
54	9	1d6-9			

\* At the time of testing only



its effects. When a talent is used, the cost is applied against the character's current PSI score. If the cost of using the talent would reduce the character's current PSI rating to less than 0, that talent cannot be used at that time.

If the use of a talent ever reduces the character to exactly 0 PSI points, the character will immediately fall comatose for the next 2d6 hours. The character can make a Will save (DC15) to cut this time in half. It will be impossible to wake the character during this comatose state. After the given number of hours, the character will awaken from the coma on his own, with the effect of having had the equivalent of a full night of rest and recovery.

**Recovery:** A character will recover 1 PSI point per hour of standard activity (i.e. no combat or use of other psionics). A full night of rest will fully restore any expended PSI points.

*Note: PSI is not an ability score. A character's PSI score cannot be improved except through the use of psi-enhancing drugs.*

## THE FIVE POSSIBLE SPHERES

There are five possible spheres of influence that a psionist may be capable of manipulating though it is very unlikely that anyone would be capable of activity in all spheres. When the character receives training at a Psionics Institute, it will be determined which spheres the character has an affinity for.

A character will always have an affinity for at least one sphere, but which one is not necessarily up to them. The character may list which of the spheres they would prefer to have an ability in, from most preferred to least preferred. If the character is a natural talent and already has one sphere of influence noted, the character will skip that sphere and list the remaining spheres as previously described.

Starting with the character's first choice on the list and consulting the Sphere Affinity table, the character must rolls 1d20 against the DC listed for the appropriate sphere. If the roll is successful, the character may develop talents within that sphere.

Continuing down the character's list, each sphere is similarly checked to see if the character may also develop talents within these spheres. A cumulative modifier of -2 is add to each roll after the checking the first sphere on the character's list; -2 for the second roll, -4 for the third roll, and so on.

If the last sphere on the character's list is reached and no other spheres have yet to be gained, then this will be the one and only sphere the character has an affinity with. Otherwise, check for affinity normally.

## SPHERE AFFINITY

Sphere	DC
Telepathy	4
Clairvoyance	7
Telekinesis	7
Awareness	9
Teleportation	15

## EFFECTS OF TRAINING

Psionics is very much a mystical art rather than a precise science. Thus training at the Institute can merely acquaint the character with basic concepts and theories of control over his newfound gifts. As little as the training really is, it provides enough knowledge to allow the character to begin actually developing his abilities.

## SPHERES OF INFLUENCE

The talents available to a psionist are divided into five different spheres of influence: Telepathy, Clairvoyance, Awareness, Telekinesis, and Teleportation. A psionist develops his capability within a given sphere, but the number of different spheres of influence a psionist may control limited to those acquired during training at the Institute.

## SPHERE DEVELOPMENT

Once a character has an affinity with a sphere of influence and has been trained, he may list and develop it as if it were a normal cross-class skill, except that the character's skill rank in the sphere may never exceed his Psi score. For example a character with a Psi score of 8 could not develop any sphere higher than a skill rank of 8, regardless of his actual level.

The skill rank of a character within a sphere of influence determines which of the Talent feats the character is eligible to learn. If a Talent feat has a skill rank requirement of 7 and the character only had a skill rank of 6 within that talent's sphere of influence, the character could not yet select that talent.

Note that a character with the Natural Talent feat will always have an effective skill rank of 2 higher than their actual skill rank within their natural sphere of influence.

## PSIONIC TALENTS

The things a psionist can do with his or her mind are called talents. A talent is similar to a magical spell in other d20 games. Indeed, to folks of lower technology levels, psionics may appear to be evidence of real magic. However, a psionic talent has no necessary 'components' of any sort. A psionist merely need to think of doing something and will it to be done, immediately.

Each talent must be selected as if it were a normal feat, and the character must have a skill rank in the appropriate sphere of influence at least equal to or greater than



## PSIONIC RANGE TABLE

Range	Tele- pathy	Clair- voyance	Tele- kinesis	Tele- port	Range Descriptions
Close	0	0	0	2	in physical contact, touching.
Short	2	2	2	3	sword or polearm point. 1 to 5 meters.
Medium	3	2	3	5	pistol range. 6 to 50 meters.
Long	4	3	7	5	rifle range. 51 to 250 meters
Very Long	5	3	14	5	extreme range. 251 to 500 meters.
Distant	6	5	-	7	beyond normal contact. 501 to 5000 meters.
Very Distant	7	5	-	7	out of sight. 5 to 51 kilometers.
Regional	8	6	-	8	51 to 500 kilometers.
Continent	8	6	-	8	501 to 5000 kilometers
Planetary	9	6	-	8	5001 to 50,000 kilometers.

the rank of the talent itself before it may be selected. The character must also be able to satisfy any other prerequisites that may be listed for a talent.

## USING TALENTS

## RANGE

Each psionic talent has a cost associated with the range at which it is used, in addition to the base cost listed for the talent itself. Consult the chart above to determine these costs.

## TALENT FORMAT

Each talent follows the same format as described below.

## TALENT NAME

**Sphere:** A character must have at least a skill rank of 1 or higher within the listed sphere of influence for that talent.

**Prerequisites:** Some talents require the possession of other lesser but related talents before they may be taken.

**Rank:** Each talent lists the minimum skill rank that a psionist must have in order to use that talent. For example, a psionist trained in the Telepathy sphere with a skill rank of 7 could not use the Probe (Rank 9) or the Assault (Rank 10) talents.

**Cost:** To use a talent, the psionist must temporarily expend their Psionic Strength (PSI) to empower it. If a psionist does not have sufficient PSI remaining to empower a talent, he may not use it at that time.

**Duration:** Some talents are immediate in effect, other may last for seconds, minutes, or even hours. Each talent details the amount of time the talent will be remain in effect.

A descriptive text will follow the statistics of each talent.

## TELEPATHY SPHERE

Telepathy is the ability to communicate directly with other minds. In its most basic form, telepathy allows a character to detect or project feelings and emotions only. In its more advanced forms, telepathy allows for direct transfer of mental images and thoughts, or even a psychic assault against another mind.

## SHIELD

**Sphere:** Telepathy

**Rank:** 1

**Cost:** 0

**Duration:** Always in effect

**Benefit:** All Psionicists trained in the telepathy sphere are taught how to erect a mental shield, protecting them against unwanted outside telepathic interference. This shield is in force at all times and requires no effort or expenditure of Psi Strength to maintain it. The shield will stop any type of telepathic talent short of an Assault, when directed against the psionist. Of course, the psionist may lower this shield at any time to allow another telepath access to his or her thoughts, if so desired.

## LIFE DETECTION

**Sphere:** Telepathy

**Rank:** 1

**Cost:** 2

**Duration:** Up to 60 seconds

**Benefit:** The Psionist can detect the presence of other minds. This ability enables a character to sense the pres-

ence of other minds, the number of minds present, the general type of minds (animal, human, Vargr, etc.) and their approximate location.

## TELEMPATHY

**Sphere:** Telepathy

**Prerequisites:** Life Detection

**Rank:** 2

**Cost:** 2

**Duration:** Up to 60 seconds

**Benefit:** The Psionicist can sense and communicate emotions and basic feelings. Telepathy allows the character to read the emotions and feelings of both animals and members of their own race. The character may also send emotions such as love, hate, fear, trust, and others to influence other animals and members of their own race.

## READ SURFACE THOUGHTS

**Sphere:** Telepathy

**Prerequisites:** Telepathy

**Rank:** 4

**Cost:** 3

**Duration:** Up to 60 seconds

**Benefit:** The Psionicist can read the thoughts of other (sentient) individuals. They may read and comprehend the active, current thoughts of a subject who will (if not herself psionically talented) remain unaware of the action. If the subject is psionically talented, their thoughts cannot be read due to their natural shields, and they will immediately be aware of the attempt.

## SEND THOUGHTS

**Sphere:** Telepathy

**Prerequisites:** Read Surface Thoughts

**Rank:** 5

**Cost:** 3

**Duration:** Up to 120 seconds

**Benefit:** The Psionicist may send thought messages to anyone, though psionically talented individuals may choose to shield out such thoughts if desired.

## PROBE

**Sphere:** Telepathy

**Prerequisites:** Read Surface Thoughts

**Rank:** 9

**Cost:** 12

**Duration:** Up to 10 minutes

**Benefit:** The Psionicist may question a subject using Probe and easily determine deliberate untruths that may be told (or thought). Probe cannot be used on a shielded mind.

## ASSAULT

**Sphere:** Telepathy

**Prerequisites:** Send Thoughts

**Rank:** 10

**Cost:** 14

**Duration:** 2 seconds

**Benefit:** An assault against an unshielded mind will reduce the target to 0 Stamina, rendering them immediately unconscious immediately and will additionally inflict 2d6+6 points of Lifeblood damage. Against a shielded mind, the attack must make an opposed PSI check. If the target has the higher PSI check roll, there is no effect from the assault.

## CLAIRVOYANCE SPHERE

Clairvoyance is the ability to sense events occurring or 'see' items located out of the direct view of the character. Early ability with this sphere is restricted to vague and basic 'views' at very limited range, and grows in range and capability with the increased development.

## SENSE

**Sphere:** Clairvoyance

**Rank:** 2

**Cost:** 2

**Duration:** Up to 30 seconds

**Benefit:** A character will become aware of the most basic characteristics of a location when using this talent, such as 'a room containing four dogs' or 'an open plain with a single tree'. Generally the most interesting or important features will be sensed.

## CLAIRVOYANCE

**Sphere:** Clairvoyance

**Prerequisites:** Sense

**Rank:** 5

**Cost:** 3

**Duration:** Up to 30 seconds

**Benefit:** The character can view the activity and features of a specific distant location.

## CLAIRAUDIENCE

**Sphere:** Clairvoyance

**Prerequisites:** Sense

**Rank:** 5

**Cost:** 3

**Duration:** Up to 30 seconds

**Benefit:** The character hears the any sounds and noises occurring at a specific distant location.



### **COMBINED CLAIRAUDIENCE AND CLAIRVOYANCE**

**Sphere:** Clairvoyance

**Prerequisites:** Clairaudience and Clairvoyance

**Rank:** 9

**Cost:** 3

**Duration:** Up to 30 seconds

**Benefit:** Imparts the benefits of both talents.

### **AWARENESS SPHERE**

Awareness deals with the sense and control of one's own body.

### **SUSPENDED ANIMATION**

**Sphere:** Awareness

**Rank:** 2

**Cost:** 5

**Duration:** Up to 7 days

**Benefit:** The character can enter a state of suspended animation similar to cryosleep, but without the dangers, and remain suspended without need of food and water for up to 7 days. An external stimulus is required to awaken the sleeper, such as an alarm clock, or a friend).

### **PSIONICALLY ENHANCED STRENGTH**

**Sphere:** Awareness

**Prerequisites:** Suspended Animation

**Rank:** 4

**Cost:** Varies

**Duration:** 60 minutes (peak effectiveness)

**Benefit:** For each PSI point spent using this talent, the Psionist may temporarily add 1 point to his or her strength score. This effect will last for 60 minutes, after which it will begin to quickly return to normal at a rate of 1



point per minute.

## PSIONICALLY ENHANCED CONSTITUTION

**Sphere:** Awareness

**Prerequisites:** Suspended Animation

**Rank:** 5

**Cost:** Varies

**Duration:** 60 minutes (peak effectiveness)

**Benefit:** For each PSI point spent using this talent, the Psionist may temporarily add 1 point to his or her constitution score and 1 point to Lifeblood score. This effect will last for 60 minutes, after which it will begin to quickly return to normal at a rate of 1 point per minute.

## REGENERATION

**Sphere:** Awareness

**Prerequisites:** Psionically Enhance Strength and Psionically Enhance Constitution

**Rank:** 9

**Cost:** Varies

**Duration:** Immediate

**Benefit:** For each PSI point spent using this talent, the Psionist may recover 1 point of Lifeblood damage and 10 points of Stamina damage. Healing occurs immediately. This talent includes the ability to growing new limbs and organs to replace lost ones, and may also be used to heal old injuries suffered before the character was trained. This talent cannot counteract the effects of aging.

## TELEKINESIS SPHERE

Telekinesis is the ability to manipulate objects without physically touching them. There is but one talent associated with this sphere; Telekinesis. How large and object and how long it can be manipulated is based on the PSI rating and skill rank of the character.

### TELEKINESIS

**Sphere:** Telekinesis

**Rank:** Varies

**Cost:** Varies

**Duration:** up to 60 seconds

**Benefit:** A character can manipulate (use) any item or object as if he or she were physically touching it, but is not subject to any physical danger, pain, stimuli, or other consequences that would normally befall anyone in contact with the object.

Weight	Rank	Cost	Duration
1 gram	1	2	60
10 grams	2	3	60
100 grams	3	5	60
1 kilogram	5	8	60
10 kilograms	8	12	60
100 kilograms	10	14	60
1000 kilograms	14	16	60
10,000 kilograms	18	18	60

## TELEPORTATION SPHERE

Teleportation is the ability to instantaneously move from one point to another, without regard to intervening matter. Like telekinesis, there is only one talent within this sphere; Teleportation. How much weight one may move and how far are based on the PSI rating of the character and his skill rank with this sphere.

### TELEPORTATION

**Sphere:** Teleportation

**Rank:** Varies

**Cost:** Varies

**Duration:** Instantaneous

**Benefit:** If the Psionist can see the destination at a distance, is already familiar with the destination, or can have the mental image of the destination implanted into her mind by a telepath, she may use this talent to move immediately to the destination location.

## PSI DRUGS

Chemical means are available to enhance a character's psionic strength on a temporary basis.

**Booster:** The basic psi-drug, available in a small one-dose pill. It will temporarily increase the user's PSI score

by 5 if the user is at full psionic strength, otherwise it will only increase the PSI score by 3. The effects will last one hour. Additional doses taken during that hour will have no effect.

**Double:** A more potent form of Booster, available in the same small one-dose pill. Double will increase the user's Psi score temporarily by +8 (+5 if not currently at full psionic strength). The effects will last one hour.

## TELEPORTATION

Circumstance	Rank	Cost	Max Weight
Self, unclothed	5	Range	Body Weight
Self, clothed	7	Range	+ 1000g
Self, with light equipment	9	Range	+ Str x 1kg
Self, with moderate equip.	12	Range +2	+ Str x 10kg
Self, with heavy equip.	15	Range +5	+ Str x 20kg



Additional doses taken during that hour will have no effect.

**Special:** The rarest of psi-drugs, special is only available in liquid form and must be taken by injection. Once taken the user's PSI score will gradually increase to 18 at the rate of one point per hour. It will remain at 18 (if unused) for four hours, and then slowly begin to wear off, again at a rate of one point per hour. There is a danger when using Special, of permanently losing one point from the user's PSI score (Con save vs. DC5 to avoid this effect)

#### PITFALLS

The abuse of psi-drugs can lead to the loss of psionic ability and physical debilitation. If a character takes 3 doses of any psi-drug within three days, there is a chance (Con save vs. DC6 to avoid) of an overdose within six hours of the last dose taken.

If an overdose occurs, the character becomes seriously ill, lapses into unconsciousness, and takes 3d6 Lifeblood damage from the effects. If the character recovers, they will have permanently lost 1 from their PSI score (Con save vs. DC16 to avoid the loss).

# TECHNOLOGY AND EQUIPMENT

Technology in Traveller is rated according to a series of "tech levels" that give a general idea of the level of sophistication available to the local population. The following tables summarize the most advanced technology available to a culture of any given tech level.

## WEAPONRY

## ELECTRONICS

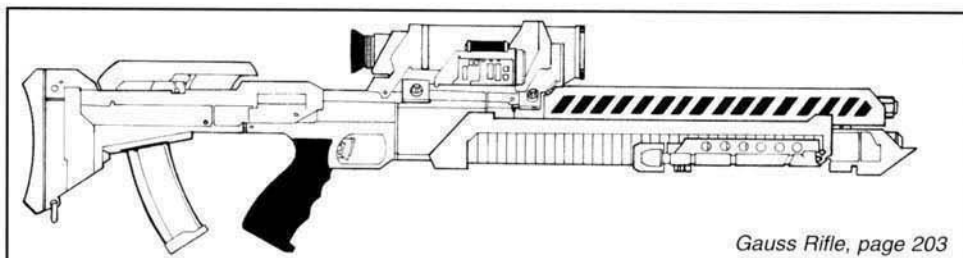
	<i>Personal</i>	<i>Armor</i>	<i>Heavy</i>	<i>Computers</i>	<i>Communications</i>
0	club, cudgel spear				runners
1	dagger, pike	jack	catapult	abacus	heliograph
2	halberd, matchlock broadsword		cannon		
3	foil, cutlass, flintlock blade, bayonet				
4	revolver shotgun		artillery	adding machine	telephones
5	carbine, rifle pistol, submachinegun	steel plate	sandcasters	Model/1	radio
6	auto rifle light machine gun	cloth	missiles missile launchers	Model/1 bis	television
7	body pistol assault rifle	mesh flak jacket	pulse/beam laser grenade launcher	Model/2 hand calculator	
8	laser carbine snub pistol	vacc suit	auto-cannon	Model/2 bis artillery computer	
9	laser rifle accelerator rifle	ablat		Model/3 battle computer	
10	advanced combat rifle	reflec cbt environment suit	VRF gauss gun	Model/4	
11		combat armor		Model/5 hand computer	
12	PGMP-12 gauss rifle laser pistol	hostile envir. suit	light assault gun	Model/6	
13	PGMP-13	battle dress		Model/7	
14	PGMP-14 FGMP-14				
15	FGMP-15				
16			disintegrators	artificial intelligence	
17					
18					
19					
20					



## TRANSPORTATION

## POWER

	Water	Land	Air	Space	Energy
0	canoes rafts	carts			muscle
1	galleys	wagons			
2					wind
3	sailing ships		hot air balloons		water wheel
4	steamships	trains	dirigibles		coal
5	ground cars		fixed wing aircraft		oil
6	submersibles	ATV AFV	rotary wing aircraft		Fission
7	—hovercraft—			non-starships	Solar
8		air/rafts			Fusion
9				Jump-1	
10		—grav vehicles— grav tanks			
11				Jump-2	
12			grav belts	Jump-3	
13				Jump-4	
14				Jump-5	
15				Jump-6	
16		—matter transport—			
17					anti-matter
18					
19					
20					



*Gauss Rifle, page 203*

material technology of the world may be. It is particularly important to realize that comparisons between TL and Terran technology do not mean that society will be in any way similar to the equivalent period of Earth's history. TL 7 does not mean flares, white suits

and medallions in the disco...

The tech level rating assigned to a world is intended to indicate the highest level of technology in common use. It does not matter whether this technology is locally produced or imported on a regular basis, so long as the world can support it with maintenance or new imports.

The rated level of technology is likely to be encountered close to the Starport or capital, and in major industrial or commercial centres. Further out from the main regions, tech level is likely to be lower. This is particularly true of mid-tech worlds (TL 5-9) where large segments of the population live in rural areas with much more limited technology than their urban cousins. Low-tech (0-4) and High-tech (9+) worlds tend to be more uniform in technology distribution.

The tech level chart is not a hard and fast rule. Examples of higher-tech equipment may exist, for example in the homes or businesses of the ruling elite, or in the hands of special military units. The tech level rating ignores items like this, since they form a small proportion of the available tech base.

For example, a TL 6 world that relies heavily on steam-powered rail transport may choose to import an advanced fusion-powered locomotive for the "Royal Train", and arm the security staff aboard it with laser rifles. The world is still rated as TL6, since the technology available to an ordinary citizen is of this level and the Royal Train represents an expensive imported (and non-sustainable using local resources) luxury.

The following section attempts to give an overview of each Tech Level. Note that there will always be variations. There are other ways to do things, and sometimes a high-tech device can be copied crudely at lower tech levels; more advanced versions of a lower-tech item may be in use. People are always full of surprises, especially on unusual worlds where alternate technologies have been explored. Stone-age laser weaponry should be rather rare, though...

Note also that social development can be (and usually is) entirely independent of technology. While some forms of government need technological assistance, the majority can exist anywhere. Advanced republics are possible at the stone age level of technology, while brutal anarchies or dictatorships are possible no matter how advanced the

## TECH LEVEL 0 (STONE AGE)

Dwelling in natural caves or crude shelters, TL 0 citizens generally have no writing and preserve knowledge through oral tradition. They are capable of domesticating animals for travel and work purposes and of constructing crude boats such as dugout canoes. Muscle is the only energy source available. Hunting and simple agriculture feed the people, who arm themselves with spears and clubs for the hunt and for war. Medicine is a matter of mystical tradition, and may include brutal or wildly incorrect "treatments" alongside excellent herbal remedies. Common injuries (such as broken limbs) can be treated reasonably effectively.

## TECH LEVEL 1 (BRONZE AGE, IRON AGE TO EARLY MIDDLE AGES)

Dwellings range from wooden huts to houses of stone or fired brick, and may be grouped into large settlements or even cities. Castles and other fortifications are possible. These settlements are supported by irrigated agriculture and may utilize water power. Communication is by messenger, and perhaps technological means such as signal fires, smoke and heliographs. Early wheeled vehicles (carts and chariots) are used in work, trade and war, while coastal voyages by galleys and early sailcraft are possible. Warfare is conducted with swords, bows and metal body armor, with sieges supported by catapults and similar engines. Advances in mathematics (devices such as the abacus and functions like trigonometry) make such weapons effective. Medicine is somewhat advanced, and many diseases can be diagnosed, though treatments are rather crude and often ineffective.

## TECH LEVEL 2 (CIRCA 1400 TO 1700)

Increasingly large cities are connected by good roads and canals to facilitate trade and communication. Quite advanced (animal-powered) wheeled vehicles with early suspension use these roads, while at sea large sailing vessels make long voyages aided by advances in mathematics (including algebra) that lead to crude but effective navi-

gation methods. In the cities, printing presses make the written word available to a larger segment of the population, while wind power increases productivity. Warfare is conducted with advanced versions of TL 1 weapons, plus primitive firearms and cannon. Medicine advances to an understanding of internal anatomy.

## TECH LEVEL 3 (CIRCA 1700 TO 1860)

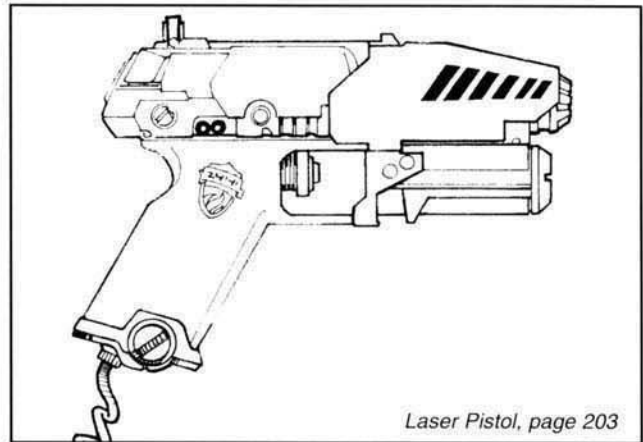
The road network is more or less universal, and travel is increasingly common. Stagecoaches and similar vehicles can make regular runs on land, while at sea advanced sailing ships can reliably navigate the entire globe. Cities now include cement structures while early experiments with electricity allow the creation of a limited electric telegraph system. Other experimentation leads to advanced mathematics (calculus) and a variety of inventions including hot air balloons. Firearms now dominate warfare, with muskets and flintlock rifles being the main smallarms in use. Mobile cannon make battlefield artillery support highly effective, and crude but effective surgery is available to patch up the many victims.

## TECH LEVEL 4 (CIRCA 1860 TO 1900)

Steam powered railways and ships help open up remote areas, and quite large cities can be built in rugged or inhospitable areas. Air transport in the form of dirigibles is also possible, though of limited use. Steam engines are used in industry and in warfare, where ironclad warships and mechanical machineguns, combined with repeating cartridge firearms give the beginnings of a "modern" warfare capability. Other advances include vaccination, antiseptics and a variety of devices including primitive audio recordings, mechanical calculating machines and telephones.

## TECH LEVEL 5 (CIRCA 1900 TO 1940)

Petrochemical exploitation allows the creation of useful self-propelled ground vehicles and early aircraft, while rail and sea travel are commonplace. Advanced structures such as skyscrapers become possible, as do sealed, environmentally-controlled buildings. Warfare is conducted with crude armored vehicles, good quality artillery and bulky automatic weapons. Early submersibles and armored battleships are the main sea combatants. Crude rockets are capable of putting a satellite into orbit, while radar and radio communications are available, if unreliable. Other inventions include electric calculating machines and the use of X-rays in medicine.



*Laser Pistol, page 203*

## TECH LEVEL 6 (CIRCA 1940-1970)

Cities can be built almost anywhere, including in deep jungle, mountain or arctic terrain. Advanced submersible craft begin exploration of the oceans, while manned rockets perform the same task in space. Satellites are common. Nuclear fission allows cheap power and the creation of nuclear warheads. Coupled with advanced radar, early computers (a massive mainframe equivalent to the Model/1) and missile technology, space defense is now marginally possible, as is total global destruction. Warfare is conducted with early jet aircraft, advanced tanks and helicopters. Fully-automatic smallarms are commonplace. Medicine now understands viruses. Other advances include television and early prosthetic limbs.

## TECH LEVEL 7 (CIRCA 1970-1990)

Large cities can now be built in any terrain, including underground, and are linked by satellite communications and early desktop computers. Travel is possible in a variety of vehicles from advanced high-speed trains and hovercraft to ultralight aircraft and supersonic airliners. Unmanned long-range space probes can be launched and solar power is becoming a viable large-scale energy source. Weaponry is increasingly advanced, with experimental beam lasers and advanced missiles complementing composite armor for ground vehicles. Personal protection in the form of ballistic cloth gives a measure of defense against small arms. Organ transplants become more or less reliable, and Medical Slow drug is available.

## TECH LEVEL 8 (CIRCA 1990-2100)

Orbital shuttles and space stations mark a new capability in travel, in that the civilization can now launch manned missions to other worlds in the system and even building small outposts there. On-planet, deep submergence vehicles and hypersonic aircraft further advance existing capabilities, while early artificial gills make lengthy underwater operations a possibility. Weather control is also feasible on a lim-



ited scale. Weaponry includes early particle accelerators and laser smallarms, though neither is very effective. Massive computers are capable of advanced functions while optical communication (fiber-optics) and data storage increase computing power still further. Geothermal power is reliably useful, and medicine is capable of creating artificial organs by a variety of means.

## **TECH LEVEL 9 (CIRCA 2100)**

The Jump Drive becomes available, though only Jump-1 is possible. Early interstellar ships can be constructed. Superconductors and early gravitic technology open up new possibilities, including ultra-high-speed rail links and orbital cities. Primitive and bulky fusion plants provide cheap power for vehicles and installations. Huge self-contained cities (arcologies) are possible in any terrain, while reliable space vessels make in-system travel commonplace. Early grav tanks equipped with mass driver guns and lightweight composite armour make their appearance, while orbital combat vessels and grav-assisted fighter aircraft contribute to planetary defense. Smallarms include reliable laser weapons, which creates a need for ablative personal anti-laser armor. Computers are capable of full voice control. Communication is mainly by flat-screen video link. Medicine is capable of limited limb regeneration and cryogenic suspension.

## **TECH LEVEL A/10 (EARLY INTERSTELLAR)**

Interstellar travel becomes more common as supporting capabilities are developed. Fusion plants become smaller and cheaper, and the gravitic maneuver drive for spacecraft and starships becomes available. Fusion power is now the main source of energy for the civilization. Huge cities can be built anywhere, including deep sea and under the ice caps. Grav transport replaces specialized land, air and sea vehicles. The military smallarm of choice is the Advanced Combat Rifle, while reflex armour offers protection against lasers. Plasma weapons are mounted on vehicles, which are protected by crystaliron armour and repulsors. Advanced computers are capable of full holographic displays, while limited viral vaccination and growth quickening are available in the medical field.

## **TECH LEVEL B/11 (EARLY INTERSTELLAR)**

Jump drives become more advanced (J-2) and fusion plants smaller, making for more efficient starships. Local yards are capable of competing for major commercial shipbuilding contracts, since J-2 is the normal maximum for commercial ships. Computers now use a synaptic model, creating a leap forward in capability. Personal datalinks are

the norm. Gravitics technology makes static floating structures a possibility, though these are not yet common. Unpowered combat armour protects personnel in combat, while early meson guns are mounted in space vessels and defense installations. Medicine is capable of replacing severed nerves and creating artificial eyes.

## **TECH LEVEL C/12 (AVERAGE INTERSTELLAR)**

The Jump-3 drive and personal grav units represent advancements in transport technology, though by this point advancement is mainly a matter of moderate increases in efficiency or capability rather than great leaps forward. Synaptic computers make semi-intelligent robots and vehicles possible, though expensive. Other advances include personal translators capable of communicating in many very different languages. Major terraforming and climate control projects can be undertaken, and medicine can develop broad-spectrum antitoxins as well as enhanced prosthetics. Man-portable plasma weapons appear on the battlefield, along with early gauss rifles. Vehicles and spacecraft are armed with fusion guns and protected by nuclear dampers plus superdense armour.

## **TECH LEVEL D/13 (AVERAGE INTERSTELLAR)**

Jump-4 capability is achieved, along with massive free-floating (static) grav-supported cities. Holographic technology allows hand-held holocameras and holocrystal data storage, while injuries can be treated by cloning replacement body parts. Reanimation several hours after death becomes possible in a limited number of cases. Increasingly advanced plasma guns arm troops protected by powered Battle Dress, while X-ray lasers are fitted to many combat vehicles.

## **TECH LEVEL E/14 (HIGH INTERSTELLAR)**

The Jump-5 drive becomes available, along with early meson communicators. Fully mobile grav-supported cities can be built. Medicine can transplant brains with a good chance of success, and can implant electronic devices into the brain or erase memories. Handheld fusion guns arm infantry, while vehicles and spacecraft are protected by bonded superdense armour.

## **TECH LEVEL F/15 (HIGH INTERSTELLAR)**

The Jump-6 barrier is reached, and although research continues, higher jump numbers may well be impossible. Full pseudoreality is available, along with reliable meson communications, allowing interactive communications over

## MONEY

The standard monetary unit used in T20 is the Credit. A Credit, abbreviated Cr, is worth roughly \$3 (US as of 2001) in real-life monetary terms. Prices in Credits are always written Cr followed by the actual amount, for example Cr1000. For large amounts, there is also the Kilocredit (KCr) worth 1000 credits, the Megacredit (MCr) worth one million Credits, and the Gigacredit (GCr) worth one billion Credits.

Most worlds within the Imperium of the Official Traveller Universe use the Credit as their local currency, with no exchange problems. However, the Referee might decide that a particular world has held on to its own currency. Characters will then have to transfer their funds into local money - at a fee of course. The Credit provides a standard reference, even if characters encounter a myriad of currencies on their travels.

The time lags involved in communication between star systems require that individual travellers use cash, bearer bonds or special credit accounts secured by a major financial backer. Most people who travel transfer some funds to a holding account carried on their personal comm (supposedly uncounterfeitable) and top up this fund when their bank records catch up with them. Others carry bonds as collateral and deposit them at the Starport on each new world, drawing local currency against this fund as needed.

Larger concerns (e.g. businesses) have several ways of overcoming the travel lag. The simplest (but not the most efficient since it ties up a lot of money) is to set up accounts wherever they intend to trade, and transfer funds as needed to maintain a credit balance at these accounts. One solution is to use a third party to handle funds. Financial businesses, rich merchants and some noble houses often act for others in this way, and charge a fee for their services. Some businesses rely on their reputation for good credit and simply trade on the fact that clients know their invoices will be honored. This does create the possibility for scams, but for the most part the system works.

vast distances. Complex terraforming projects can be undertaken. Pseudobiological technology is used to create lifelike prosthetic limbs and robots. The Black Globe Generator becomes available to defend starships against attack, though it is not reliable. Anagathics (longevity drugs) become available.

## TECH LEVEL G/16 (VERY HIGH INTERSTELLAR)

Beyond TL 15, artificial intelligence becomes indistinguishable from the organic sort. Brains can be reliably transplanted and memories partially transferred. Hand-held meson communicators and holovideo units are available to the general public. Early tractors (reverse repulsors) are available for starships, while neural weapons become viable as smallarms.

## TECH LEVEL H+/17+ (EXTREMELY HIGH TECHNOLOGY)

At TL 17+, incredible things are theorized. Starships may be armed with disintegrators and antimatter missiles, and powered by antimatter plants. Teleportation, total terraforming of worlds and suns, and intelligent antibodies are all possibilities. As technology advances, refined versions of existing technologies become available alongside wholly new capabilities.

## WEAPONS

Personal weapons available to characters follows on the next page, detailing their cost, weight and other factors needed for play.

**Cost:** Price in Credits (Cr) or 1000s of Credits (KCr).

**TL:** The minimum tech level required to manufacture such an item.

**Weight:** Weight in grams (g) or kilograms (kg).

**RoF:** Rate of Fire. The number of rounds that may be fired during a standard attack action in the format: Single Shot / Burst Fire / Automatic Fire

**Range:** The range increment for this weapon.

**DMG (Crit):** The damage a weapon inflicts. The number in parenthesis is the Critical Threat Range for the weapon. A multiplier (i.e.: x2, x3, etc.) in parenthesis is the damage multiplier if a critical hit occurs.

**Size:** The size of a weapon. Used in comparison to the size of the person using it to determine if the weapon must be use one-handed, two-handed, or is too large for a character to use.

**Type:** The type of attack the weapon uses.

**Recoil:** Lists if the weapon has recoil when fired.

**Rounds:** The number of rounds the weapon may fire before it must be reloaded or recharged.

**Ammo Weight:** The weight of a full magazine or power pack for a weapon.

## AVAILABLE WEAPONS

	Cost	TL	Weight	RoF	Range	DMG (Crit)	Size	Type	Recoil	Ammo Rnd	Wt	Cost
<b>MELEE WEAPONS</b>												
Dagger	Cr10	0	250g	-	1.5/3 meters	1d4 (19)	Tiny	Piercing				
Blade	Cr50	3	350g	-	1.5 meters	1d6 (19)	Small	Piercing				
Foil	Cr100	3	500g	-	1.5 meters	1d4 (18)	Medium	Piercing				
Sword	Cr150	1	1kg	-	1.5 meters	1d8 (x2)	Medium	Piercing/Slashing				
Cutlass	Cr100	3	1250g	-	1.5 meters	1d8 (18)	Medium	Slashing				
Broadsword	Cr300	2	2500g	-	1.5 meters	2d6 (19)	Large	Slashing				
Bayonet	Cr10	3	250g	-	1.5 meters	1d8 (x2)	Large	Piercing				
Spear	Cr10	0	2kg	-	3/6 meters	1d8 (x2)	Large	Piercing				
Halberd	Cr75	2	2500g	-	3 meters	1d10 (19)	Large	Piercing/Slashing				
Pike	Cr40	1	3kg	-	3 meters	1d12 (x2)	Large	Piercing				
Cudgel	Cr10	0	1kg	-	1.5/3 meters	1d6 (x2)	Medium	Bludgeoning				
<b>BOWS</b>												
Sling	Cr1	0	-	1	15 meters	1d4 (x2)	Small	Bludgeoning	-	100g	-	
Short Bow	Cr50	1	500g	1	18 meters	1d6 (x2)	Medium	Piercing	-	-	100g	Cr2
Long Bow	Cr75	2	1kg	1	30 meters	1d8 (x2)	Large	Piercing	-	-	100g	Cr2
Military xBow	Cr250	2	6kg	1	36 meters	1d10 (19)	Medium	Piercing	-	-	100g	Cr2
Sporting xBow	Cr150	3	3kg	1	24 meters	1d8 (19)	Medium	Piercing	-	-	100g	Cr2
Repeat xBow	Cr200	3	4kg	1	24 meters	1d8 (19)	Medium	Piercing	-	10	100g	Cr2
<b>HANDGUNS</b>												
Revolver	Cr150	4	900g	1	30 meters	1d10 (x2)	Small	Piercing	Yes	6	100g	Cr5
Auto Pistol	Cr200	5	750g	1	45 meters	1d10 (x2)	Small	Piercing	Yes	15	250g	Cr10
Body Pistol	Cr500	7	250g	1	24 meters	1d8 (x2)	Small	Piercing	Yes	6	50g	Cr20
Snub Pistol*	Cr150	8	250g	1	18 meters	1d10 (X2)	Small	Piercing	No	6/15	30g	Cr10
<b>SHOTGUNS</b>												
Shotgun**	Cr150	5	3750g	1	3 meters	3d6/2d6/1d6 (x2)	Medium	Piercing	Yes	10	750g	Cr10
<b>RIFLES</b>												
Rifle	Cr200	5	4kg	1	72 meters	1d12 (x2)	Medium	Piercing	Yes	10	500g	Cr20
Carbine	Cr200	5	3kg	1	45 meters	1d10 (x2)	Small	Piercing	Yes	20	125g	Cr10
Auto Rifle	Cr1000	6	5kg	1/4	60 meters	1d12 (x2)	Medium	Piercing	Yes	20	500g	Cr20
Assault Rifle	Cr300	7	3kg	1/4	45 meters	1d12 (x2)	Medium	Piercing	Yes	30	330g	Cr20
Accelerator Rifle	Cr900	9	2500g	1/3	60 meters	1d12 (x2)	Medium	Piercing	No	15	500g	Cr25
ACR****	Cr1000	10	3500g	1/4	72 meters	1d12+2 (x2)	Medium	Piercing	Yes	20	500g	Cr15
Gauss Rifle	Cr1500	12	3500g	1/4/10	96 meters	2d12 (x2)	Medium	Piercing	No	40	400g	Cr30
<b>MACHINE GUNS</b>												
SMG	Cr500	5	2500g	0/4	45 meters	1d10 (x2)	Small	Piercing	Yes	30	500g	Cr20
LMG	Cr1200	6	5500g	0/10/20	60 meters	1d12 (x2)	Large	Piercing	Yes	100	2500g	Cr120
<b>LASER WEAPONS</b>												
Laser Pistol	Cr1000	12	1200g	1	36 meters	2d10 (x2)	Small	Laser	No	25	500g	Cr100
Laser Carbine	Cr2500	8	5kg	1	45 meters	3d8 (x2)	Small	Laser	No	50	3kg	Cr200
Laser Rifle	Cr3500	9	6kg	1	60 meters	3d10 (x2)	Medium	Laser	No	100	4kg	Cr300
<b>Support Weapons</b>												
LAG***	Cr600	8	4kg	1	96 meters	2d10 (x2)	Large	Piercing	Yes	5	500g	Cr20
Grenade Launcher	Cr200	7	3kg	1	100 meters	*	Medium	*	Yes	1	1kg	*
RAM Launcher	Cr400	8	5kg	1	200 meters	*	Large	*	Yes	3	1.4kg	*
Disposable Launcher	Cr200	7	1.5kg	1	100 meters	*	Medium	*	Yes	1	n/a	n/a
<b>HIGH ENERGY WEAPONS</b>												
PGMP-12	KCr10	12	6kg	1	24 meters	6d12 (18)	Large	Energy	Yes	40	3g	KCr2.5
PGMP-13*****	KCr65	13	900g	1	36 meters	7d12 (18)	Large	Energy	Yes	40	7kg	KCr50
PGMP-14	KCr300	14	9kg/50g	1	36 meters	8d12 (18)	Large	Energy	Yes	40	1.6kg/90g	KCr250
FGMP-14*****	KCr100	14	1kg	1	45 meters	7d20 (18)	Large	Energy	Yes	40	9kg	KCr65
FGMP-15	KCr400	15	1kg/50g	1	45 meters	9d20 (18)	Large	Energy	Yes	40	2kg/110g	KCr300

### Critical

x2

Weapon does double damage on a critical hit.

18

Threat range is increased to 18-20 instead of just 20. Does double damage on a critical hit.

19

Threat range is increased to 19-20 instead of just 20. Does double damage on a critical hit.

\* Fires Tranquilizer (standard), High Explosive, or Armor Piercing rounds.

\*\*\* Fires Standard, High Explosive, or Flechette rounds.

\*\*\*\*\* Requires the shooter to be wearing Battle Dress.

\*\* Fires Slug (standard) or Buckshot rounds.

\*\*\*\* Fires Standard or High Explosive rounds.



**Ammo Cost:** The cost of a full magazine of standard ammunition or power pack for a weapon

**Weapon Structural Integrity:** All weapons have a SI rating of 1.

## TL0 WEAPONS

**Cudgel:** A basic stick used as a weapon. Easily obtained from standing trees or through the use of an unloaded long gun such as a rifle or carbine (laser weapons are too delicate to be used as cudgels). Length: 1000 to 2000mm.

**Dagger:** A small knife weapon with a flat, two-edged blade approximately 200mm in length. Daggers are usually carried in a belt sheath, or less frequently concealed in a boot sheath or strapped to the forearm. Daggers are usually as much a tool as a last-resort weapon of defense, and worn constantly. Each weighs 250 grams; that weight, however, does not count against the weight load of the character as the weapon is worn constantly and comfortably.

**Spear:** A long (3000mm) polearm with a pointed tip, usually of metal. Often made by the person who carries the weapon, the spear is quite inexpensive.

## TL1 WEAPONS

**Pike:** A long (3000 to 4000mm) polearm with some form of flat blade tip.

**Sword:** The standard long-edged weapon, featuring a flat, two-edged blade. It may or may not have a basket hilt or hand protector. A scabbard to carry the sword may be attached to the belt, or to straps (or a sash) over the shoulder. Blade length may vary from 700 to 950mm.

## TL2 WEAPONS

**Broadsword:** The largest of the sword weapons, also called the two-handed sword because it requires both hands to swing. The blade is extremely heavy, two-edged, and about 1000 to 1200mm in length. The hilt is relatively simple, generally a cross-piece only, with little basketwork or protection. When carried, the broadsword is worn in a metal scabbard attached to the belt; less frequently, the scabbard is worn on the back, and the broadsword is drawn over the shoulder.

**Halberd:** A quite elaborate polearm featuring a pointed, bladed tip. This weapon may be considered to be a combination of a battle ax and a spear.

## TL3 WEAPONS

**Bayonet:** A knife-like weapon similar to a dagger or blade. When not attached to a rifle, a bayonet is treated as a dagger (or blade), carried in a belt scabbard, and requires dagger (or blade) skill for use to advantage. When attached to the muzzle of a rifle (only, not carbine or auto



*Autopistol, page 201*

rifle), it transforms the gun into a polearm, and increases the length of the weapon by 200mm.

**Blade:** A hybrid knife weapon with a heavy, flat two-edged blade nearly 300mm in length, and (often, but not always) a semi-basket handguard. Because of the bulk of the handguard, it is generally carried in a belt scabbard. Blades are as much survival tools as weapons, and are often found in emergency kits, lifeboats etc.

**Cutlass:** A heavy, flat-bladed, single-edged weapon featuring a full basket hilt to protect the hand. The cutlass is the standard shipboard blade weapon and sometimes kept in lockers on the bulkhead near important locations; when worn, a belt scabbard is used. Blade length varies from 600 to 900mm.

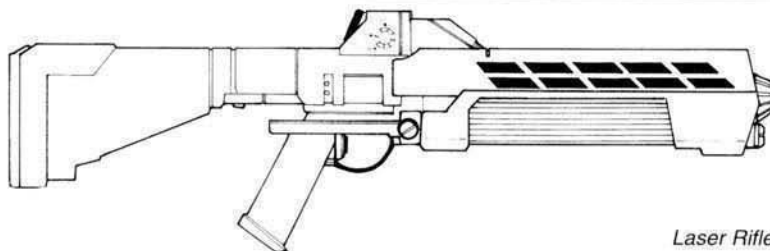
**Foil:** Also known as the rapier, this weapon is a light, sword-like weapon with a pointed, edged blade 800mm in length, and a basket or cup hilt to protect the hand. Foils are worn in scabbards attached to the belt.

## TL4 WEAPONS

**Revolver:** An early handgun, the revolver fires 9mm bullets with characteristics similar to those used by the automatic pistol, but not interchangeable with them. No magazine is used: six cartridges are inserted into the revolver individually. Reloading takes two combat rounds, or one combat round if the individual foregoes the benefit of evasion.

## TL5 WEAPONS

**Autopistol:** Also referred to as a Semi-Automatic Pistol, Automatic Pistol or just a Pistol, the Autopistol is a basic repeating handgun. One cartridge is fired for each pull of the trigger. Autopistol ammunition is interchangeable with submachinegun ammunition (although magazines are not). Preloaded magazines may be inserted into an empty pistol, requiring one combat round.



*Laser Rifle, page 203*

**Carbine:** A short type of rifle firing a small caliber round. A magazine containing ten rounds is inserted into the underside of the carbine ahead of the trigger guard or behind the handgrip (this configuration is referred to as "Bullpup", and in some localities carbines may be referred to as Bullpups), and one round is fired with each pull of the trigger. Replacement of an empty magazine takes one combat round. Carbine ammunition is not interchangeable with any other type of ammunition.

In essence, a carbine is a short rifle, firing a cartridge of smaller, lighter caliber. A sling usually allows the carbine to be carried on the shoulder, out of the way.

**Rifle:** The standard military arm, firing a 7mm, 10 gram bullet at a velocity of approximately 900 meters per second. Longer and heavier than a carbine, it is also more effective. Standard equipment includes provisions for attaching a bayonet and telescopic sights, and a shoulder sling.

A twenty-round magazine is attached to the front of the trigger guard, and one round is fired with each pull of the trigger. Replacement of the empty magazine takes one combat round. Rifle ammunition may also be used in automatic rifles; rifle and auto rifle magazines are interchangeable, and weigh the same.

**Shotgun:** The basic weapon for maximum shock effect without regard to accuracy. The shotgun has an 18mm diameter barrel and fires shells containing either six 7mm bullets, or one hundred and thirty 3mm pellets. In each case, the projectiles weigh a total of 30 grams. Velocity for the projectiles is about 350 meters per second. A cylindrical magazine containing 10 shells is inserted under the barrel and parallel to it; cartridges are then fed automatically into the shotgun for firing. Reloading consists of replacing the cylindrical magazine and takes two combat rounds. One shot is fired for each pull of the trigger.

Magazines measure approximately 350mm long by 20mm in diameter and are quite clumsy to carry.

Shotguns are equipped with a sling for carrying.

**Submachinegun:** A small automatic weapon designed to fire pistol ammunition. Magazines holding 30 cartridges are inserted into the weapon forward of the trigger guard or in the pistol grip, depending on the design. The gun fires a burst of four rounds per pull of the trigger.

Replacement of an empty magazine requires one combat round.

Submachinegun ammunition (but not magazines) is interchangeable with autopistol ammunition.

Most submachineguns are equipped with slings for ease of carrying. Some are small

enough to be carried in a shoulder or hip holster.

## TL6 WEAPONS

**Automatic Rifle:** A highly refined and tuned version of the rifle, capable of full automatic fire as well as semi-automatic shots. Normally, the automatic rifle fires bursts of four bullets for each pull of the trigger. It may be switched to semi-automatic fire at the end of a combat round, after all firing, in which case it is treated as a rifle until switched back so burst mode. Ammunition and magazines are identical to those used for the rifle.

**Light Machine Gun (LMG):** A heavier belt-fed version of the automatic rifle. Reloading takes 3 rounds if the weapon is manned by a single individual, one round if a loader is present. The LMG fires up to a 20-round burst each combat round.

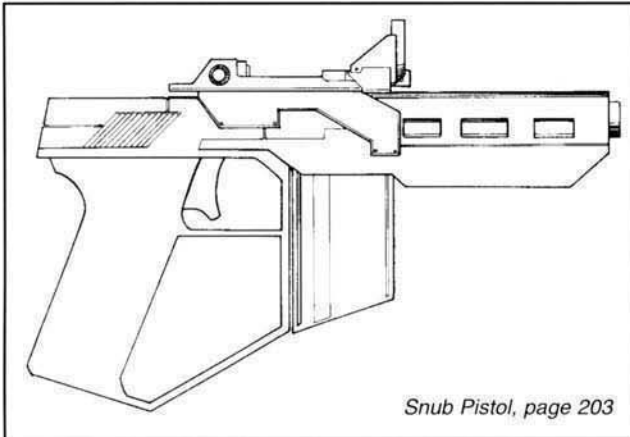
## TL7 WEAPONS

**Assault Rifle:** A lighter and less expensive version of the automatic rifle.

**Body Pistol:** A small, non-metallic semiautomatic pistol designed to evade detection by most weapon detectors. One cartridge is fired for each pull of the trigger. Pre-loaded magazines may be inserted into the pistol when it is empty, taking one combat round to do so. Body pistol ammunition is not interchangeable with the ammunition for any other types of guns.

**Disposable Launcher:** A light-weight, self-contained, disposable, non-reusable version of the Grenade Launcher. Disposable Launchers are designed to fire HEAP grenades only.

**Grenade Launcher:** Allows users to lob grenades at ranges far exceeding normal throwing distance. Unlike artillery, grenade launchers rely on the destructive power of the warhead alone, as there is little kinetic energy behind their attack. Grenade launchers may be fired once per round as a standard attack action, and require a move action to reload. A grenade launcher may fire any type of grenade, up to a maximum distance of 1000 meters. A grenade launcher may be attached to an assault rifle for the cost of the assault rifle and the grenade launcher plus an additional Cr50.



*Snub Pistol, page 203*

## TL8 WEAPONS

**Laser Carbine:** A lightweight version of the laser rifle, firing high energy bolts using current from a backpack battery/power pack. The laser carbine fires a 2mm beam of energy, aimed by integrated optic sights. The power pack is capable of producing 50 shots before it requires recharging. Recharging requires at least eight hours connected to a high-energy source. The laser carbine is connected to the power pack by a heavy-duty cable.

**Light Assault Gun (LAG):** Essentially a heavy (20mm caliber) rifle fed by a 5-round magazine. Requires the firer to have Str 14+ (unless in Battle Dress) or suffer -2 to hit due to the weight and recoil.

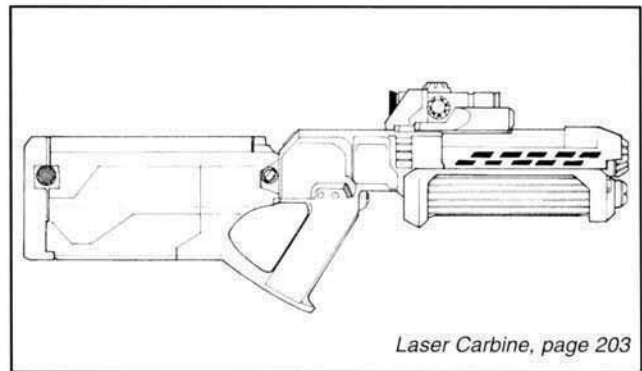
**RAM Launcher:** Designed to fire RAM grenades, allowing for targets as far away as 1000 meters. See RAM Grenades (pg. 206). The RAM grenade launcher holds a 3 round clip that may be fire at a rate of one round per pull of the trigger. Reloading the RAM grenade launcher is considered a move action.

**Snub Pistol:** A low velocity revolver designed for use shipboard and in zero-g environments.

## TL9 WEAPONS

**Accelerator Rifle:** Designed specifically for zero-g combat, the accelerator rifle fires a specially designed round which upon leaving the barrel is accelerated by a secondary propelling charge. Normally the rifle fires bursts of three rounds per pull of the trigger, but may be adjusted to fire single rounds.

**Laser Rifle:** The standard high energy weapon, firing energy bolts in the same manner as the laser carbine. Heavier, the laser rifle is also capable of longer sustained action, and is somewhat sturdier. The power pack can provide 100 shots before recharging. As in the laser carbine, the laser rifle is connected to the power pack by a heavy-duty cable. Power packs are not interchangeable between the two weapons, however.



*Laser Carbine, page 203*

## TL10 WEAPONS

**Advanced Combat Rifle (ACR):** A progressive development of the assault rifle. The ACR is also designed to fire RAM grenades (pg. 206). A single RAM grenade may be fired per round as a standard attack action, with reloading considered a move action.

## TL12 WEAPONS

**Gauss Rifle:** The ultimate development of the slug thrower, the gauss rifle generates an electromagnetic field along the length of the barrel which accelerates a bullet to high velocities. The round itself consists of a dense armor piercing core surrounded by a softer metal covering, ending in a hollow point, giving the round excellent stopping power and good armor penetration. Gauss rifles are also designed to fire RAM grenades (pg. 206). A single RAM grenade may be fired per round as a standard attack action, with reloading considered a move action.

**Laser Pistol:** A pistol equivalent of the laser carbine, though still dependent on an external power pack.

**Plasma Gun, Man Portable (PGMP-12):** The weapon consists of a power pack carried on the firer's back, the weapon itself, and a flexible power link. The powerpack powers a laser ignition system in the weapon itself, which heats hydrogen fuel to a plasma state. The plasma is contained in the ignition chamber briefly and then released through a magnetically focused field along the weapon's barrel. The initial plasma jet is 2cm in diameter but begins to dissipate rapidly. Each powerpack has sufficient energy to discharge 40 plasma bolts before recharging is required. Each pull of the trigger discharges one plasma bolt. Because of the recoil of this weapon, it may only be fired once every two rounds. Damage is reduced to one-half at 5-7 range bands, and one-quarter at 8 range bands or more.

## TL13 WEAPONS

**PGMP-13:** Designed to be used exclusively with Battle Dress armor. The strength enhancement units of the armor serve as a recoil carriage, allowing the weapon to be fired



each round. Damage is reduced to one-half at 5-7 range bands, and one-quarter at 8 range bands or more.

## TL14 WEAPONS

### Fusion Gun, Man Portable

**(FGMP-14):** Similar in design and function to the PGMP, differing only in that it contains the plasma slightly longer until a fusion reaction begins to take place. The weapon is therefore somewhat more powerful than a plasma gun, and may only be used by individuals wearing Battle Dress. May still only be fired once every two rounds. Damage is reduced to one-half at 5-7 range bands, and one-quarter at 8 range bands or more.

**PGMP-14:** The ultimate development of the plasma gun, the PGMP-14 incorporates a gravitic field generator that provides near total recoil compensation. This enables personnel not in powered armor to both carry and fire the weapon every round. The weight listed before the slash is the weight of the weapon with the gravity field generator off, the weight listed after the slash is with the gravity field generator on. Damage is reduced to one-half at 5-7 range bands, and one-quarter at 8 range bands or more.

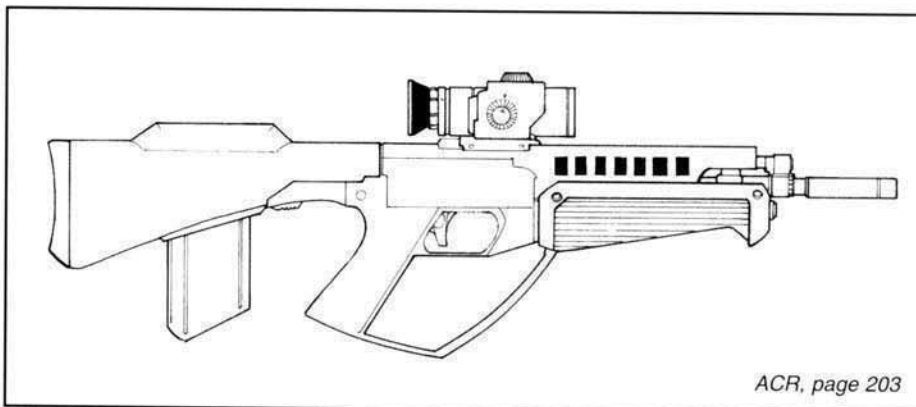
## TL15 WEAPONS

**FGMP-15:** Incorporates a gravitic field generator similar to that used on the PGMP-14, allowing use by firer's wearing non-powered armor every round. The weight listed before the slash is the weight of the weapon with the gravity field generator off, the weight listed after the slash is with the gravity field generator on. Damage is reduced to one-half at 5-7 range bands, and one-quarter at 8 range bands or more.

## NON-STANDARD AMMUNITION

In addition to the standard ammunition available for weapons, some weapons may use the following non-standard ammunition:

**Flechette Rounds:** These rounds break apart in flight releasing numerous small, sharp shards of metal, increasing the chance of hitting the target, (+2) but inflicting considerably less damage (replace each damage die, of any type, with 1d4). Flechette rounds are useless against armored opponents. Cost is x2 per round.



ACR, page 203

**High-Explosive (HE) Rounds:** These rounds are designed to explode once they penetrate a target, inflicting +1 die of damage. Cost is x10 per round.

**Armor Piercing (AP) Rounds:** As the name implies, these rounds are specifically designed to penetrate ballistic cloth and other types of armor. Reduce the target's AR bonus for any natural or manufactured armor by -1 per penetration bonus of the round. Cost is (x 3 plus x1 per penetration bonus of the round). For example a +2 AP round has a penetration bonus of 2 and cost 5 (x3 +x2) the normal price of a round for the given weapon.

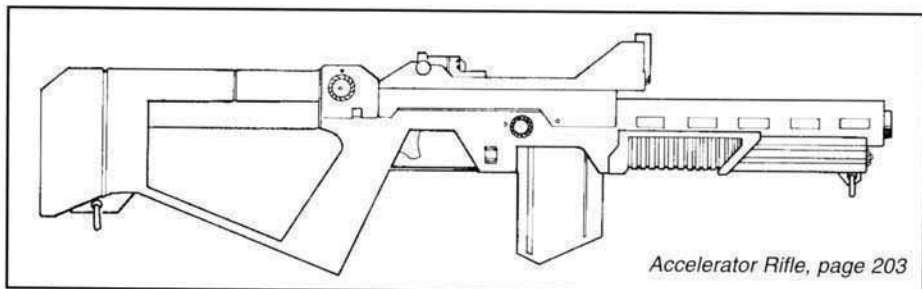
**Tranquilizer Rounds:** The target must make a Fortitude save vs. DC15 or fall unconscious. Save is made at +1 DC per round hitting the target.

**Buckshot:** Buckshot has a very short range is highly lethal. At up to 3 meters, buckshot will hit any single target for 3d6 damage. At up to 6 meters, it will hit any single target for 2d6 damage. Beyond 6 meters, buckshot inflicts 1d6 damage on anyone in a 2 meter wide path out to its maximum range. However, buckshot ammunition penetrates very poorly and suffers a penalty against armor of +2 AR (and an additional +1 AR per range band after the first in addition to normal range penalties).

## ACCESSORIES

The following special accessories are generally available for the various weapons.

**Telescopic Sights** (800 grams; Cr200; TL 6): High-quality telescopic sights for attachment to weapons, for



Accelerator Rifle, page 203

increasing their accuracy, especially at longer ranges. A weapon equipped with such sights effectively doubles its normal range increment.

Telescopic sights are delicate, however, and may be jarred out of alignment by any violent action (such as being left untended in a moving truck, a close explosion, or being dropped) on a basic check (DC12). When the sights go out of adjustment, the basic throw to hit should not be revealed to the firer, and he or she will always miss.

## **Electronic Sights** (1500 grams; Cr2000; TL 9):

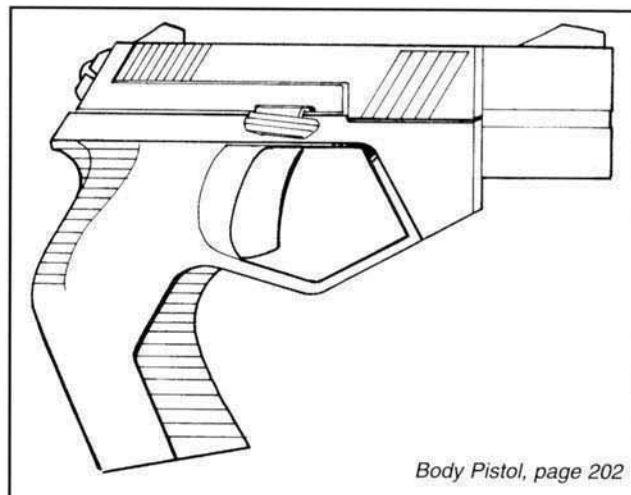
Electronic sights with image enhancement and light intensifications capabilities are available to provide the capability to see and hit in the dark. Treat any low-light conditions as normal lighting for weapons equipped with such sights. These sights are treated like telescopic sights for damage and reliability, and function similarly, but do not increase the weapon's range increment.

**Electronic Telescopic Sights** (1800 grams, Cr 3000, TL 9) Electronic sights combining the capabilities of both electronic and telescopic sights. They are still rather fragile.

**Silencer** (600 grams; Cr200; TL 6): Devices are available which will muffle or eliminate the sound of guns firing, but so far they have proven practical only when applied to body pistols, revolvers, and automatic pistols. A silencer attaches to the muzzle of the pistol, increasing its total length, and making it impossible to holster until the silencer is removed. Silencers are not interchangeable; one must be purchased for each specific model of pistol used.

**Shoulder Stocks** (1000 grams; Cr75; TL 5): It is possible to produce a shoulder stock which may be attached temporarily to a pistol or revolver, resulting in a crude carbine arrangement and some greater accuracy at longer ranges. Ignore the first range penalty incurred when firing a pistol or revolver equipped with such a stock. The overall length of the pistol is increased by the length of the stock, and the pistol cannot be holstered. Attaching the stock (or detaching it) requires five combat rounds.

**Folding Stocks** (500 grams; Cr100; TL 6): Carbines, rifles, and shotguns can be equipped with folding stocks which make it possible to reduce the overall length of the



Body Pistol, page 202

weapon by 300mm.

## GRENADES AND EXPLOSIVES

When a grenade or other explosive is set off, its effects are spread out over a given radius from where it landed. Anything within the blast radius is automatically hit. Those affected may attempt a Reflex saving throw to take only half damage (this does not apply to vehicles or ships).

**Plastic Explosive:** Because of its nature, plastic explosive may be molded and shaped allowing the user to direct and control to a fair degree the force of the blast. It cannot be used as a grenade. See Demolitions (pg. 155) for more information.

**TDX:** A gravitationally polarized explosive. Unlike conventional explosives, TDX expends its energy only along the horizontal plane of the blast. For example, a TDX explosive set 1 meter off the ground would inflict its damage on anything within its blast radius that is also at a height of 1 meter. Objects above or below this level would not be effected. Because of this effect, TDX is quite useful at tasks such as felling trees, cutting the supports of a

## GRENADES AND EXPLOSIVES

	Damage	Blast Radius	Range Increment	Weight	Cost
Plastic Explosive	1d20	1.5 meters	-	250g	Cr5
TDX	4d6	6 meters	6 meters	1kg	Cr150
Flechette/Fragmentation	6d6	6 meters	3 meters	1kg	Cr12 (Cr200 per case of 20)
HEAP	4d6	3 meters	3 meters	1kg	Cr15 (Cr240 per case of 20)
Smoke	*	6 meters	3 meters	1kg	Cr10 (Cr160 per case of 20)
Tranquilizer	*	6 meters	3 meters	1kg	Cr25 (Cr400 per case of 20)
Aerosol	*	6 meters	3 meters	1kg	Cr12 (Cr200 per case of 20)

## ARCHAIC ARMOR

	Armor Rating	Max Dex Bonus	Armor Check Penalty	Cost	Weight	TL	Speed 9m 6m	
Light Armor								
Padded	1 (0)	+8	0	Cr5	4.5kg	1	9	6
Leather	2 (1)	+6	0	Cr10	7.5kg	1	9	6
Studded Leather	3 (1)	+5	-1	Cr25	9kg	1	9	6
Chain Shirt	4 (2)	+4	-2	Cr100	11kg	2	9	6
Medium Armor								
Hide	3 (1)	+4	-3	Cr15	11kg	0	6	3
Scale mail	4 (2)	+3	-4	Cr50	13.5kg	1	6	3
Chainmail	5 (2)	+2	-5	Cr150	18kg	2	6	3
Breastplate	5 (2)	+3	-4	Cr200	13.5kg	1	6	3
Heavy Armor								
Splintmail	6 (3)	0	-7	Cr200	20.5kg	2	6	3
Banded mail	6 (3)	+1	-6	Cr250	16kg	2	6	3
Half-plate	7 (3)	+0	-7	Cr600	22.5kg	2	6	3
Full plate	8 (4)	+1	-6	Cr1500	22.5kg	2	6	3

bridge or trestle, etc. Anyone caught in the blast radius may make a reflex save (DC15) to take no damage.

**Flechette/Fragmentation:** This is the standard anti-personal grenade, inflicting 6d6 damage against any targets within a 6-meter blast radius. Anyone caught in the blast radius may make a Reflex save (DC 15) to take half damage.

**HEAP:** High Explosive Armor Piercing grenades. They have a smaller blast radius, but give you more bang for your buck and are designed to penetrate heavy armor. Reduce the target's AR for natural or manufactured armor by 5. Anyone caught in the blast radius may make a Reflex save (DC 15) to take half damage.

**Smoke:** This grenade releases a thick cloud of smoke that rapidly engulfs a 6-meter radius, reducing visibility down to 1/2 meters. This effectively gives everyone in the cloud a 90% Concealment modifier (+8 to Defense). The cloud will persist for 1d3+6 rounds (1d3+1 in windy conditions).

**Tranquilizer:** Anyone caught in the 6-meter blast radius of a Tranq grenade must make a Fortitude save (DC 15) or immediately fall unconscious. This save must be made each round the character remains within the blast radius of the grenade and the gas persists. The gas will persist for 1d3+6 rounds (1d3+1 in windy conditions).

**Aerosol:** These grenades release an anti-laser aerosol that will impose a -4 to hit modifier for anyone using a laser weapon within the grenade's blast radius. The aerosol will persist for 1d6+6 rounds (1d3+3 in windy conditions).

## ROCKET ASSISTED MULTI-PURPOSE (RAM) GRENADES

RAM grenades have a built-in booster system, which ignites upon firing, vastly increasing the velocity (and thus the range) of the round. RAM grenades may be fired from special launchers and as rifle grenades from the ACR and the gauss rifle. RAM grenades are available of any type: Flechette/Fragmentation, HEAP, Smoke, Tranquilizer, or Aerosol.

## ARMOR

Armor reduces the amount of damage a character takes from a hit, based on the type of armor worn. The rating for a set of armor is equal to the damage dice reduction value of the armor in combat when you are hit.

**Critical Hits:** Each time a character that is wearing armor is suffers a critical hit, the rating of their armor is degraded by 1 point. When the rating of a set of armor is reduced to zero or less, the armor has lost all of its effectiveness and no longer offers any protection.

**Armor Rating:** The value is the armor bonus added to a character's AC, and the damage reduction factor when determining lifeblood damage if an attack does strike the character.

**Maximum Dex Bonus:** This number is the maximum Dexterity bonus to AC that this type of armor allows. Heavier armors limit mobility, reducing a character's ability to dodge blows.

**Armor Check Penalty:** Anything heavier than leather impacts the ability to use some skills.



## MODERN ARMOR

	Armor Rating	Max Dex Bonus	Armor Check Penalty	Cost	Weight	TL	Speed 9m 6m	
Light Armor								
Jack	2	+8	0	Cr50	1kg	5	9	6
Mesh	3	+5	-1	Cr150	2kg	7	9	6
Flak jacket	4	+6	0	Cr100	1kg	7	9	6
Reflec */**	0/6	+8	0	Cr1500	1kg	10	9	6
Medium Armor								
Ablat */***	2/5	+5	-1	Cr75	2kg	9	6	3
Cloth	6	+4	-2	Cr250	2kg	6	6	3
Combat Env Suit	6	+2	-3	Cr1500	3kg	10	6	3
Vac Suit								
Combat Armor	7	+3	-4	Cr20,000	18kg	11	6	3
Combat Armor	7	+5	-1	Cr30,000	10kg	12	6	3
Combat Armor	8	+6	0	Cr60,000	6kg	14	6	3
Hostile Env Suit	5	+2	-3	Cr18,000	40kg	12	6	3
Hostile Env Suit	7	+3	-4	Cr150,000	25kg	14	6	3
Tailored Vac Suit	2	+6	-0	Cr9000	-	14	9	6
Vac Suit	4	+0	-5	Cr9000	8kg	9	6	3
Vac Suit	3	+2	-3	Cr8000	2kg	12	6	3
Vac Suit	2	+4	-2	Cr7000	-	14	6	3

### Other

The following accessories may be added to Vac Suits of any type, Combat Environment Suits, Combat Armor, and Battle Dress.

Chameleon	+2 to AC	Cr1000	-	12	-	-
Chameleon	+4 to AC	Cr5000	-	14	-	-
Psionic Shielding	Immunity to Psi attacks	Cr4000	-	12	-	-

\* First number is the base armor rating, the second number is the armor rating vs. laser weapons.

\*\* Can be worn under most other types (except Combat Armor and Battle Dress), adding its rating to the rating of the other armor. Reflec may not be worn under combat armor and battle dress.

\*\*\* Unlike other types of armor, the armor rating (vs. lasers) of Ablat is reduced by 1 point every time a laser weapon hits it. Thus after 5 hits by any type of laser, the Ablat armor will be rendered useless (against any type of attack).

**Cost:** The cost of the item in Credits (Cr).

**Weight:** The weight of the item in kilograms.

**TL:** The earliest tech level at which this item first becomes available.

**Speed:** The maximum speed of a character when wearing this type of armor.

**Armor Structural Integrity:** The SI rating of armor is equal to its armor rating.

## ARCHAIC ARMOR

These types of armor are fairly effective against melee attacks and attacks by bows or crossbows; their full AC

bonus applies against such attacks. Against modern firearms, lasers, and energy weapons they do not fare as well; their AC bonus should be halved against these forms of attacks. This reduced value is listed in parenthesis next to the standard AR.

## MODERN ARMOR

Modern armor is effective against most forms of attack, from archaic melee weapons and bows to modern weaponry.

## TL0 ARMOR

**Hide:** This armor is prepared from multiple layers of leather and animal hides. It is stiff and difficult to move in.

## TL1 ARMOR

**Breastplate:** A breastplate covers the front and back. It comes with a helmet and matching greaves (plates to cover the lower legs). A light suit or skirt of studded leather beneath the breastplate protects limbs without restricting movement much.

**Leather:** The breastplate and shoulder protectors of this armor are made of leather that has been stiffened by boiling in oil. The rest of the armor is softer and more flexible leather.

**Padded:** Padded armor features quilted layers of cloth and batting.

**Studded Leather:** This armor is made from tough but flexible leather (not hardened leather as with normal leather armor) reinforced with close-set metal rivets.

**Scale Mail:** This is a coat and leggings (and perhaps a separate skirt) of leather covered with overlapping pieces of metal, much like the scales of a fish. It includes gauntlets.

## TL2 ARMOR

**Banded Mail:** This armor is made of overlapping strips of metal sewn to a backing of leather and chainmail. The strips cover vulnerable areas, while the chain and leather protect the joints and provide freedom of movement. Straps and buckles distribute the weight evenly. It includes gauntlets.

**Chain Shirt:** A shirt of chainmail protects the torso while leaving the limbs free and mobile. A layer of quilted fabric underneath it prevents chafing and cushions the impact of blows. It comes with a steel cap.

**Chainmail:** This armor is made of interlocking metal rings. It includes a layer of quilted fabric underneath it to prevent chafing and to cushion the impact of blows. Several layers of mail are hung over vital areas. Most of the armor's weight hangs from the shoulders, making chainmail uncomfortable to wear for long periods of time. It includes gauntlets.

**Full Plate:** This armor consists of shaped and fitted metal plates riveted and interlocked to cover the entire body. It includes gauntlets, heavy leather boots, and a visored helmet. Buckles and straps distribute the weight over the body, so full plate hampers movement less than splint mail even though splint is lighter. Full plate is also known as field plate.

**Half-Plate:** This armor is a combination of chainmail with metal plates (breastplate, epaulettes, elbow guards, gauntlets, tasses, and greaves) covering vital areas. Buckles and straps hold the whole suit together and dis-

tribute the weight, but the armor still hangs more loosely than full plate. It includes gauntlets.

**Splint Mail:** This armor is made of narrow vertical strips of metal riveted to a backing of leather that is worn over cloth padding. Flexible chainmail protects the joints. It includes gauntlets.

## TL5 ARMOR

**Jack:** A natural (cured) or synthetic leather jacket or body suit covering the torso and upper arms and legs. Jack is somewhat better than ordinary clothing or bare skin when defending against blades.

## TL6 ARMOR

**Cloth:** A heavy-duty body suit tailored from ballistic cloth. The fabric absorbs impact energy, distributing the blow over the body of the target and possibly resulting in bruising. Cloth armor is almost the best and the most versatile modern armor available.

## TL7 ARMOR

**Flak Jacket:** A less expensive military version of ballistic cloth armor, generally only covering the torso and groin.

**Mesh:** A jacket or body suit made of natural or synthetic leather and reinforced with a lining of flexible metal mesh, similar to chain mail but lighter and stronger. Mesh reduces or stops penetration by blades and has some effectiveness against guns; it is ineffective against laser fire.

## TL9 ARMOR

**Ablat:** Ablat is a cheap alternative to reflect, and is fashioned from a material that will ablate (vaporize) when hit by laser fire. The ablation of the material carries away the energy of the laser, and protects the wearer. Continued fire against ablat degrades its effectiveness, but the armor is cheap and easily replaceable. Ablat also has some value against other forms of attack.

**Vac Suit:** The personal vacuum or space suit is designed to protect the individual from vacuum, tainted or noxious atmospheres, and some radiation situations. It carries its own communicators, oxygen tanks for six hours, and other basic survival appurtenances. Use of a vac suit requires Armor Proficiency (Vac Suit). Being armored against space debris and similar hazards, a vac suit acts much like cloth armor when subject to attacks. Vac suits are relatively bulky, and weigh 10 kilograms; the weight counts against personal weight allowances. This weight is reduced 2 kilograms per tech level as the suit gains increasing sophistication. For example, a TL 10 vac suit weighs 6 kilograms, and a vac suit at tech level 13+ adds no apparent weight.





## TODAY'S TOP STORIES



Troops over Malusi Gii



Trouble on Ylten



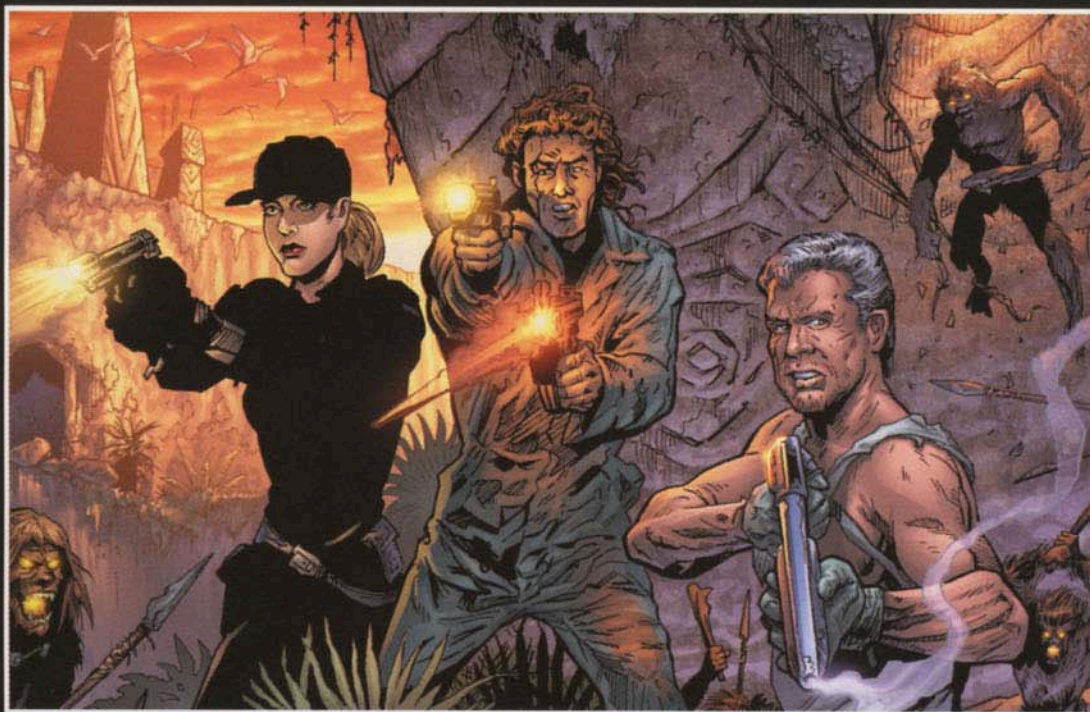
Arms Dealer Captured



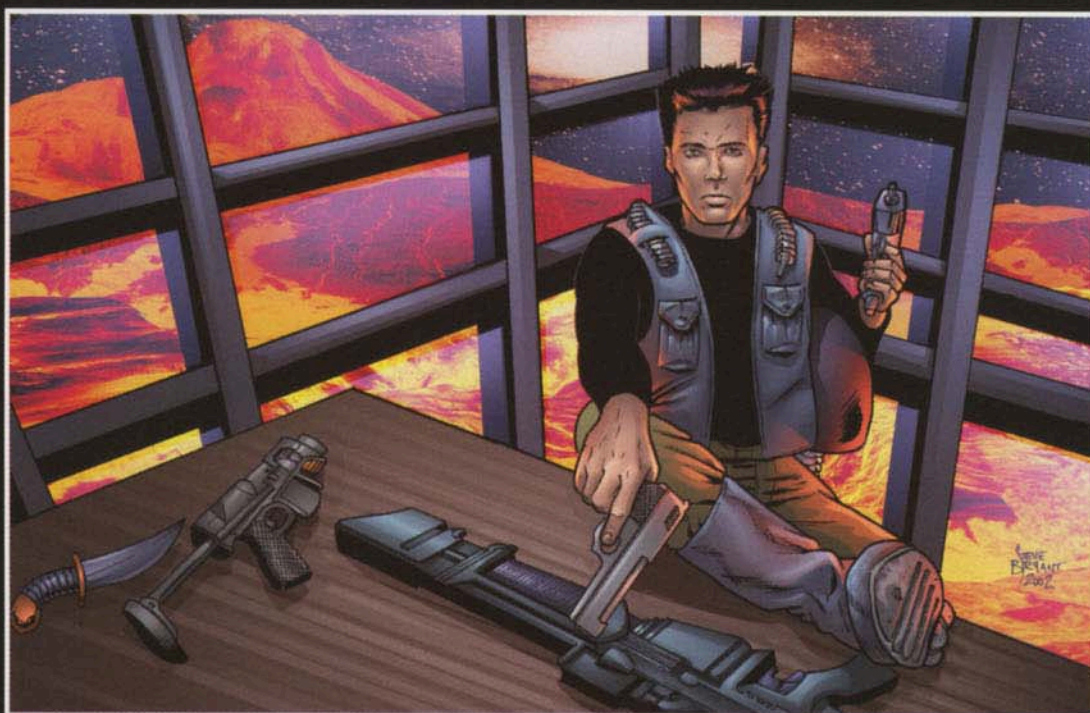


**TROOPS OVER MALUSI GII:** Imperial Marine Corps ground troops prepare for Intervention operations on Malusi Gii. The Corps operates its own fleet of troop transports, escorted by Navy vessels.





**TROUBLE ON YLTEN:** Initial reports are sketchy, but apparently a band of adventurers, while investigating a mysterious structure in the forests of Ylten, clashed with the local savages. After a desperate fight, some of the adventurers were able to flee the site aboard an air/raft.



**ARMS DEALER CAPTURED:** Arms dealer Zane Ratcliff has again been arrested by Ministry of Justice agents. Details of the charges are as yet unknown, but they are thought to include black market trafficking in military hardware.



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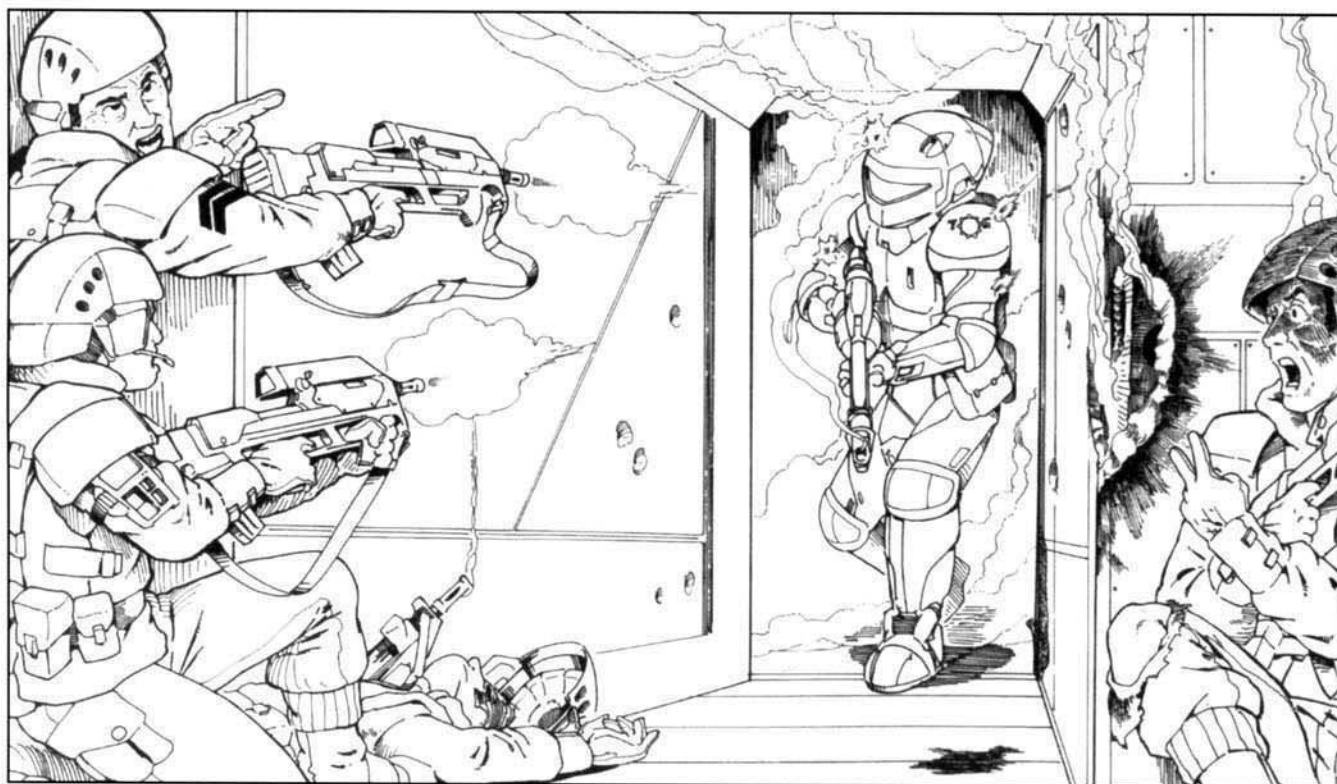
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## TL10 ARMOR

**Combat Environment Suit:** A neck to toe air-tight, loose fitting suit constructed of ballistic cloth. Generally worn open at the neck and wrists, the combat environment suit can be sealed by donning gauntlets and a clear flexible plastic head bag, thus giving complete protection against most chemical agents, tainted atmospheres, biological agents, and a moderate defense against radiation.

**Reflec:** Reflective material on a plastic base can be tailored into a body suit which is ineffective against most weapons, but superior in defense against laser fire. Unlike other forms of armor, reflec is worn under other clothing. Reflec is expensive and often difficult to obtain.

## TL11 ARMOR

**Combat Armor:** Combat armor is a complete vac suit-like array of metal and synthetic armor. Combat armor is strictly military and not available on the open market; it is issued to troop units and elite mercenary battalions. Before combat armor can be worn, the user must have the Armor Proficiency (Vac Suit) feat.

## TL12 ARMOR

**Chameleon:** This technology can be applied to any vac suit, combat environment suit, Combat Armor, or Battle Dress. It is designed to mimic the color, temperature, and shading of the wearer's current physical environment, help-

ing to render them difficult to track by both the naked eye and IR systems. First available at TL12, a more advanced version becomes available at TL14.

**Hostile Environment Suit:** A hardened version of the vac suit, offering heavier protection from the elements and physical damage in hostile environments such as nearby volcanic activity or within a corrosive. HE Suits are heavier and more expensive than Combat Armor, but nearly as effective and available to the general public.

## TL13 ARMOR

**Battle Dress:** The ultimate in individual protection, Battle Dress is an advanced and powered version of combat armor. Battle Dress enhances the strength and senses of individuals wearing it with variable feedback personal controls, servo-powered limbs, and various kinds of electronic assistance. Rather than being listed under the armor tables, Battle Dress is actually considered a vehicle and is detailed as such (pg. 285)

## TL14 ARMOR

**Tailored Vac Suit:** A tailored vac suit is very much what it sounds. Made of a lightweight but strong material, the suit is tailored to the user allowing for a more comfortable fit and allowing the wearing much more freedom of mobility than with a standard vac suit. A tailored vac suit may not be used by anyone other than the person it was tailored to fit.

## SHIELDS

Type	AC Bonus	Armor Check Penalty	Cost	Weight	TL
Buckler	+1 to AC	-1	Cr15	2kg	1
Shield, small, wooden	+1 to AC	-1	Cr3	2kg	1
Shield, small, steel	+1 to AC	-1	Cr9	2.5kg	1
Shield, small, ballistic	+1 to AC	0	Cr15	1kg	5
Shield, large, wooden	+2 to AC	-2	Cr7	4.5kg	1
Shield, large, steel	+2 to AC	-2	Cr20	16.5kg	1
Shield, large, ballistic	+2 to AC	-1	Cr25	2kg	6
Shield, tower, wooden	Provides Cover*	-10	Cr30	20.5kg	1
Shield, tower, steel	Provides Cover*	-10	Cr30	20.5kg	1
Shield, tower, ballistic	Provides Cover*	-5	Cr50	5kg	7

\* A tower shield can provide cover as per the Cover rules. The user may expose as little or as much of their body as you wish.

**Buckler:** This small metal shield is strapped to the forearm, allowing it to be worn and still use the hand. A bow or crossbow can be used without penalty. An off-hand weapon can be used, but a -1 penalty on attack rolls is imposed because of the extra weight on your arm. This penalty stacks with those for fighting with the off hand and, if appropriate, for fighting with two weapons. In any case, if a weapon is used in the off-hand, the character doesn't get the buckler's AC bonus for the rest of the round.

**Small Shield:** A small shield's light weight lets a character carry other items in that hand (although the character cannot use weapons).

**Large Shield:** A large shield is too heavy to use the shield hand for anything else.

**Shield, Tower:** This massive wooden shield is nearly as tall as the wielder. Basically, it is a portable wall meant

to provide cover. It can provide up to total cover, depending on how far a character comes out from behind it.

## EQUIPMENT

The following section lists examples of common equipment. Given the enormous number of variations in design, alternate technologies and the possibility of manufacturing a given item at higher or lower tech levels, it is impossible to list specifics of every possible piece of equipment. The objects listed are presented as indications of common qualities and values.

Each listing notes the object's name, followed by its technological level, a price in Credits, and a basic description. The technological level indicates local technology required to manufacture something with the capabilities listed. Price and weight are for an item manufactured by

## EQUIPMENT SI

Size	Weight or Volume	Base SI	Additional SI (round down)	Weight in Pounds (d20 size)
Fine	up to 0.05	0	0.1 per 0.005 over 0.005	0.11 (1/8)
Diminutive	0.05 to 0.5	1	0.1 per 0.05 over 0.05	1.1 (1)
Tiny	0.5 to 5	2	0.3 per 0.5 over 0.5	11 (8)
Small	5 to 30	5	0.5 per 2.5 over 5	66 (60)
Medium	30 to 250	10	1.5 per 22 over 30	550 (500)
Large	250 to 2000	25	2.5 per 175 over 250	4400 (4000)
Huge	2000 to 15,000	50	2.5 per 1300 over 2000	33,000 (32,000)

## EQUIPMENT

	TL	Cost	Weight
<b>Personal Equipment</b>			
Artificial Gill	8	Cr4000	4 kg
Cold Weather Clothing	1	Cr200	4 kg
Combination Mask	5	Cr150	1kg
Filter Mask	3	Cr10	0.5kg
Oxygen Tanks	5	Cr500	5 kg
Protective Suit	5	Cr700	5 kg
Respirator	5	Cr100	0.5kg
Swimming Equipment	3	Cr200	1kg
Underwater Air Tanks	5	Cr800	5 kg
<b>Personal Devices</b>			
Artificial Psionic Shield Helmet	8	Cr4000	1 kg
Bull-Horn	5	Cr120	5 kg
Hand Calculator	7	Cr10	1 kg
Hand Computer	11	Cr1000	0.5 kg
Handcuffs	2	Cr25	0.3 kg
Inertial Locator	9	Cr1200	1.5 kg
Long Range Communicator	6	Cr500	15 kg
Magnetic Compass	3	Cr10	negligible
Medium Range Communicator	5	Cr200	10 kg
Metal Detector	6	Cr300	1 kg
Radiation Counter	5	Cr250	1 kg.
Short Range Communicator	5	Cr100	5 kg
Wrist Watch	4	Cr25+	negligible
<b>Vision Aids</b>			
Binoculars	3	Cr75	1 kg
Cold Light Lantern	6	Cr20	0.25 kg
Electric Torches	5	Cr10	0.5 kg
Gas or Oil Lamp	2	Cr10	0.5 kg
IR Goggles	6	Cr500	0.25kg
Light Intensifier Goggles	7	Cr500	0.25kg
Torches	1	Cr1	0.25 kg
<b>Tools</b>			
Carpentry Tool Set	2	Cr300	25 kg
Chain Saw	6	Cr500	8 kg
Disguise Kit	7	Cr1,000	5 kg
Electronic Tool Set	7	Cr2000	5 kg
Janitorial Kit	5	Cr250	10kg
Lock Pick Set	4	Cr10	0.25kg
Mechanical Tool Set	5	Cr1000	20 kg
Medical Kit	7	Cr1000	10 kg
Metalwork Tool Set	4	Cr1500	50 kg
<b>Shelters</b>			
Advanced Base	8	Cr50,000	6000 kg
Pre-Fabricated Cabin	6	Cr10,000	4000 kg
Pressure Tent	7	Cr2000	25 kg
Tarpaulin	1	Cr10	2 kg
Tent	2	Cr200	3 kg
<b>Food and Overhead Per Day</b>			
Average Restaurant Meals	-	Cr10	-
Excellent Restaurant Meals	-	Cr(1d4+1) x10	-
Prepare Own Meals	-	Cr5	1kg
Canned or Packaged Rations	-	Cr20	0.5kg
Dehydrated Rations	-	Cr25	0.2kg
Dismal Lodging	-	Cr2	-
Average Lodging	-	Cr6	-
Good Lodging	-	Cr8	-
Excellent Lodging	-	Cr10	-

an interstellar society of tech level 10-15; items produced at lower tech levels will probably be bulkier and more expensive. An item with no weight or size given can be carried or worn without difficulty. Additional lines of explanation are given where considered necessary.

**Equipment Structural Integrity:** The SI rating of a piece of equipment (excluding armor, weapons, or vehicles) is based on its weight as listed on the Equipment SI table.

The following listing may be considered a shopping list for PCs. When they originally outfit themselves for an adventure, each may purchase or acquire items from this list in preparation for action or mishap. For the most part, this list does not include weaponry, and all items are generally available for purchase without difficulty on worlds with a sufficient technology level (on other worlds, they may be available as imports at higher prices). Often, the base price for these items will be higher or lower. The Referee may wish to use the trade and speculation rules for percentage price changes.

## TL0 EQUIPMENT

**First Aid Kit:** At TL0, a first aid kit consists of little more than material for a splint, and a few herbs and plants that are reputed to have medicinal qualities, but it is better than nothing. At higher tech levels, the quality of materials and drugs included in the kit improves significantly, greatly increasing the odds of successful treatment. Higher tech kits cost considerably more.

### FIRST AID KITS

Tech Level	Cost	Medical DC Modifier
TL0-3	Cr100	+2
TL5-7	Cr125	+/-0
TL8-12	Cr250	-2
TL13-15	Cr500	-4
TL16+	Cr1999	-6

## TL1 EQUIPMENT

**Cold Weather Clothing:** Protects against frigid weather (-20° Celsius or below). Adds a +5 circumstance bonus to all Fortitude saves against cold weather exposure. Reduce the weight by 1kg for every 5 TL.

**Tarpaulin:** A canvas or waterproof cloth sheet used to create a temporary shelter 2 by 4 meters. Protects against precipitation and can withstand light winds.



**Torches:** Last about one hour and illuminate 6-meter radius, producing a thick, heavy smoke.

## TL2 EQUIPMENT

**Carpentry Tool Set:** Includes basic tools necessary to cut, shape and build with wood. Required for the use of the Craft skill when working with wood, without suffering a -2 circumstance penalty.

**Gas or Oil Lamp:** Last about 6 hours on a half-liter of oil or gas, and will illuminate a 5-meter radius to the equivalent of normal daylight.

**Handcuffs:** Higher tech levels produce stronger and lighter designs. To slip out of a pair of handcuffs requires a Dexterity check (DC25). To break a pair of handcuffs requires a successful Strength check (DC25 +1 per 2 TL). To pick a mechanical lock requires a successful T/Mechanical skill check (DC20 +1 per TL), while electronic locks require a successful T/Electronics skill check (DC25 +1 per TL over TL9). Apply a -4 circumstance penalty if the person wearing the cuffs attempts to pick the lock.

**Tent:** Basic shelter for two persons offering protection from precipitation, storms, and temperatures down to 0° Celsius, and withstanding light to moderate winds. Larger, more elaborate tents capable of sheltering more people, higher winds or colder temperatures weigh and cost more.

## TL3 EQUIPMENT

**Binoculars:** Binoculars magnify the appearance of objects being viewed through them, effectively increasing the visual range of the user. The effective field of view is reduced however as the magnification increases. Price stays the same across tech levels, though the weight may be reduced through the use of lighter weight components.

### BINOCULAR MAGNIFICATION

Tech Level	Magnification
TL3-4	x5
TL5-6	x10
TL7-9	x50
TL10-12	x100
TL13+	x1000

**Filter Mask:** A filter set that allows an individual to breathe tainted atmospheres (types 4, 7, and 9). Also protects against the inhalation of heavy smoke or dust.

**Swimming Equipment:** Includes swim fins, wet suit, face mask. Protects against the effects of cold (5° Celsius or below), along with improving speed and maneuverability underwater; add +2 to all Swim skill checks in these situations when wearing proper swimming equipment.

**Magnetic Compass:** Indicates direction of magnetic north, if any exists.

## TL4 EQUIPMENT

**Lock Pick Set:** Allows picking of ordinary mechanical locks. Picking a lock takes 3 rounds and requires a successful T/Mechanical skill check (DC based on the type of lock). Lockpicks are illegal on worlds of law level 8+; on such worlds the cost rises to Cr100 or more.

**Metalwork Tool Set:** Includes basic tools necessary for metalworking, welding, shaping. Required for the use of the Craft skill when working with metal, without suffering a -2 circumstance penalty.

**Wrist Watch:** Price determines quality and functionality.

## TL5 EQUIPMENT

**Bull-Horn:** Amplifies voice allowing it to carry up to half a kilometer away, but is very bulky and awkward to carry.

**Combination Mask:** A combination of both filter mask and respirator, which allows breathing of very thin, tainted atmospheres (type 2), plus all atmospheres listed under filter and respirator masks.

**Electric Torch:** The common flashlight. It is battery powered and will last for about 6 hours of continuous use. A torch produces a wide cone of light up to 18 meters long with a radius of 6 meters at the end of the beam. Later TL models have adjustable beams allowing them to also produce a tight beam of light up to 36 meters long, with a 1 meter radius, or be used to illuminate a circle of 10 meter radius.

**Field Medical Kit:** Contains drugs, surgical supplies, and diagnostic materials for use by doctors and field medics. Reduces the DC required for most T/Medical skill checks. Higher tech level kits cost more but offer a better range of treatment options and quality of care, increasing the odds of successful treatment.

### FIELD MEDICAL KITS

Tech Level	Cost	Medical DC Modifier
TL5-7	Cr1000	-2
TL8-12	Cr1250	-4
TL13-15	Cr2500	-6
TL16+	Cr5000	-8

**Janitorial Kit:** TL5, Cr250. Includes a vacuum cleaner, chemical storage and dispensing systems, along with other basic cleaning tools and supplies.

**Mechanical Tool Set:** TL5, Cr1000. Includes basic tools necessary to repair and alter mechanical devices. Required for the use of the T/Mechanical skill without suffering a -2 circumstance penalty.

**Oxygen Tanks:** A complete set of compressed oxygen tanks, which allow independent breathing in smoke, dust,

gas, or exotic (type A) atmosphere. Two tanks last 6 hours. Refill of proper atmospheric mixture for race cost Cr20.

**Radiation Counter:** Indicates presence and intensity of radioactivity within a 30-meter radius. The indicating signal will grow stronger as it gets closer to the source.

**Respirator:** A small compressor that allows an individual to breathe in very thin atmospheres (type 3).

**Underwater Air Tanks:** Equivalent to oxygen tanks but designed for use underwater. Two tanks last 6 hours. Refill of proper atmospheric mixture for race and expected depth cost Cr20.

## TL6 EQUIPMENT

**Chain Saw:** Motorized saw for cutting and shaping trees. The chain saw could possibly be used as a weapon, but at a -4 penalty (-2 if the character has the Weapon Proficiency (Swordsman) or Brawling feat) to hit and inflict 2d6 damage (x2).

**Cold Light Lantern:** A fuel cell powered version of the electric torch, but will last 3 days with continuous use. Produces a wide cone of light up to 18 meters away with a radius of 6 meters at the end of the beam. Also capable of producing a tight beam of light up to 36 meters away with a 1 meter radius or be used to illuminate a 10 meter radius.

**IR Goggles:** Allows wearer to see heat sources (infrared radiation) in even darkness up to 18 meters away. Quality of vision is necessarily distorted. The presence of light does not affect this capability.

**Metal Detector:** Indicates presence of metal within a 3 meter radius (including underground), with the indicating signal growing stronger as it gets closer to the source.

**Pre-Fabricated Cabin:** Modular unpressurized quarters for 6 persons and capable of withstanding light to severe winds. Offers excellent shelter from precipitation, storms, and temperatures down to -10° Celsius. Requires 8 man-hours to erect or dismantle. There are 16 modules, each, 1.5m wide by 1.5m long by 2m high that can be organized into any layout required. Dismantled and ready for shipment, the cabin weighs 4 tons.

## TL7 EQUIPMENT

**Disguise Kit:** Allows change of personal appearance on a temporary basis. Required for the use of the Disguise skill without suffering a -2 circumstance penalty.

**Electronic Tool Set:** TL7, Cr2000. Necessary tools for basic electronic assembly and repair. Required for the use of the T/Electronics skill without suffering a -2 circumstance penalty.

**Hand Calculator:** Provides basic mathematical calculations. The hand calculator is the basic tool of any competent astrogator and a weapon of last resort when the ship's computer is down. If the astrogator has a calculator handy,



the penalty for no astrogation computer when plotting a course is reduced to only +4 on the DC.

**Light Intensifier Goggles:** Allows clear, monochrome vision up to 18 meters in anything less than total dark. While some light is required to produce this effect, anything approaching normal daylight conditions severely degrades the clarity of the view and the range.

**Pressure Tent:** Basic pressurized shelter for two persons, providing standard atmosphere and conditions, along with protection from precipitation, storms, and up to strong winds. There is no airlock: the tent must be depressurized to enter or leave it.

## TL8 EQUIPMENT

**Advanced Base:** Modular unpressurized quarters for 6 persons and capable of withstanding anything less than hurricane force winds. Offers excellent shelter from precipitation and all but the most extreme of temperature ranges. Requires 12 man-hours to erect or dismantle. There are 16 modules, each, 1.5m wide by 1.5m long by 2m high that can be organized into any layout required. Dismantled and ready for shipment, the advanced base weighs 6 tons.

**Artificial Gill:** Extracts oxygen from water allowing the wearer to breathe for an unlimited time while submerged under water. Functions only on worlds with thin, standard, or dense (type 4 through 9) atmospheres.



**Artificial Psionic Shield Helmet:** Acts as a shield against psionic forces (see Psionic Shield, pg. 189).

**Vac Suit:** Must be worn in vacuum, trace, exotic, or corrosive atmospheres. May also be worn in very thin or tainted atmospheres if desired. Includes oxygen tanks, short-range communicators, and other required equipment.

## TL9 EQUIPMENT

**Inertial Locator:** Indicates direction and distance traveled from the starting location.

## TL11 EQUIPMENT

**Hand Computer:** The 'handcomp' provides the services of a small computer, plus serves as a computer terminal when linked (by its integral radio, network interface jack, or by other circuit) to a standard computer. If an astrogator has a handcomp handy, the penalty for no astrogation computer when plotting a course is reduced to only +2 on the DC.

## FOOD AND OVERHEAD

The following are indications of the prices for food and basic survival:

### BASIC CUISINE ON A DAILY BASIS

Food is available in a variety of forms and qualities. Prices indicated are per person.

Restaurant meals of ordinary quality cost Cr10 per day. Excellent quality meals range in price from Cr20 to Cr50 per person. Travellers' Aid Society facilities provide excellent quality meals to members and guests for Cr20.

Food purchased from vendors for preparation at home costs about Cr5 per day, and weighs about 1 kg.

Preserved foods for rations on expeditions may be canned or packaged (Cr20 per day, weighs .5 kg) or dehydrated (Cr25 per day, weighs .2 kg, dependent on locally supplied water).

### SUBSISTENCE ON A LONG TERM BASIS

In situations where time passes quickly, personal survival or subsistence costs can be assumed to be the values given below:

**Starvation Level:** A person must consume at least 1kg of food per day or they will begin starving. A day's ration of canned, packaged, or dehydrated food is equal to the 1kg of standard fare, regardless of actual weight. A character can survive for a number of days equal to their Constitution before starting to suffer the effects of starvation, but they will not heal from any injuries during this period. For each extra day spent beyond this period with insufficient food supplies, a character will lose 1 point of Lifeblood.



**Subsistence Level:** A character spending less than less than required by their Social Standing on food and lodging are considered to be existing at subsistence level. While at this level, their Social Standing will be temporarily lowered to a value equal to the level of support the character can afford plus their original Social Standing bonus. For example a character with a normal Social Standing of 12 can currently only afford to spend Cr600 per month on food and lodging. This amount is enough to support a normal Social Status of 6. Adding his original Social Status bonus of +1, the character has a temporary Social Status of 7 until they can afford to once again spend enough to support their true status.

**Ordinary Level:** A character must spend Cr100 per point of Social Standing each month on food and lodging to support the lifestyle that comes with their status.

**High Living:** A character that spends Cr250 per point of Social Standing a month or more is considered to be living the high life, the best of foods, high quality lodging, etc. Of course, what is high living to someone with a Social Standing of 3 is quite different than someone with a Social Standing of 15...

**Starships:** Passengers and crewmembers have their food and lodging provided.

## COMMUNICATIONS

Communication is the lifeblood of any civilization, yet it is taken for granted by most citizens... until it breaks down.

**Long Range Communicator:** Back-pack mounted radio capable of ranges up to 500 km and contact with ships in orbit. Ten separate channels. At tech level 7 reduce the weight to 1.5 kg and it becomes belt or sling mounted.

**Medium Range Communicator:** Belt-mounted or sling carried radio set capable of up to 30 km range, and contact with official radio channels. Five separate channels. At tech level 7, reduce the weight to 500 grams.

**Short Range Communicator:** Belt-mounted radio capable of 10 km range (much shorter underground or underwater). Three separate channels. At tech level 7 reduce the weight to 300 grams and it becomes hand-held.

**Personal Communicator:** A hand-

## FOOD AND OVERHEAD

	Cost per Day	Weight
Average Restaurant Meals	Cr10	-
Excellent Restaurant Meals	Cr(1d4+1) x10	-
Prepare Own Meals	Cr5	1kg
Canned or Packaged Rations	Cr20	0.5kg
Dehydrated Rations	Cr25	0.2kg
Dismal Lodging	Cr2	-
Average Lodging	Cr6	-
Good Lodging	Cr8	-
Excellent Lodging	Cr10	-

held, single channel communication device. On world with a tech level of 8 or higher a personal communicator is able to tap into the world's satellite communication network and with the proper address, contact any other communicator in the world (for a fee). The channel is private, but not secure and may be monitored on some worlds. Usually network access can be arranged at the local starport for a small fee. On worlds with a tech level of 7 or less, personal communicators will not work.

## MEDICINE AND BIOTECHNOLOGY

### TREATMENT 'IN THE FIELD'

Damage to lifeforms must be healed, either naturally, through the intervention of a medical practitioner, or via a technological device.

**Natural Lifeblood Healing:** Lifeblood heals naturally at a rate of 1 point per week of rest. For longer-term healing, the total recovery period from a given set of wounds is equal to

## PERSONAL COMMUNICATIONS EQUIPMENT

	TL	Cost	Weight	Range
Long Range Communicator	6	Cr500	15 kg	500 km
Medium Range Communicator	5	Cr200	10 kg	30 km
Short Range Communicator	5	Cr100	5 kg	10 km
Personal Communicator	8	Cr250	0.3 kg	Special

one week per point of Lifeblood lost, minus the character's constitution modifier, with a minimum of 1 week total recovery. Thus a character resting up after taking 7 points of Lifeblood damage would be completely healed after 5 weeks if his constitution modifier was +2 (7 minus +2 = 5), and 8 weeks if it were -1 (7 minus -1 = 8).

**Natural Stamina Healing:** Stamina is automatically recovered at a rate of (1 point + Constitution modifier per character level) per hour of rest. If the character has a negative Constitution modifier, the character will require a number of hours equal to (numeric value of Con modifier +1) to heal 1 point of Stamina, that it takes the character to recover a single Stamina point. For example a character with a 16 Con (+3 modifier) would recover stamina at a rate of 4 points per hour of rest, while a character with a 6 Con (-2 Modifier) would heal at a rate of 1 point per 3 hours of rest.

**First Aid:** A character that has the T/Medical skill may attempt to treat unconscious (0 or fewer Stamina points) and dying (0 or fewer Lifeblood points) victims. A successful T/Medical skill check (DC15) will revive unconscious victims (raising their Stamina to 1), and stabilize dying characters (raising their Lifeblood to 1). Applying first aid is a full round action. If the character treating the victim has a medical kit to hand, they may add +2 to these medical skill checks.

**Medical Drug:** Heals 3d6 Stamina, 1d4 Lifeblood. If the Medical Drug is taken more than once in a 24-hour period there is a high risk of overdose. The user must make a Fortitude saving throw (DC20) or immediately fall unconscious (reduce Stamina to 0) and suffer 3d6 Lifeblood damage.

*Medical Drug TL8 Cr100 per dose*

**Personal Medikit:** A personal medikit is basically a small personal electronic pharmacy tailored to a specific user's body chemistry. When worn (usually on upper arm, thigh, or lower back) it is always active and monitoring the wearer's bio-signs for any changes. As needed the medikit will dispense anti-toxins, antibiotics, stimulants, sedatives, and other pharmaceuticals needed to keep the user at peak efficiency. This has the added benefit of boosting the user's natural base healing rate from 1 Stamina point per

hour to 2. Under normal (adventuring) conditions a personal medikit will need to be recharged every 4 weeks. Of course heavier demands on the medikit may considerably reduce the available drug supply much sooner.

In the event of poisoning or infection, a personal medikit will impart a +5 bonus to all Fortitude saving throws against the effects of such dangers.

Most medikits are also equipped to store and dispense a single dose of Medical Slow drug should it ever be needed. If the wearer is ever dying (0 Lifeblood or lower), the medikit will automatically use the Medical Slow drug if it is available and there is not a risk of overdose. The user can activate the Medical Slow at any time if needed. If desired, this can be replaced with a dose of Slow, Combat, or Medical drugs instead.

## ENVIROTECH

The technological abilities of a civilization will dictate what sort of structures can be built. It is always possible that a world that has a particular capability will not use it, or that unusual or "natural" solutions to construction and environmental technology will be implemented. The universe is full of surprises. However, this section should give an indication of what is possible or most common at any given tech level.

### Cities

TL 5	'Modern' Cities
TL 7	Underground Cities
TL 8	Orbital Settlements (up to pop digit 2; hundreds of inhabitants)
TL 9	Orbital Settlements (any size)
TL 9	Arcologies
TL 10	Undersea/ice Cities

### Seismic Detection and Control

TL 8	Seismic prediction
TL 10	Early Seismic control
TL 15	Reliable seismic control

### Gravitic Structures

TL 11	Small and experimental structures
TL 12	Free floating gravitic structures
TL 13	Stationary gravitic cities up to 1 kilometer in altitude
TL 14	Free-floating gravitic cities up to 10 km in altitude
TL 15	Free-floating gravitic cities up to orbital altitude

### Terraforming

TL 12	Up to 10,000 square kilometers
TL 15	Entire Hemispheres
TL 16	Global

## MEDICAL CARE

<i>Medical Procedure</i>	<i>DC</i>	<i>Modifiers</i>	<i>DC</i>
Aid a choking victim	5	Under fire	+15
Staunch bleeding/apply tourniquet	5	Rushed	+10
Administer injection/IV	5	Anti-toxin Available	-10
Cardio/Pulmonary Resuscitation	5	Hi-Tech Hospital	-15
Set broken limb/rib	5	Mid-Tech Hospital	-10
Venomous bite/sting treatment	10*	Lo-Tech Hospital	-5
Apply/remove stitches	10	Hi-Tech Field Hospital	-10
Tracheotomy	15	Mid-Tech Field Hospital	-5
Treat non-terminal virus	10	Hi-Tech Surgical Field Kit	-5
Treat terminal virus	15	Lo-Tech Surgical Field Kit	+5
Treat non-terminal disease	20	No Surgical tools	+10
Treat terminal disease	25	Chronic Condition	+5
Treat non-terminal cancer	30		
Treat terminal cancer	35		
Routine surgery (remove bullet, appendicitis)	25**		
Serious surgery (amputation, heart surgery)	30**		
Major surgery (brain surgery)	35**		

\*Slows the spread of a poison

\*\*Requires the Surgery feat

It is very dangerous to attempt to use a Medikit that has been tailored to another person's body chemistry. If such an attempt is made two Fortitude saving throws must be made. If the first saving throw (DC15) fails, the user immediately suffers a Traumatic Shock injury (1d6 Lifeblood damage, ignore the second saving throw). If the second saving throw (DC10) fails, the medikit simply does not work for the user. If both saving throws are successful, the medikit will function normally for the user.

*Personal Medikit* TL12 Cr15,000  
*Basic Supplies* Cr500 (specialized drugs must be purchased separately)

**AutoDoc:** An autodoc is a small self-contained diagnostic, pharmaceutical, and surgical system about the size of a Low Berth chamber or large coffin. Often found on starships, it is capable of diagnosing and treating disease, infection, injuries and other medical conditions as if a qualified doctor of Skill rank 12 was attending the patient.

*Autodoc* TL13 Cr1,000,000 0.5 tons  
*Supplies* Cr100,000

### Capabilities

Heals all Stamina in one hour

Speeds the base natural healing of Lifeblood to 5 per week

**Broken Bones** DC10

**Minor Surgery** DC15

**Routine Surgery** DC20

**Reanimation** TL14 Within 15 Minutes of death

## MEDICAL CARE

Medical science is capable of great feats in preserving and maintaining the health and well-being of individuals. The services of medically trained individuals are in great demand. Skill ranks in T/Medical skill represent steps in increasingly better ability and knowledge.

T/Medical skill rank 4 is sufficient to qualify a character for the position of medic on a starship crew. A character with a Medical (Doctorate) degree and a T/Medical skill rank of 4 or higher is sufficient for a character to be called doctor, and assumes a license to practice medicine which includes writing prescriptions, handling most ailments, and dealing with other doctors on a professional level.

If the patient is being treated for a life-threatening condition and the T/Medical check fails, the patient must make a Fortitude save (DC15) or they will die immediately.



## OTHER PROCEDURES

**Advanced Genetic Engineering:** The capability of designing and creating bioengineered lifeforms adapted for various purposes (including sentience) becomes available at TL 14. While such bioengineering is with animal lifeforms on most worlds, there are those that have and do bioengineer all types of lifeforms including humans and other advanced races for adaptation to hostile environments for colonization. Most of these adaptations have been for Water Worlds.

**Growth Quickenig:** The development of Growth Quicken at TL 10 offers a significant advance for medical science, enabling much more rapid healing of damaged and the growth of new tissues. Such accelerated healing requires proper medical facilities and care (i.e.: a qualified hospital or an autodoc).

Lifeblood Healing	TL
1.5 per week	10
2 per week	11
3 per week	12
5 per week	13
7 per week	14
10 per week	15

**Limb Regeneration:** This type of treatment is not always successful. The patient must make a Fortitude save (DC 10) for the treatment to work. If failed, further attempts at regeneration of that limb may not be tried. The patient must also make an addition Fort Save (DC 5) if the first save fails. If this second save fails the patient will have been determined to be one of the rare few for whom regeneration therapy will not work.

Limb	Cost
Toe	Cr10,000
Finger	Cr25,000
Foot	Cr50,000
Hand	Cr100,000
Forearm	Cr100,000
Shin	Cr100,000
Entire arm	Cr250,000
Entire leg	Cr500,000

Time to Full Growth	TL
One year	9
8 months	10
6 months	11
4 months	12
2 months	13
1 month	14
1 week	15

**Nerve Refusion:** Paralysis due to spinal injuries is finally eliminated, as nerve refusion becomes feasible at TL 11. Major neural damage through strokes, lack of oxygen and other causes can now be surgically repaired.

**Reanimation:** At TL 13 medical science has made significant strides in the ability to reanimate dead tissue, with the length of viable recovery time increasing at each TL thereafter, depending on the method used to preserve the body. The body must be preserved as quickly as possible to avoid brain damage. For every 5 minutes that passes before a preservation method is applied, the victim must make a Fortitude save (DC15) or lose one level of experience permanently. Once preserved, the victim may be transported to the nearest auto-doc or medical facility for possible reanimation.

Once in the hands of qualified medical care, the victim may be reanimated. To survive reanimation, the victim must make a Fortitude saving throw, the DC of which is based on the type of preservation used, and the length of time since death has occurred.

Method of Preservation	Victim Fortitude Save
None	15 + 1 per 5 minutes beyond the first 5 minutes after death
Low berth	15 + 1 per week beyond the first week after death
Brainblock	15 + 1 per hour beyond the first hour after death.

Decrease the DC by 2 points for every TL of the medical facility used above 13.

**RNA Implants:** At tech level 12, on most worlds, RNA memory implants become available. These implants chemically induce 'memories' of unacquired skills or skill levels into the recipient individual. The result is a new skill or rank. The advantage of this is easily seen. A person need no longer study to obtain a skill. Just one set of injections, and in a few weeks, the new skill is acquired. There are, however both limits and limitations.

Only one "implant" should be performed per year in the case of standard skills.

All non-criminally related skills can be obtained on most worlds of TL12 or greater. The price generally ranges from Cr3,000 to Cr10,000. (Criminal skills are ones such as Bribery, Forgery, etc. These can still be obtained on worlds with a law level of 1 or lower.) No skill rank may be increased past a level of 5 by implants. Ranks higher than this require hands on experience to fine-tune an existing skill.

If a player should get an implant, a Fortitude saving throw (DC10) should be made to achieve a successful implant. A modifier of +1 if someone with T/Medical skill rank of 8 or higher administering the injection, and modifier of +1

if world where it is administered is TL15+. Failure means no skill is gained, though it still counts as one implant for that year, AND the doctor must still be paid for the implant.

Should a player choose to go for a second skill rank or more, subtract a modifier of -4 from the Fortitude saving throw for each successive implant within the 12-month period following the last implant. The modifiers are cumulative. If a failure is rolled, the character must immediately make a Will saving throw (DC15) to avoid insanity. If this is the case, the character must now go through rehabilitative therapy.

Other uses have been found for RNA implants as well. A player can get a High School education or lesser college degree in just one injection or, less legally, a new personality. Many intelligence agencies employ spies, saboteurs, or assassins with "faked" implanted personalities designed to make them blend in with the local populace, even when being occasionally scanned for surface thoughts by psionically talented individuals. (As a side note the 'personality' implants count separately from skill implants when determining how many one can have in a year. They tend to be used to obliterate pre-existing implants of personality; there is no modifier for additional ones after the first when determining failure or the possibility of resultant insanity.)

## DRUGS

**Anagathics:** Anagathics are a specialized drug treatment that can halt the effects of aging in its tracks. The drug must be taken regularly each month for as long as the age retarding effects are desired. It takes approximately one year of regular dosage for the full effect to develop. This means that during the first year on Anagathics a character will continue to age normally. After that first year, as long as the regular monthly dose is taken, the character will no longer age and remain at their present physical age.

Once past the first year, a character can miss one month without suffering ill effects, but if a character misses two or more successive dosages, they must abstain completely for one year before, once against restarting the treatments, including the one-year build-up period.

*Anagathics* TL15 Cr200,000 per dose

**Broad Spectrum Anti-Toxin:** The common cold and may other diseases and infections start to become a thing of the past at TL 12 and beyond. Universal, broad spectrum Anti-Toxins become widely available and prove effective against all but the rarest of diseases.

*Antitoxin TL12+* Cr250

Potency of Anti-Toxins	TL
+5 to Fort saves	12
+5 to Fort saves, or may take 10	13
+10 to Fort saves	14
+10 to Fort saves, or may take 20	15

**Combat Drug:** +4 Strength, +5 Lifeblood. Lasts for 30 combat rounds, after which the user must make a Fortitude saving throw (DC15) or their Stamina is reduced to 1. If Stamina is already at 1 or below, the character suffers a Traumatic Shock and suffers 1d6 Lifeblood damage. If the Combat Drug is taken more than once in a 24-hour period there is a high risk of overdose. The user must make a Fortitude saving throw (DC25) or immediately fall unconscious (reduce stamina to 0) and suffer 3d6 lifeblood damage.

*Combat Drug* TL9 Cr750 per dose

**Fast Drug:** Fast drug speeds up the apparent passage of time for the user, to the point that 60 days will pass for the user as 1 day. The drug slows the metabolism of the user by a factor of 60, reducing the effect of aging and reducing the need for consumable supplies such as food, water, and air during the period the user is under the effects of the drug. An antidote does exist which can be taken to cancel the remaining effects of Fast Drug.

*Fast Drug* TL9 Cr2000 per dose  
*Antidote T* L12 Cr900 per dose

**Medical Slow Drug:** Patient is rendered immediately unconscious in a coma-like state for the next 20+1d6 hours. If the patient is already dying, the slow drug will only stabilize their condition for the period of the coma, ensuring no further deterioration of life signs. If the patient is not dying and merely injured the slow drug will heal all Stamina points, and (4 + the patient's Constitution modifier) in Lifeblood points. If more than one dose of slow drug is taken within a week period there is a high probability of a severe overdose. The user must make a Fortitude saving throw (DC25) or immediately fall unconscious (reduce stamina to 0) and suffer 3d6 lifeblood damage.

*Medical Slow* TL7 Cr100 per dose

**Slow Drug:** Twice normal speed and double the normal actions allowed each combat round. The effects last for 40 combat rounds, after which the user must make a Fortitude saving throw (DC15) or their Stamina is reduced to 1. If Stamina is already at 1 or below, the overdose causes 1d6 lifeblood damage.

*Slow Drug* TL8 Cr5000 per dose

## CLONING

	TL Min	Cr (1,000s)
Skin	12	10
Hand	13	100
Foot	13	100
Arm	13	250
Leg	13	500
Internal Organ	13	100-1,000
Entire Body	13	25,000

### Chance of Defects

There is always a chance of a problem with a cloned part, perhaps an error in the growth regulation, an undetected flaw or defect in the sample core, etc. This risk lessens with TL. The first % represents a chance of just an outright and obviously defective clone. The cloning attempt may be tried again. The second % represents the chance of a successful transplantation but to still have an undetected flaw in the new clone part that may flare up at any time.

Tech Level	Bad Clone	Hidden Defect
TL 12	75%	25%
TL 13	50%	10%
TL 14	25%	5%
TL 15	10%	1%

### Social Repercussions of Cloning

Full body clones are illegal just about everywhere.

## CYBERTECHNOLOGY

### PSEUDO-BIOLOGICAL ENHANCEMENTS

At TL 15 pseudo-biological enhancements that are indistinguishable from the biological original become available, but for a price. Any such enhancements are at 10 times the listed cost in pseudo-biological form.

### Rejection

Each week during the first four weeks after having the cybernetic enhancement installed, the patient must make a Fortitude saving throw (DC20) or their body begins to reject the implant. Anti-rejection medication is usually prescribed (+10 save modifier) at a cost of Cr2500 per weekly dose required during the first four weeks. After the first month with the implant, the patient need only check for rejection each month for the next 11 months for possible rejection. Monthly doses of anti-rejection medication may be taken to reduce this possibility. After the first year, a check only need be made on the character's birthday for possible rejection, but a regularly monthly dose of medication is still required for any reduction in the possibility of rejection.

### Social Repercussions of Cybernetic Enhancements

For the most part, cybernetic enhancements are accepted within society within what would be considered human limitations. War veterans with cybernetic replacement limbs and faculties are not considered unusual, out of the ordinary, or otherwise given much consideration. Enhancements installed for performance and non-medical related issues are not looked at in quite so pleasant terms on most worlds however. While that exact social and legal reaction to such non-medical enhancements varies from world to world, Brain Implants (or Cyberjacks) are almost universally outlawed.

## COMPUTERS AND ELECTRONICS

Once computing devices are created and introduced, they become almost indispensable. Higher-tech versions of computers generally perform the same tasks, only better and faster. New capabilities do appear at high tech levels.

### Voice Transcription

Beginning at TL 8 most computer systems are capable of accepting verbal input from their users with reasonable reliability. At the same time, computer synthesized speech also becomes widespread. In almost all cases however there is some form of manual input, typically a keyboard, available.

### Datalinks

Starting around TL 8, the personal datalink begins to come into widespread use among most citizens. A datalink allows a user to communicate with anyone, anywhere on a world, anytime, via text, video, voice or combination thereof. Messages may be recorded, sent, received or stored directly with the datalink. Most worlds of TL 8 or higher have some form of Worldnet functioning that may also be accessed via a personal datalink, allowing instant access to local news, library data, and other information that may be of use to travellers.

TL 8	
Cost	Cr1000
TL 10	
Cost	Cr500
TL 12	
Cost	Cr1500 with built-in Translator

### Translators

Small, lightweight translation devices capable real-time translation of spoken language becomes widely available by TL 12. These devices can be programmed to translate a multitude of languages, with local language chips available on most worlds of TL 12 or higher. These universal chips



## CYBERNETIC ENHANCEMENTS

	TL Min	Str Mod	Dex Mod	Cr (1,000s)
<b>Limbs</b>				
Arm, very light (normal human)	8	+0	+0	500
Arm, light	10	+2	-1	600
Arm, medium	12	+4	-2	750
Arm, heavy	12	+8	-3	1,000
Tentacle, very light	10	-1	+2	750
Tentacle, light	12	+0	+0	1,000
Tentacle, medium	14	+2	+0	1,200
Tentacle, heavy	14	+4	+1	1,500
<b>Organs</b>				
		Con Mod		
Minor Organs	9	+1		100-1,000
Major Organs	8	+2		1,000-10,000
<b>Eyes</b>				
Normal Human	11			1,000
Telescopic Sight	12			2,000
Twilight Sight	12			2,000
Infrared Sight	13			3,000
Holorecording	14			1,000
<b>Auditory</b>				
Normal Human	8			500
Extra Sensitivity	9			700
<b>Olfactory</b>				
Normal Human	12			1,500
Extra Sensitivity	13			2,000
<b>Communications</b>				
Subcutaneous Transponder	8			10
Subcutaneous Communicator, Distant Range	9			25
Subcutaneous Communicator, Very Distant Range	10			50
Subcutaneous Communicator, Regional Range	11			100
Subcutaneous Communicator, Continental Range	12			250
<b>Brain Implants</b>				
Cyberjacking, direct human/computer data interfacing*	14			

\*Allows the user to act as a living computer and able to interface with computer systems and run software within their heads. Such a direct interface has a profound impact on computer reaction and processing times, and an equally profound effect on computer enhanced skill use such as piloting, navigation, targeting, and more. There is also the risk of frying one's brain while jacked...

can be loaded into a translator allowing the user to listen and speak at about the ability of a native who has been offworld for a number of years.

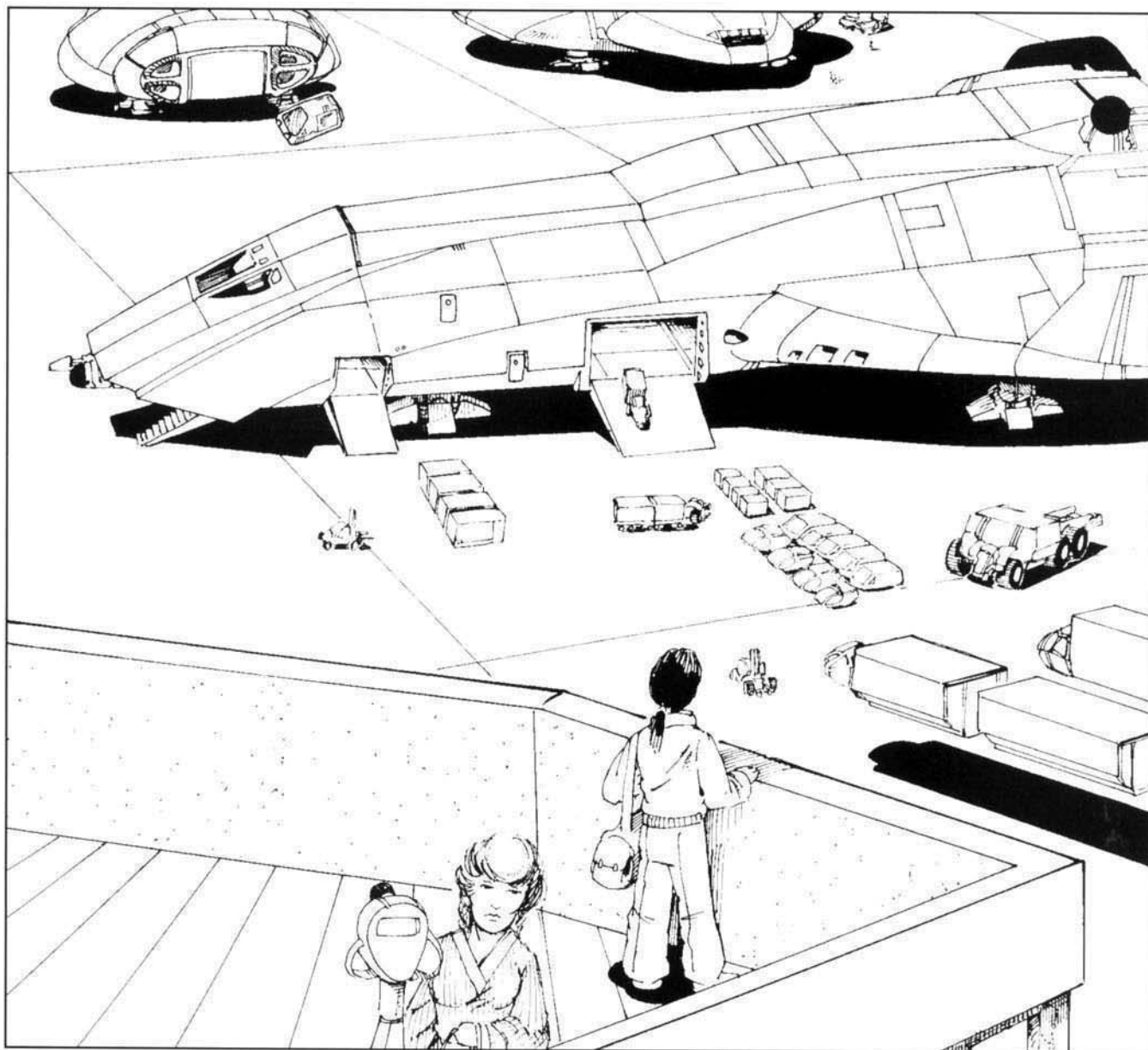
TL 12

Cost

Cr1000

### Holovids

Holographic projection by a personal computer becomes fairly standard around TL 13. Holographic interfaces and "smart" holosystems soon follow. These tailor the output of the computer to what a viewer is doing or saying, allowing a message to be sent by Xboat and delivered interactively even though the sender is months away. "Holo-



Presentations™ become a standard mode of communication at TL 14.

TL 13 Basic Hologrid interface

Cost Cr 3000

TL 14 Advanced Hologrid interface

Cost Cr 5000

Computer, Starship and Vehicle design are covered separately in the Design Sequences chapter starting on pg. 223.

## VEHICLES AND STARSHIPS

Vehicles and starships are constructed at many different tech levels. As a rule, more advanced components allow smaller, faster, more powerful or more reliable systems, but a given vehicle type can be constructed in a variety of ways, and using very different materials. The design systems incorporate these tech-dependent factors.

# DESIGN SEQUENCES

12

This chapter contains design rules for computers, vehicles and starships. The design process is very similar for all three.

## USING THE DESIGN SYSTEMS

The vehicle and starship design systems were created to be as simple and easy to use as possible, while still allowing for a vast range of creativity. By picking and selecting from a varying set of systems, components, drives, and other features, it is quite simple and easy to design anything from a personal grav vehicle to a million-ton Jump-capable dreadnaught.

Many systems and components have a simple base cost and size, no matter what size ship or vehicle you are installing them into. You pay the same cost and size loss for each one of these types of items installed. Other systems, particularly drives and armor, have a cost and size based on a percentage of the overall hull or chassis size being used. The technological level of the vehicle or ship itself may also affect the size requirements of some systems and components.

Most of the data needed to construct vehicles and starships has been compiled into easy-to-consult tables based on various common options. If you are designing a vehicle or ship that uses a hull or chassis size not listed, select components from the various smaller sizes that add up to the hull or chassis size you wish to construct.

For example, you are designing a 550-ton starship and need to determine the cost and size requirements to install armor on the ship up to an armor factor of 4. Consulting the ship armor table, you will see that there is no entry for a 550-ton hull. But there is a listing for a 500-ton hull and a 50-ton hull. If you add the costs, size, etc for both the 500 and 50-ton hull listings, you have the cost, size and other data for your 550-ton ship.

Unless designing very large ships, you should need nothing more than scratch paper to do a bit of addition, subtraction, and record keeping when designing a vehicle or ship.

## UNITS IN THE DESIGN SEQUENCES

All T20 design sequences use common units:

**Cost** is given in Credits (Cr) or Kilocredits (KCr) or Megacredits (MCr)

**Volume** is given in vl, which represents about 10 liters of volume or 0.01 cubic meters of space.

**Weight** is in grams (g) or Kilograms (Kg)

**Displacement** is given in Displacement Tons.

Displacement is used for large vehicles like starships and

spacecraft, which are rated by their displacement; e.g. 400-ton Subsidized Merchant, 5,000-ton Destroyer. One Displacement ton is equal to the volume taken up by one ton of liquid hydrogen. This is approximately 14 cubic metres or 1400 volume. Displacement tons do not indicate weight or mass.

**Energy Requirements and Power System Outputs** are given in Energy points (EP)

## DESIGNING COMPUTERS

### OPEN GAMING CONTENT NOTE

The rules presented in this chapter on the design and operation of computers, vehicles, small craft, and starships are not Open Gaming Content, however any item created using the rules are considered Open Gaming Content. Basically you cannot explain how to create an item as described under these rules, but you may freely publish and distribute the final item data and information under the terms of the Open Gaming License.

## SPECIAL FEATURES OF COMPUTER DESIGN

**Computer Hardware:** Computer systems are, in and of themselves, little use. It is the software that they run (and any systems it operates) that makes them valuable. However, the capabilities of any given computer system are defined by its hardware. An advanced system can be used to run various software packages to fulfil various roles. A less advanced system is far more limited and may be restricted to a single, fixed, software package.

**Computing Power Units (CPU):** The capability of a computer is rated in Computing Power Units (CPU). The size and complexity of a computer core will determine its CPU rating. Multiple units of a given core type will give greater CPU rating. Cores of increasing tech level need less power and result in a higher CPU rating for the same mass and volume, allowing computer systems to be smaller and/or more powerful.



## COMPUTER CORES

Type	TL	Cost (Cr)	Volume*	EP	CPU Output
Electromechanical	5	1000	13.5	0.9	1
Linear	7	250	1.35	0.09	2
Parallel	9	200	0.54	0.012	10
Synaptic	11	150	0.27	0.012	10
Advanced Synaptic	13	100	0.135	0.009	10
Positronic	16	100	0.0135	0.0009	2.5

### COMPUTER CORES

Various types of computers may be built depending on the local technology available. Note that a lower technology type computer can always be built on a higher technology world if desired (and in some cases this is cost effective), but a higher technology type computer may not be built on a world with a lower technology rating.

Five types of computer core are normally possible. Units of different types may not normally be mixed in a given computer core.

**Electromechanical:** Bulky and primitive, early model computers ranging from strange mechanical contraptions to sophisticated vacuum tube systems and other early electronics. Min. TL is 5, cost is Cr10000, volume is 1.35vl,

## COMPUTER TYPE AND MODEL

Model	Base INT	CPU Req.	Total PP	Max PP	Min TL
<b>Basic Computer (Type B)</b>					
0	0	1	1	1	5
1	0	2	2	1	5
2	0	5	3	2	5
3	0	10	4	2	5
4	0	20	5	3	5
5	1	30	6	3	5
6	1	40	7	4	5
7	1	50	8	4	5
8	1	75	9	5	5
9	1	100	10	5	5

<b>Advanced Computer (Type A)</b>					
0	2	150	11	6	5
1	2	200	12	6	5
2	2	250	13	7	5
3	2	300	14	7	5
4	2	350	15	8	5
5	3	400	16	8	5
6	3	450	17	9	5
7	3	500	18	9	5
8	3	600	19	10	5
9	3	700	20	10	5

Model	Base INT	CPU Req.	Total PP	Max PP	Min TL
<b>Master Computer (Type M)</b>					
0	4	800	21	11	5
1	4	1000	28	11	5
2	4	3000	35	12	5
3	5	6000	42	12	5
4	5	10,000	49	13	5
5	6	15,000	57	13	5
6	6	21,000	65	14	5
7	6	28,000	73	14	5
8	7	36,000	81	15	5
9	7	45,000	99	15	5

<b>Expert Computer (Type E)</b>					
0	8	55,000	108	16	5
1	8	66,000	117	16	5
2	9	78,000	126	17	7
3	9	91,000	135	17	9
4	10	105,000	145	18	10
5	10	120,000	155	19	11
6	11	136,000	165	20	12
7	11	153,000	175	21	13
8	12	171,000	186	22	14
9	12	190,000	197	23	15

## LOGIC PROGRAMS

Logic Program	Int	Dex	TL	Cost	PP	Requirements
Bootstrap	-2	-2	5	x2	0	None
Simple Operating System	-1	-1	5	250	1	None
Low Basic Logic	+0	+0	7	1000	2	Limited Verbal Command
High Basic Logic	+1	+1	9	3000	5	Limited Verbal Command
Low Autonomous Logic	+2	+2	11	7000	10	Basic Verbal Command
High Autonomous Logic	+4	+4	13	25,000	15	Basic Verbal Command
Low Artificial Intelligence	+6	+6	15	80,000	20	Full Verbal Command
High Artificial Intelligence	+8	+8	17	250,000	30	Full Verbal Command

**INT:** The amount to modify the computer's base intelligence score by.

**DEX:** The amount to modify the computer's base dexterity score by.

**TL:** The minimum technology level needed to use this type of logic program.

**Cost:** The cost in credits to buy/have designed this type of logic program.

**PP:** The number of processing power points that must be supplied to run this program.

**Requirements:** The minimum type of command software that must be installed and running to use this program.

and EP required is 0.12 per unit installed. Each unit produces 0.5 CPU of output.

**Linear:** The first true fully electronic digital computers. Advances in technology have moved computers that once filled entire rooms onto a user's desktop, onto their laps, and even into their hands. Min. TL is 7, cost is Cr1000, volume is 1.35vl, and EP required is 0.09 per unit installed. Each unit produces 1 CPU of output.

**Parallel:** The advanced digital computer, still found in great use. Min. TL is 9, cost is Cr100, volume is 0.135vl, and EP required is 0.012 per unit installed. Each unit produces 1 CPU of output.

**Synaptic:** An early attempt at developing a unit that mimics the inductive reasoning of a human brain. Min. TL is 11, cost is Cr200, volume is 0.135vl, and EP required is 0.009 per unit installed. Each unit produces 2 CPU of output.

**Positronic:** A breakthrough in computing, the positronic brain is finally capable of not only reproducing the inductive and intuitive reasoning of the human brain. It also manages to lead to much smaller component sizes. Min. TL is 16, cost is Cr1000, volume is 0.0135vl, and EP required is 0.0012 per unit installed. Each unit produces 4 CPU of output.

## TYPE AND MODEL

The type and model rating of a computer are initially based on their total raw CPU power. The higher the total CPU capacity, the more capable the computer is and the higher its type and model rating will be. Using the Computer Type and Model table, find the computer's CPU rating (rounding down if necessary). The computer will fall

under one of four types, Simple (S), Basic (B), Master (M), and Expert (E), and will have a model rating that ranges from 0 to 9.

This table will also let you know the computer's base intelligence score, the total processing power (PP) points available for use, and the maximum amount of processing power that may be applied to any single given task at one time. Processing Power or PP points can be thought of as a skill point pool for a computer, which it draws on to run the various software and programs available to it each round.

**Model:** The model number rating. Note that this model number rating resets to 0 when a computer's type rating is improved (Simple to Basic, Basic to Master).

**Base INT:** This is the base INT score of a computer of this type and model rating. The Logic and Command programs installed may adjust this score up or down. When a computer's model and/or type rating improve, if its INT score is less than the listed Base INT, it should be raised to equal the listed score.

**CPU Req:** The total amount of raw CPU power that must be available to the computer to earn this type and model rating. For logiccomps, this is the total amount of raw CPU power plus any earned experience points required.

**Total PP:** This is the total amount of Processing Power (PP) points available for use by the computer each round. These PP points may be distributed as needed to run any number of programs.

**Max PP:** The maximum number of PP points that may be applied to any single task involving the use of a skill based program each round. This may not exceed the rated

## COMMAND PROGRAMS

Command Program	Int	TL	Cost	PP	Requirements
Keyboard/Manual Interface	-2	5	10	0	Basic Operating System
Graphical User Interface	-1	7	100	1	Basic Operating System
Limited Verbal Command	+0	7	500	2	Low Basic Logic
Basic Verbal Command	+1	9	1000	5	High Basic Logic
Full Verbal Command	+2	11	5000	10	Low Autonomous Logic

**INT:** The amount to modify the computer's base intelligence score by.

**TL:** The minimum technology level needed to use this type of command program.

**Cost:** The cost in credits to buy/have designed this type of command program.

**PP:** The number of processing power points that must be supplied to run this program.

**Requirements:** The minimum type of logic software that must be installed and running to use this program.

PP capacity of the program being run. This limitation does not apply to the use of Command, Logic, or other types of programs used by the computer.

### LOGIC PROGRAMS

Logic programs determine how a computer handles the tasks required of it. They range from simple operating systems capable of little more than acting as a personal computer to sophisticated Artificial Intelligence programs that can learn and develop like any normal character.

**Bootstrap:** A bootstrap can be added to any other non-logic program, allowing that program to be run on a computer without a normal logic program installed and running. Bootstrapping doubles the cost of the software program it is added to.

**Simple Operating System:** The most basic of all logic programs, the simple operating system allows only the most basic and rudimentary data manipulation and presentation. Programs are limited to more basic types of programs such as word processing, file and data transfer, simple communications, etc. All critical or sensitive decision making is left to the user for the most part. Unless an improved command software interface is installed, data input and control is typically via keyboard using an explicit, but limited command structure, while data output is via some form of visual interface or physical printing device.

**Basic Logic:** The computer is capable of storing all data accumulated by its sensors and other input devices, but is incapable of analyzing or learning anything from that information. The limited decision making capabilities of this logic program only allow it to process data as it pertains to its immediate situation, such as negotiating obstacles and recognizing objects. If it could not go around the obstacle, or once it recognized an object, it will require further active or preprogrammed commands as to what actions to take next.

For low basic logic programs, unless there is an operator or supervising computer, the DC for any task is increased by +5.

All basic logic programs require at least the limited verbal command program to be installed and running.

**Autonomous Logic:** Commonly referred to as a logicomp, computers equipped with this type of logic programming are capable of operating independently and actually learning from their activities and earning experience. However unlike a normal character, when awarded experience by the referee, a logicomp with a high autonomous logic program must divide the given experience in half before applying the remainder to its accumulated experience total. If the logicomp is running the low autonomous logic program, you must divide the given experience by 10 before being added it to the computer's accumulated experience total.

Rather than having a class and earning levels, logicomps improve in model number and occasionally improve their type classifications. The base CPU output of the computer and the accumulated experience point totals are added together, and the result is compared to the Computer Type and Model table above to see if the computer has improved its model number or type rating. As the logicomp improves in rating it becomes capable of greater total processing capacity per round and an improved maximum single task processing. This type of logic program will also require additional data storage capacity for the experience it will accumulate (see Experience Data Storage).

The autonomous logic programs require at least the Basic Verbal Command program to be installed and running.

**Artificial Intelligence:** The robot is capable of reasoning, drawing conclusions, or even originating ideas and concepts that are outside the current realm of programming. While their sentence is often (hotly) debated, they may easily be mistaken for such by all but the most knowledgeable of roboticists.



Once designed, built, and its initial programming installed and running, an AI is treated like any normal character and capable of taking a class and earning levels. They do not advance on the standard Computer Type and Model table. Low Artificial Intelligence computers must divide their earned experience in half before adding to its previously accumulated experience.

The artificial intelligence logic programs require the Full Verbal Command program to be installed and running. This type of logic program will also require additional data storage capacity for the experience it will accumulate (see Experience Data Storage).

## COMMAND PROGRAMS

Command programs provide a computer with its ability decode and analyze the meaning of the commands given to it.

**Keyboard/Manual Interface:** The user must manually type in or otherwise manually input the command into the computer system. This most basic of interface devices does not require any PP points to run as this functionality is automatically built into all computers. If this is the only method available of interfacing with the computer, its INT score is reduced by -2 points. At least the basic operating system must be installed and running to use this command program.

**Graphical User Interface:** A very user-friendly manual interface using graphics and simple iconic command systems to ease the use of and increase the speed of use of a computer system. Because of its limited manual capabilities however, the base intelligence of a GUI command program is reduced by -1 point. At least the basic operating system must be installed and running to use this command program.

**Limited Verbal Command:** The computer is capable of understanding a limited set of verbal commands (100 words/commands). These commands must be spoken and enunciated very clearly or they may be misinterpreted or ignored by the computer. Colds, foreign accents, and other issues that may affect the voice of the command speaker can cause even more difficulty. At least the low basic logic program must be installed and running to use this command program.

**Basic Verbal Command:** The computer can interpret and understand a limited verb-object sentence type commands, such as "get the book" or "show the starport data". These

## EXPERIENCE DATA STORAGE

Type	TL	Storage	Volume	Cost
Electromechanical	5	10 XP	1.35	1000
Magnetic	7	10 XP	1.35	100
Advanced Magnetic	8	100 XP	0.135	500
Optical	9	100 XP	0.135	250
Synaptic	11	1000 XP	0.0135	250
Holographic	13	10,000 XP	0.00135	500

**TL:** The minimum technology level at which this type of storage device may be used.

**Storage:** The amount of accumulated experience points this type of storage device can hold.

**Volume:** How much additional volume of space this type of storage device will add to the size of the computer.

**Cost:** The cost per storage unit of this type installed into a computer.

commands must still be spoken and enunciated very clearly or they may be misinterpreted or ignored by the computer. Colds, foreign accents, and other issues that may affect the voice of the command speaker can still cause even more difficulty. Because of its improved verbal understanding, the base intelligence of a computer is increased by +1 point. At least the high basic logic program must be installed and running to use this command program.

**Full Command:** The computer is capable of understanding and correctly interpreting most natural language commands of varying complexity. Accents, colds or other issues that might affect the speakers voice are rarely a problem. Because of its near complete verbal comprehension capabilities, the base intelligence of a computer is increased by +2 points. At least the low autonomous logic program must be installed and running to use this command program.

## DATA STORAGE

Computers capable of earning experience (logiccomps and AIs), must allocate additional data storage capacity for the experience points they will earn and accumulate over the lifetime of their existence (or until memory wiped). Earned experience is really raw data that the computer has recorded and stored within its available storage memory for later reference and analysis. The type of data storage system available depends on the technology available.

## HARDWIRING AND DEDICATED PROGRAMMING

A computer may be hardwired with programming dedicated to the performance of a specific set of tasks. Such a computer cannot be reprogrammed and is incapable of earning experience at any type or model rating. Hardwiring

reduces the number of units required for the computer core and data storage by 25%. The CPU output and storage capacity of the computer does not change. All programming must be selected and specified before the computer is built. These reductions apply to hardware only. Software and ability score costs and requirements are not affected.

For example a TL7 Linear Computer with 10CPU, built on a TL7 world, would require:

10 Linear units  
13.5vl  
Cr10,000  
0.9EP  
10 CPU Output

If that same computer were hardwired, excluding the cost of software/programming, it would only require:

7.5 Linear units (25% fewer because the computer is hardwired)  
10.13vl  
Cr7500  
0.68 EP  
10 CPU Output

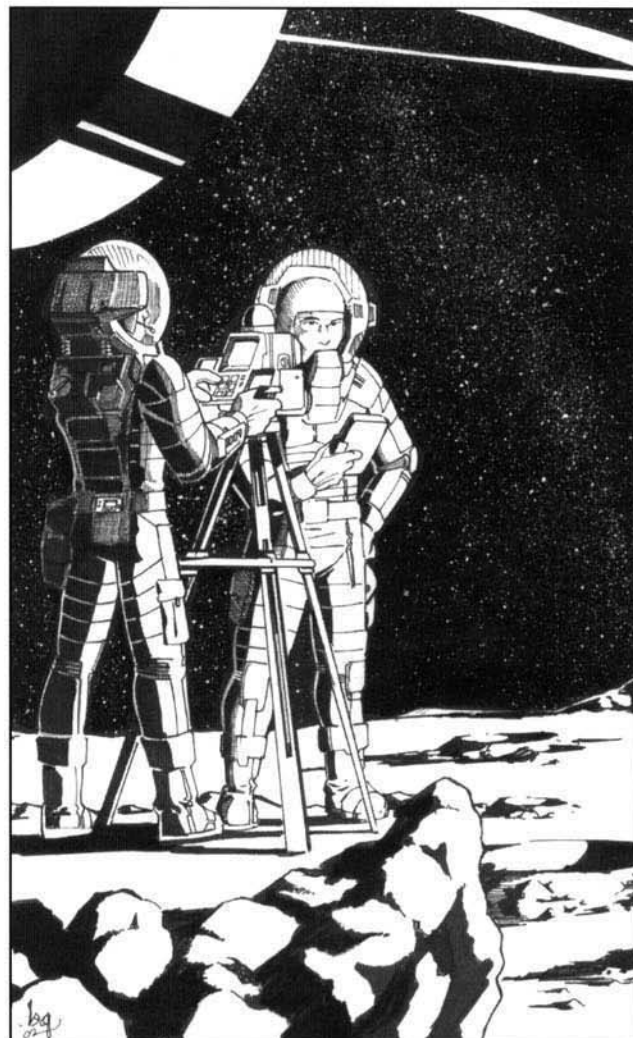
## ADVANCED TECHNOLOGY

There are some advantages in using a fairly low-tech computer design but building it under higher technological standards, due to the effects of miniaturization and standardization. If you design a computer using a technology that is 1 or more TL below that which is actually available, you may elect to take advantage of one of these effects, but not both. For example you could elect to reduce the size and power requirements of the computer by going with miniaturization, or you could go for the lower cost through taking the standardization option, but you could not do both.

**Miniaturization:** High technology allows systems to be miniaturized. Each TL above the minimum (up to a maximum of +4 TLs) required to build a given type of core or data storage reduces the required volume and EP of the computer by 10%. The CPU output, storage capacity, and cost are not affected.

For example a TL7 Linear Computer with 10CPU, built on a TL7 world would require:

10 Linear units  
13.5vl  
Cr10,000  
0.9EP  
10 CPU Output



That same computer built on a TL8 world would only require:

10 Linear units  
12.15vl (10% less because the TL is 1 higher than the required TL of 7)  
Cr10,000  
0.81 EP (10% less because the TL is 1 higher than the required TL of 7)  
10 CPU Output

**Standardization:** As technology progresses, what were once cutting-edge technologies become more standardized and commonly available to the general population. This has the effect of reducing the costs of a computer even further as industries supporting the production of a specific type begin to proliferate. These reductions apply to hardware only. Software and ability score costs and requirements are not affected. There is a 3 TL limit to the amount of standardization that can be applied.

## COST REDUCTION BY TL DIFFERENCE

+TL	Cost Reduction
1	-25%
2	-50%
3+	-90%

For example:

Original TL7 Computer

10 Linear units

13.5vl

Cr10,000

0.9EP

10 CPU Output

TL8 Version

10 Linear units

13.5vl

Cr7500 (25% cheaper because the TL is 1 higher than the required TL of 7)

0.9EP

11 CPU Output

TL9 Version

10 Linear units

13.5vl

Cr5,000 (50% cheaper because the TL is 2 higher than the required TL of 7)

0.9EP

12 CPU Output

TL10 Version

10 Linear units

13.5vl

Cr1000 (90% cheaper because the TL is 3 higher than the required TL of 7)

0.9EP

13 CPU Output

TL11 Version

10 Linear units

13.5vl

Cr1000 (remains at 90% cheaper because the TL 3 or more higher than the required TL of 7)

0.9EP

14 CPU Output

## INTELLIGENCE

The type and model rating of a computer, along with the type of logic and command software that has been installed determine the overall intelligence of the system. Note that a computer's INT score may not exceed its TL.

$$\text{INT} = \text{B} + \text{L} + \text{C}$$

### Where:

**B** = the base INT score of the computer based upon its type and model rating.

**L** = the INT modifier for the type of Logic Program installed and running.

**C** = the INT modifier for the type of Command Program installed and running.

## EDUCATION

A computer's EDU score is based on its intelligence, the number of skill programs it has installed, the capacity of those skill programs, and whether or not it has the Library Data software installed.

Factor	Modifier
INT 4+	+1
INT 10+	+2
INT 16+	+4
Library Data program installed	+4
Per 4 skill programs installed	+1
If any single skill program has a capacity of 5 or more	+1
If three or more skill programs have a capacity of 5 or more	+2

## COMPUTER SOFTWARE

The purpose of most computer systems is to run software applications. The following are standard software programs, in common use throughout the Traveller universe.

### DEFENSIVE PROGRAMS

Defensive software is most commonly encountered aboard starships and vehicles that have defensive systems for it to control. Robots and fixed installations may also run similar programs.

#### Anti-Missile

Type: Defensive

Cost: 1000

PP Capacity: 2

Effect: Any laser based weapon system that has not already fired, may attempt to fire at and destroy incoming missiles, with a +2 bonus due to the extended final targeting by the computer during the missiles approach. A variant of this program is used to control projectile weapons used in anti-aircraft or anti-missile applications. The two are not interchangeable.

#### Auto/Evade

Type: Defensive

Cost: 5000

PP Capacity: 1



Effect: Allows the computer to produce small random movements in the vehicle course, making it more difficult to target and hit and providing a +2 bonus to the vessel's AC (not AR).

## ECM

Type: Defensive

Cost: 4000

PP Capacity: 3

Effect: Provides an additional +2 bonus to AC against weapon systems that are using an electronic targeting system, and a +2 synergy to all T/Sensor or T/Communications skill check involving defensive jamming.

## Return Fire

Type: Defensive

Cost: 5000 + 50 per weapon system supported.

PP Capacity: 1

Effect: When a vessel is hit by energy weapon fire while the return fire program is running, it may fire any of its own energy based weapon systems that have not already fired this round, in return with a +2 bonus. This bonus is derived from the fact that the incoming attack itself provided pinpoint targeting accuracy for the return fire system. These attacks are always under direct computer control because of the timing required to execute them.

Special: Energy based weapon systems only.

## OFFENSIVE PROGRAMS

Offensive programs control weapon systems or assist the operators of such systems. To gain benefits from it, a program must be running for each weapon system in use. A weapon system is defined here as: an individual weapon or a set of linked weapons within a turret or barbette, a bay weapon or a spinal mount. E.g. a ship with two turrets and a bay weapon, running only one Predict program, must choose whether to apply the Predict bonus to one or the other turret, or the bay.

## Double Fire

Type: Offensive

Cost: 4000

PP Capacity: 4

Effect: Allows any weapon system (except missile launchers and sandcasters) to fire twice per round, if enough power is available.

## Gunner Interact

Type: Offensive

Cost: 1000

PP Capacity: 1

Effect: Allows a single 'live' gunner to apply their Gunnery skill rank when handling an appropriate weapon system,

rather than depending upon the computer to control the shots.

## Predict

Type: Offensive

Cost: 7500

PP Capacity: 2

Effect: Provides a +2 synergy bonus to all gunnery skill checks for supported weapon systems.

Requirements: Weapons Systems program must be running.

## Select

Type: Offensive

Cost: 3000

PP Capacity: 1

Effect: This program aids in the targeting of specific areas on an enemy vessel, allowing a gunner to use the Called Shot action with the weapon system.

Requirements: The gunner interact program must be running in support of the gunner.

## Weapons Systems

Type: Offensive

Cost: 4000

PP Capacity: 1

Effect: Only one instance of this program needs to be running regardless of the number of weapon systems that are actually supported. Provides very basic targeting information to all supported weapon systems, enabling them to be used during an engagement. Without a running targeting program, nothing outside of visual range may be targeted.

## MISCELLANEOUS PROGRAMS

Miscellaneous programs are run on computers of all kinds.

## Library Data

Type: Miscellaneous

Cost: 3000

PP Capacity: 1

Effect: For basic computers, this program acts as a reference library to any user who wishes to consult it. When a PC uses a Library Data program while searching for fairly general reference information, the PC will gain a +2 situation bonus to their Gather Information skill checks. In addition, this program also adds a +4 bonus to the EDU score of a computer.

## Master

Type: Miscellaneous

Cost: 5000

PP Capacity: 5

**Effect:** Unlike the server program, the master program allows one computer to take over control of another computer (the slave) either directly or more typically via remote connection, and have access to all PP points, programs, or other data available to the enslaved computer. For security purposes, this type of control typically requires the master computer to have access to a specific control code for the computer to be enslaved. Without the code, the master computer is powerless to control the remote computer. Each slave unit controlled (after the first) requires an additional PP point to be expended per round by the master computer.

**Requirements:** The master computer must have some manner of transferring data and commands between itself and its slaved units.

## Normal Skills

**Type:** Miscellaneous

**Cost:** 1000 per effective point of skill rank

**PP Capacity:** 1 per effective point of skill rank

**Effects:** A computer may be initially programmed with most any skill that is available to a normal character, but they do not suffer the typical maximum skill rank limitations.

Instead, a computer may be programmed with a skill rank in a given skill up to a limit based on its type and model number ranking. All normal modifiers such as ability scores and other effects apply to a computer's skill programming.

**Requirements:** None

## Server

**Type:** Miscellaneous

**Cost:** 2500

**PP Capacity:** 3

**Effect:** A server is capable of acting as a repository of both software and processing power that connected client computers may draw upon as needed. Each round a client may request the use of a program or a portion of the available PP points on the server. Each request for PP points will further reduce the total amount of PP available from the server. In some situations where demand on the server is very heavy, some requests may have to be postponed until a subsequent round. Requests will pool up in a queue and are handled on a first come, first serve basis. Requests for the use of a program on a server will not place any additional PP demand on the server.

## Valet

**Type:** Miscellaneous

**Cost:** Cr3000

**PP Capacity:** 2

**Effects:** A computer (typically a robot) with this programming is capable of functioning as the personal servant or

valet of its owner/master. It is capable of handling tasks such as keeping notes and messages, minor errands, light cleaning, and other basic domestic duties.

**Requirements:** The Personality Interface program must be installed and running.

**Special:** This program counts as a skill program for purposes of determining the computer's EDU score.

## USER INTERFACE PROGRAMS

Any computer system that is intended to be programmed or to interact with people will require some form of user interface. More sophisticated interfaces allow easier use for untrained users, and generally more pleasing interactions.

### Language Module

**Type:** User Interface

**Cost:** 1000

**PP Capacity:** 5

**Effect:** The computer can comprehend a specific spoken language. These modules are installed to provide the computer access to languages other than the default language provided by the appropriate voice recognition software. If a voder is available to the computer it may also provide verbal data and information output.

### Personality Interface

**Type:** User Interface

**Cost:** 10,000

**PP Capacity:** 1

**Effects:** Gives an intelligent computer an effective Charisma score. Cost and PP requirements are per 2 points of Charisma.

**Requirements:** A voder and the standard voice recognition software must be installed and running before this program may be utilized. Must have an INT score of 3 or higher.

### Etiquette and Protocol

**Type:** User Interface

**Cost:** 50,000

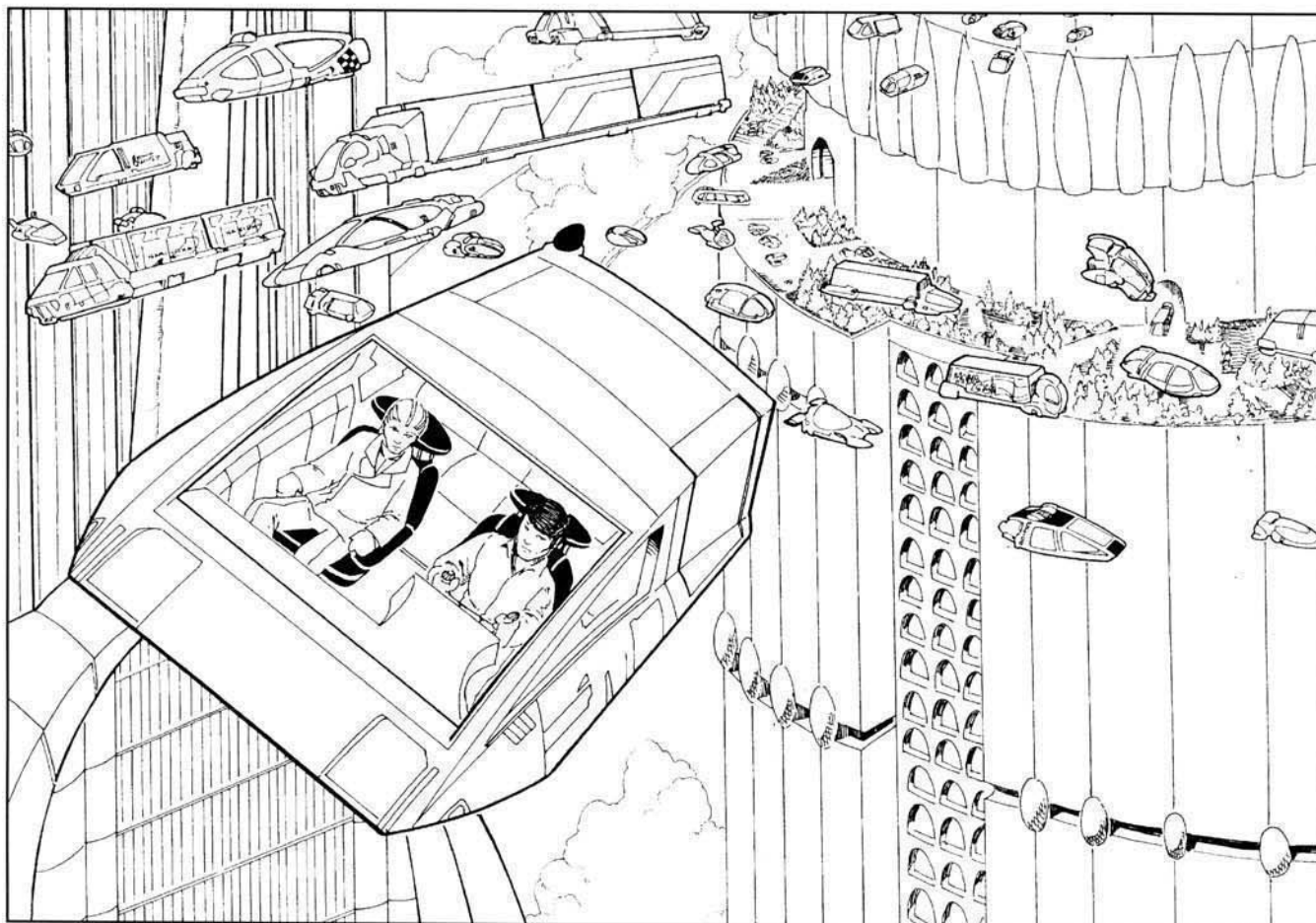
**PP Capacity:** 4

**Effects:** Allows an intelligent computer with a Charisma score of 10 or higher to also have an effective Social Standing. Cost is per point of total Social Standing, and CPU requirements list the base CPU requirements for a SOC score of 10 along with the CPU requirements for each point of SOC over 10.

**Requirements:** Personality Interface program. Must have an INT score of 10 or higher.

## VESSEL OPERATIONS PROGRAMS

Starships and space vessels (and other large vehicles) use computer software to fulfill specific operational requirements.



## Anti-Hijack

Type: Operations

Cost: 1000

PP Capacity: 1

Effect: Aids in the prevention of stowaways and hijackings. Anyone attempting to hide aboard or enter the restricted area of a vessel equipped with this program must make a Hide skill check (DC15) to avoid being detected by the software. Similarly, anyone attempting to enter or bypass a security system aboard the vessel or the security of the computer itself must make an additional appropriate skill check (DC15) to avoid the program detecting the bypass attempt, regardless of whether the attempt was successful or not.

## Generate

Type: Operations

Cost: 8000

PP Capacity: 1

Effect: Produces a flight plan for the Jump program based on the input of the astrogator. Without this program, it would take an astrogator approximately 24 hours minus the astrogator's T/Astrogation skill rank, per 1 point of jump

distance, to create the flight plan manually. For example, it would take someone with a T/Astrogation skill rank of 16, some 32 hours to plot a Jump-4 flight plan ( $24 - 16 = 8 \times 4 = 32$ ).

## Jump

Type: Operations

Cost: see below

PP Capacity: see below

Effects: This program is required to operate the jump drives of a starship so that the ship may travel through interstellar space. The jump drive itself determines which version of the program is required. A ship equipped with a Jump-1 drive will require the Jump-1 program, etc.

Version	PP	Cost
Jump-1	23	100,000
Jump-2	30	300,000
Jump-3	37	400,000
Jump-4	41	500,000
Jump-5	44	600,000
Jump-6	52	700,000



## COMPUTER ACCESSORIES

### CONTROL PANELS AND TERMINALS

Control panels and terminals have no computer processing power of their own; rather they allow a user to remotely issue commands to a larger and more powerful central computer (or server) and echo the results upon the panel or terminal screen. Unless a computer is Intelligent (pINT 3+) and capable of acting on its own, one or more control panels or terminals must be installed to allow users to interface with and command it.

**Basic Mechanical:** Min TL is 5, cost is Cr10000, volume is 1.35vl, and has a throughput of up to 5CPU per unit installed.

**Advanced Mechanical:** Min TL is 6, cost is Cr10000, volume is 1.35vl, and has a throughput of up to 8CPU per unit installed.

**Electronic:** Min TL is 7, cost is Cr1000, volume is 1.35vl, and has a throughput of up to 10CPU per unit installed.

**Advanced Electronic:** Min TL is 9, cost is Cr1000, volume is 1.35vl, and has a throughput of up to 100CPU per unit installed.

**Dynamic:** Min TL is 11, cost is Cr2000, volume is 1.35vl, and has a throughput of up to 200CPU per unit installed.

**Holographic:** Min TL is 13, cost is Cr1000, volume is 1.35vl, and has a throughput of up to 240CPU per unit installed.

## VEHICLE DESIGN

A vehicle is basically defined as any means of conveyance that does not leave the lower orbit of a planet. Air/rafts, ground cars, tanks, jet fighters, and submarines would all be considered vehicles, but an interstellar or even an interplanetary vessel would not be considered a vehicle under these rules (separate rules cover the design of such vessels, see *Spacecraft and Starship Design*, pg. 253).

### SPECIAL FEATURES OF VEHICLE DESIGN

**Components and Sub-Assemblies:** Vehicles (and Starships, Small Craft etc), are generally made up of a chassis (or frame) plus several very different sub-assemblies. These include primary systems such as power and drive systems, electronic systems such as an autopilot computer, and peripheral systems such as air conditioning for crew comfort.

**Thrust:** Thrust is a measure of the amount of power delivered by the vehicle's drive train. The actual means of delivery are quite varied, including ducted fans, wheels, legs and contragravity systems. The characteristics of various

drive systems determine the ratio of energy to thrust they can deliver. Greater thrust correlates to more speed, at a rate depending upon the mass of the vehicle.

### INSTALLATION AND MAINTENANCE

If a vehicle is purchased from a dealer, it can be assumed to come complete and in working order. However, if characters are constructing a vehicle to a custom design, a T/Mechanical check must be made when installing some types of systems to ensure they have been installed properly. Use the table below to determine the appropriate DC. A successful check indicates the system has been installed and tested with no problems found. Failure indicates that the system does not work properly and must be reinstalled. At the Referee's option, the roll can be made secretly. If it is failed by up to 3 points, the system seems to work well enough but will begin to display insidious faults after a period of use. More serious failures will be obvious immediately. Installations will typically take 1d6 hours. The same system can be used when vehicle components are pulled for routine or emergency maintenance.

<i>Installations</i>	<i>DC</i>
Other	10
Drive Train	15

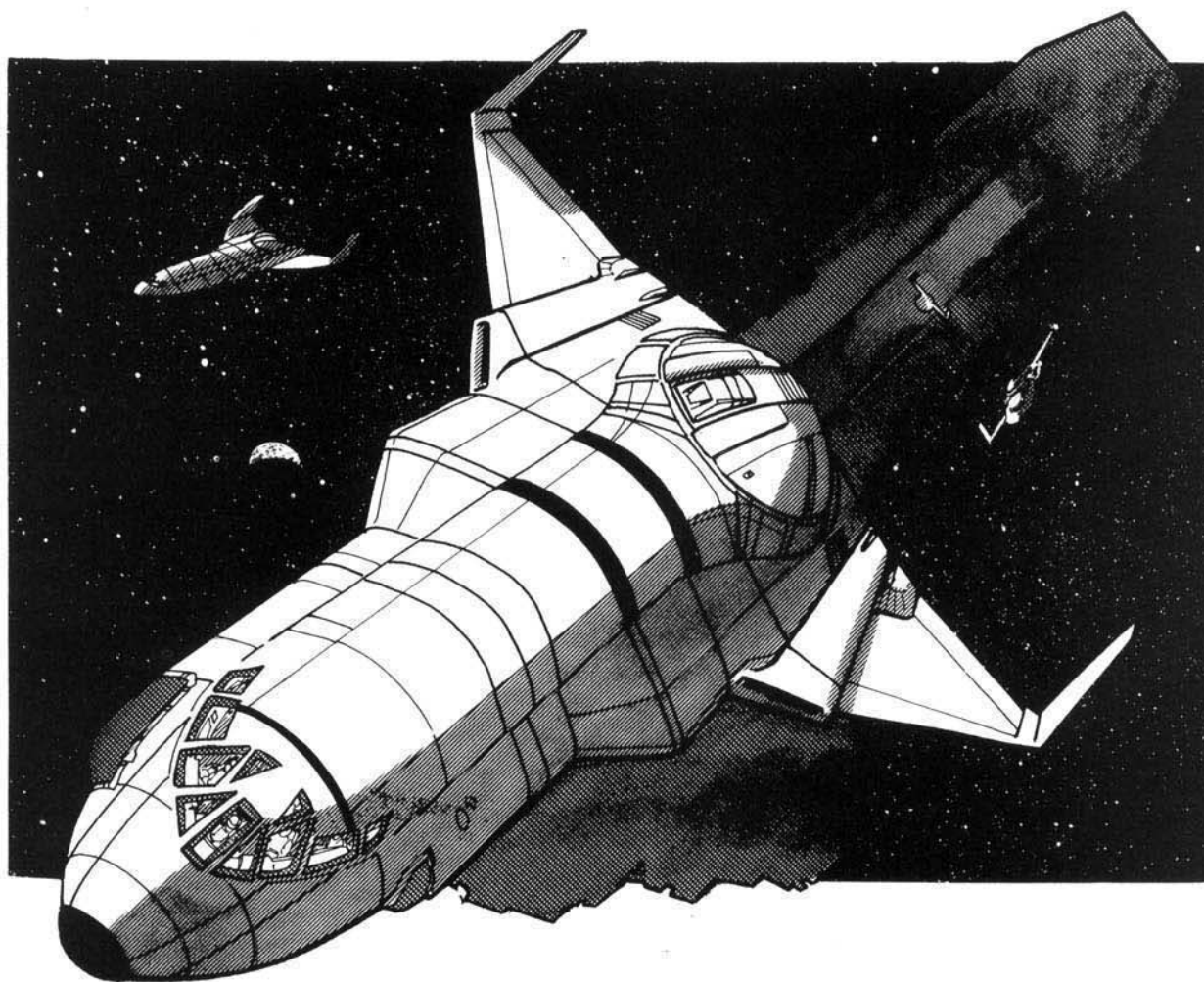
<i>Other Modifiers</i>	<i>Adjustment</i>
Sufficient Vehicle Shops	+1 to skill check roll
Per 5% understaffed on needed crew	-1 to skill check roll

### DESIGN PHILOSOPHY

Vehicles are normally designed with a particular purpose and environment in mind. Most are intended to transport something around (passengers, cargo, a weapon system) and to give some form of protection from the environment (this can mean anything from a wind shield to heavy armor plate).

Civilian vehicles are rarely designed with combat use in mind, though many "frontier" types have offroad mobility as good as that of any military vehicle. The more sturdy frontier vehicles such as the ATV are as well protected as some low-tech military vehicles, and more mobile. Many are used as APCs by mercenary units unable to afford specialist military vehicles. For the most part, however, civilian vehicles are designed for a friendly environment. They provide transport and possibly one or more of the following: reliability, rugged terrain capability, hostile environment support, high speed, rapid acceleration, economy, comfort, prestige.

Military vehicles are similarly built to a particular requirement. Rugged terrain performance is a given. The vehicle's mission determines its other characteristics. A



lightly armed and armored recon vehicle has to be much faster than a heavy assault tank; a cargo carrier needs little protection but a heavy chassis to carry weight. Many militaries like to buy a vehicle for use in many roles, with variants acting as APC, field ambulance, artillery tractor, cargo hauler and command post. This makes maintenance cheaper and easier, and improves spares availability. However, front-line military vehicles are often designed with no regard to cost.

## VEHICLE COMPONENTS

All vehicles are made up of several sub-systems. Any vehicle design will include some or all of the following:

- 1) **Chassis:** All vehicles require a chassis, which forms the body or shell of the vehicle into which everything else is either attached or installed.
- 2) **Armor:** Vehicles may be armored to protect them from damage due to enemy fire or other hazards such as hostile environments. While not required, armor is impor-

tant if the vehicle will be used in situations where the occupants might come under fire.

3) **Drive Train:** The drive train is the type of locomotion the vehicle uses to move itself. This can be anything from wheels, tracks, or legs, to anti-gravity plates, jet thrusters, or propellers. Select the appropriate drive train for the vehicle you are designing. Note that some drive trains require that you install at least 2 of the specified type (specifically wheeled, tracked, and legged vehicles). You may always install more than the required number of drive train systems as redundant backup systems, or even to improve the handling of a vehicle in some cases.

4) **Power Plant:** All vehicles require a power plant, without which it would not be a vehicle but a sculpture. Most components installed into a vehicle will require some amount of power to function. The larger the power plant installed, the more power the vehicle generates each turn with which it may power its installed systems and components. A vehicle's power plant also plays a significant part in the maximum speed a vehicle is capable of achieving.

**CHASSIS SIZE TABLE**

<i>Chassis Size (vl)</i>	<i>Size</i>	<i>Cost (Cr)</i>	<i>Build Time</i>	<i>Thrust Required</i>	<i>Base Armor Volume (vl)</i>
1	Tiny	1	1 hour	0.001 per 1kph	0.01
5	Tiny	5	1 hour	0.005 per 1kph	0.05
10	Small	10	1 day	0.01 per 1kph	0.1
50	Medium	50	1 day	0.05 per 1kph	0.5
100	Medium	100	1 week	0.1 per 1kph	1
500	Large	500	1 week	0.5 per 1kph	5
1000	Large	1000	1 month	1 per 1kph	10
5000	Huge	5,000	1 month	5 per 1kph	50
10,000	Huge	10,000	6 months	10 per 1kph	100
50,000	Gargantuan	50,000	6 months	50 per 1kph	500
100,000	Gargantuan	100,000	12 months	100 per 1kph	1000
500,000	Colossal	500,000	12 months	500 per 1kph	5000
1,000,000	Colossal	1,000,000	24 months	1000 per 1kph	10,000

**5) Appendages:** Manipulatory appendages designed for either power, strength and carrying capacity, or light, delicate work may be installed on any vehicle. These appendages may be used to move cargo and equipment or even handle delicate surgery with the proper programming or controller.

**6) Weapons:** Many vehicles are equipped with defensive and offensive weaponry. Anything from a simple light machinegun to the incredibly devastating meson gun may be mounted on a vehicle, providing it is capable of carrying and powering it.

**7) Sensors:** Even the best of pilots and drivers can't be aware of everything going on around them, so various types of sensor and detection systems have been developed for use with vehicles.

**8) Other Equipment and Features:** Almost any other feature or system not presented in the earlier sections can be added, ranging from small staterooms, passenger couches and crew bunks to sophisticated systems such as autodocs.

**9) Robot Brains:** Robots may also be designed using the vehicle system. A robot has the same requirements as a vehicle and may install the same components, but a robot must also have a 'brain' installed to control its independent function. A vehicle with a robotic brain to direct its functions may be considered a "robotic vehicle" or a "transport robot"; its function is the same in both cases.

## CHASSIS

The first step in designing any vehicle is to determine the size of the chassis that will be used. The chassis determines how large a vehicle is, and is the maximum limit to the size of equipment, personnel and cargo it may carry or

have installed within. Vehicles, and thus their chassis, are rated in terms of their volume (vl). A 100vl chassis is roughly the equivalent size of a human being. Vehicles can truly be of any maximum size, but few are much larger than 100,000,000vl.

**Sample Chassis Types:** Here are a few sample types of chassis for commonly recognized vehicles (empty chassis only).

### Basic Chassis

<i>Samples</i>	<i>Average Size</i>	<i>Cost</i>
Ground Car	2000-5000vl	Cr4000-10,000
Air/raft	4,000vl	Cr8,000
Jet Fighter	8500vl	Cr17,000
All Terrain Vehicle	10,000vl	Cr20,000
Grav Tank	40,000vl	Cr80,000
Battleship	30,000,000-40,000,000vl	MCr60-80

To find the cost of a particular size chassis, find the listing for the chassis size desired on the table above. For odd sized chassis not listed, simply add the appropriate listed smaller sized chassis as need to find the actual price. For example, when designing a vehicle with a 522vl chassis you would add the price for one 500vl chassis, two 10vl chassis, and two 1vl chassis.

**Cost:** Cost is listed in Credits. When building an odd size chassis not listed, add all portions together to determine the total cost of the chassis. Our 522vl chassis from the example above would cost Cr522 (Cr500 + Cr10 + Cr10 + Cr1 + Cr1). This does not include the cost of any other components or subsystems that will be installed later.



**Build Time:** The approximate time required to build a vehicle of the given size. When building an odd size chassis not listed, use the greatest build time for the largest listed portion as the total build time. For example, our 522vl chassis would take 1 week to be constructed, as 1 week is the greatest build time of all portions (500vl, 10vl, and 1vl). The build time includes the installation of all subsystems and components.

**Manned Control System:** A vehicle that will be operated directly by a person or creature who is enclosed within the vehicle requires a minimum control space of 110vl or 20% of the total chassis size, whichever is greater. These control systems assume space for the operator (up to 100vl in size) and cost Cr2.5 per vl. Control systems for larger operators would require correspondingly greater amounts of control systems and space to accommodate their increased size and bulk.

If the operator is to ride on the outside of the vehicle, (e.g. on a motorcycle or grav bike) the control space size and cost is the same as for a remote-control system.

Our 522vl vehicle will require us to set aside 110vl for the operator and control systems. Note that we are using the minimum required value because 20% of 522vl is only 104.4vl. These control systems would cost us Cr275.

**Remote Control Systems:** A vehicle that will be operated remotely requires only 10% of the total chassis size, and there is no minimum size required. The downside is that remote control systems cost Cr5 per vl installed, twice as much as manned control systems. Some method of communication with the control systems must also be installed. If our 522vl vehicle were to be remotely controlled rather than manned, we would only have to set aside 52.2vl for control systems but our cost would be almost as much, at Cr261.

**Thrust Required:** The amount of thrust required depends upon how fast the vehicle is to go. The Chassis Size Table indicates the amount of thrust that must be generated by the vehicle's drive train (selected later) in order to move the vehicle at a maximum speed of 1 kph. If greater speed is desired, extra thrust must be provided. Thus for a 1000vl chassis vehicle to have a maximum speed of 100 kph, the vehicle must produce 100 units of thrust. For an odd size chassis not listed, add the Thrust requirements for all portions. Our 522vl chassis would require 52.2 units of thrust to move at a maximum speed of 100 kph ( $0.5 + 0.01 + 0.01 + 0.001 + 0.001 = 0.522 \times 100 = 52.2$ )

**Armor Factoring:** Any vehicle, including non-military vehicles may install armor, but it is not required for most non-military types unless protection from hostile environments, predators etc is desired. The defensive value of the armor installed depends on the Armor Rating (AR) select-

ed. The higher the AR bonus value installed the greater the level of protection afforded. A vehicle may install as high an AR in armor as the builder can afford and has room for, up to a limit equal to the available technological level. For example a TL15 vehicle could install up to an AR of 15, while a TL6 vehicle would be limited to a maximum AR of 6. This reflects improvements in armor design such as composite materials. In addition, advanced armor takes up less space for the same protection value.

**TL4-9 Armor:** Multiply the chassis Base Armor Volume by 4.

**TL10-11 Armor:** Multiply the chassis Base Armor Volume by 3.

**TL12-13 Armor:** Multiply the chassis Base Armor Volume by 2.

**TL14+ Armor:** Multiply the chassis Base Armor Volume by 1.

**Armor Rating (AR):** Without armor, a vehicle's AR rating is 0. To achieve the first layer of armor (AR of 1), a vehicle must install twice the Base Armor Volume specified for the chassis and TL of the armor. For example a TL12, 200-ton vehicle has a Base Armor Volume of 4, so to get an AR of 1 it must install 8 vl of armor.

Once the first layer of armor is installed, the vehicle need only allocate an amount of space equal to the Base Armor Volume specified for the chassis and TL of the armor per +1 improvement in the vehicle's AR. Following our previous example, the same TL12, 200-ton vehicle could improve its AR to a maximum of 12 (limited by its TL) after installing an additional 44 vl of armor (for a total of 52 vl).

**Cost:** At all TLs, applying armor to a vehicle costs a basic Cr 3,000 plus Cr 9 per vl installed. Advances in technology give better protection per vl, so the same level of protection is cheaper as well as less bulky at high TLs.

**Chameleon Armor:** Chameleon armor first becomes available at TL13 and allows a vehicle to blend it with both its physical and atmospheric surroundings making it much harder to spot visually or detect with scanners. At TL13 this type of armor adds +2 to the DC of any Spot or T/Sensor skill check made against the vehicle, and adds an additional +1 to the effective Armor Class (AC not AR) of the vehicle making it harder to hit. Chameleon armor does not increase the AR of a vehicle against incoming damage. At TL14 these bonuses increase to +4 DC for any Spot or T/Sensor check against the vehicle and adds +2 to the AC.

Cost for chameleon armor is Cr10 per vl size of the total chassis at TL13, and Cr20 per vl size of the chassis at TL14. For example, a 1000vl vehicle with TL13 chameleon armor would cost an extra Cr10,000. If it were to install TL14 chameleon armor instead, it would cost an extra Cr20,000.

### HOW FAST DO YOU WANT TO GO?

This is a good point to determine what you want the maximum speed of your vehicle to be. The basic chassis table determines the amount of thrust required to move the vehicle chassis at a speed of 1kph. If more thrust is available the vehicle can move faster. For example, a vehicle built using a 64,510vl chassis would require 64.51 units of thrust to move it at a maximum speed of 1kph:

Chassis	TH
50,000vl	50
10,000vl	10
4,000vl	4
500vl	0.5
10vl	0.01
64,510vl	64.51

Each additional 64.51 units of thrust that can be applied will improve the maximum speed of the vehicle by 1kph. So for our 64,510vl vehicle to move at a maximum speed of 90kph, a total of 5805.9 units of thrust must be available.

If you find that you cannot provide sufficient thrust or power to move the vehicle at the desired speed, you will either need to reduce your speed expectations, or increase the size of the chassis.

### CHASSIS CONFIGURATION

The configuration of the chassis of a vehicle is important in determining its overall speed and range. Streamlining makes a vehicle much more aerodynamic, allowing it to move through an atmosphere easier with less resistance, but sacrifices some interior volume. An airframe, usually reserved for aircraft and watercraft, takes streamlining a step further, maximizing the vehicle's aerodynamic potential at a further cost in terms of internal space.

If a vehicle operates faster than the maximum rated safe speed it steadily becomes much harder to control, requiring the operator to make a Driving or Pilot skill check (DC15) or lose control of the craft.

**Standard Chassis:** A standard chassis has a maximum safe speed of 320 kph; the operator suffers a -1 control check penalty for every 30kph (or fraction thereof) of speed above 320kph. Unless specified otherwise, all vehicles are considered to be of a standard configuration.

**Partially Streamlined Chassis:** A partially streamlined chassis has a maximum safe speed of 600 kph; the operator suffers a -1 control check penalty for every 20kph (or fraction thereof) of speed above 600kph. Partial streamlining doubles the Basic Chassis cost.

**Streamlined Chassis:** A streamlined chassis triples the Basic Chassis cost and provides +1 maximum Agility for aircraft or watercraft, +10% maximum speed and cruising range for all vehicles. This Agility bonus does not add

to the Agility score itself; rather it increases the maximum possible Agility of a vehicle based on the type of drive train installed. For aircraft, this bonus applies only when flying within a standard or dense atmosphere. A streamlined chassis has a maximum safe speed of 800kph; the operator suffers a -1 control check penalty for every 30kph (or fraction thereof) of speed above 800kph.

**Airframe Chassis:** An airframe quadruples the Basic Chassis cost and provides +2 maximum Agility for aircraft or watercraft, +20% maximum speed and cruising range for all vehicles. This Agility bonus does not add the Agility score itself; rather it increases the maximum possible Agility of a vehicle based on the type of drive train installed. This bonus applies only for aircraft flying within a thin, standard, or dense atmosphere. An airframe chassis has a maximum safe speed of 1100kph; the operator suffers a -1 control check penalty for every 10kph (or fraction thereof) of speed above 1100kph.

**Humanesque:** When designing a robot under 200kg, it may be desirable to give it a more human (or other racial) form if the robot will require interaction with the given form of life. This form is typically very vague with no specific features, much like a blank store mannequin. Adds +2 to the base CHA of the robot if it has the Personality software module installed and running. This configuration will double the final cost of the robot, not just the chassis.

**Humaniform:** A much more refined version of the humanesque robot chassis, nearly indistinguishable from a

real version of the given lifeform itself. Skin tone, texture, color, temperature, etc., simulate the real lifeform quite realistically. Adds +4 to the base CHA of the robot if it has the Personality software module installed and running. Add +2 to the base SOC of the robot if it has the Etiquette and Protocol software module installed and running. This configuration will increase the final price of the robot to 8x its original total price (not just the chassis).

## DRIVE TRAINS

While the power plant of a vehicle is what generates the energy necessary to power all of its systems, the drive train is what actually makes it go by producing Thrust (TH) converted from the energy provided by a powerplant (selected later).

Drive trains are bought and installed in increments called Drive Train Units (DTU). Multiple DTU may be installed as a single drive train, or as multiple drive trains, each able to function independently but providing the same amount of total thrust when all are operating at 100%. There is usually a penalty in size and cost however when splitting a drive train into multiple sections. All drive trains require Energy Points (EP) from a powerplant.

By selecting one of the drive trains below, you should be able to recreate most any type of vehicle from ground cars, to tanks, to aircraft and more.

**Wheeled:** Wheeled vehicles are the most commonly encountered types throughout charted space because of their reasonable handling characteristics and relatively low cost and power requirements. Most wheeled vehicles use four wheels, but some use as few as two or as many as 18 or more. The more pairs of wheels installed the better the handling capability of the vehicle.

First available at TL4, each Wheel DTU produces 10 units of thrust (TH) per EP of power applied per round, takes up 11vl per unit installed and costs Cr25.

Regardless of the number of DTU installed, the number of wheels used must be specified at design time. Any number of wheels may be specified for a wheeled drive train, usually (but not always) in pairs. The first two wheels do not require any additional volume or cost, but each additional wheel will add 0.5vl of volume per DTU and add Cr12.5 to the cost of each drive train unit. The total thrust of the drive train is divided by the number of wheels installed to determine the thrust produced by each wheel.

**Tracked:** Using large tracks wrapped around a flexible suspension system, vehicles utilizing this type of drive train handle much better than their wheeled counterparts in rough terrain, but have a more limited top speed. At least two tracks must be installed and additional pairs of tracks may also be installed as needed.

First available at TL5, each Track DTU produces 5 units of thrust (TH) per EP of power applied per round,

takes up 9vl per unit installed and costs Cr12.5.

Regardless of the number of DTU installed, the number of tracks must be specified at design time. At least two tracks must be designated for any tracked drive train and more, usually (but not always) in pairs, may be added as desired. The first two tracks do not require any additional volume or cost, but each subsequent track installed will add 0.75vl to volume and Cr62.5 to the cost of each DTU. The total thrust of the drive train is divided by the number of tracks installed to determine the thrust produced by each track.

**Legs:** Vehicles that are designed to use flexible-limb legs are the most capable of handling rough types of terrain. Most vehicles are designed to use 2 to 8 legs, with 4 legs being the most common. A minimum of two legs must be installed, but there are no pair requirements beyond the first two for legged vehicles, thus it is possible to design a vehicle that utilizes 5 legs rather than 4 or 6.

First available at TL8, each Leg DTU produces 15 units of thrust (TH) per EP of power applied per round, takes up 42vl and costs Cr4500.

Regardless of the number of DTU installed, the number of legs must be specified at design time. At least two legs must be designated for any legged drive train and more, usually (but not always) in pairs, may be added as desired. The first two legs do not require any additional volume or cost, but each subsequent leg installed will add 10.5vl of volume per DTU and add Cr1125 to the cost of each DTU. The total thrust of the drive train is divided by the number of legs installed to determine the thrust produced by each leg.

**Rotary Wing:** A rotary wing aircraft (e.g. a helicopter) uses a rapidly rotating set of blades to generate lift and acceleration. Because of their design, rotary wing craft are capable of hovering in place.

First available at TL5, each Rotary Wing DTU produces 6 units of thrust (TH) per EP of power applied per round, takes up 2.5vl per unit installed and costs Cr400 per unit.

Regardless of the number of DTU installed, the number of rotors used must be specified at design time. Any number of rotors may be specified for a Rotary drive train, usually (but not always) in pairs. The first rotor does not require any additional volume or cost, but each additional rotor will add 0.25vl of volume and Cr100 to the cost of each DTU. The total thrust of the drive train is divided by the number of rotors installed to determine the thrust produced by each rotor.

**Air Cushion:** Air cushion vehicles (or hovercraft) use a ducted fan system to produce a cushion of compressed air on top of which the vehicle rides. A hovercraft is quite mobile, capable of traversing fairly rugged terrain and even relatively calm bodies of water.



## VEHICLE DRIVE TRAINS

Drive Train	Allow Multiple	Min TL Level	Thrust (TH) Generated	Power (EP) Required	Size/Volume	Cost	Max Agility
Wheeled	Yes	TL4	10 TH	1 EP	11vl	Cr25	4
Tracked	Yes	TL5	5 TH	1 EP	9vl	Cr12.5	3
Legs	Yes	TL8	15 TH	1 EP	42vl	Cr4500	5
Rotary Wing	Yes	TL5	6 TH	1 EP	2.5vl	Cr400	5
Air Cushion	No	TL6	4 TH	1 EP	1.5vl	Cr420	5
Propeller	Yes	TL4	20 TH	1 EP	5vl	Cr1250	5
Jet	Yes	TL5	80 TH	1 EP	10vl	Cr8000	6
Grav	No	TL8	100 TH	1 EP	4vl	Cr46,000	4
Water, Surface	No	TL4	20 TH	1 EP	25vl	Cr125	2
Water, Subsurface	No	TL5	5 TH	1 EP	10vl	Cr125	1

First available at TL6, each Air-Cushion DTU produces 4 units of thrust (TH) per EP of power applied per round, takes up 1.5vl per unit installed and costs Cr420 per unit.

**Propeller:** Propeller-driven vehicles use one or more drive trains mounted in a pusher (rear mounted) or puller (forward mounted) configuration. Propeller drive trains do not need to be installed in pairs.

First available at TL4, each Propeller DTU produces 20 units of thrust (TH) per EP of power applied per round, takes up 5vl per unit installed and costs Cr1250 per unit.

Regardless of the number of DTU installed, the number of propellers used must be specified at design time. Any number of propellers may be specified for a Propeller drive train. The first propeller does not require any additional volume or cost, but each additional propeller will add 0.5vl of volume and Cr125 to the cost of each DTU. The total thrust of the drive train is divided by the number of propellers installed to determine the thrust produced by each propeller.

**Jet:** A much more powerful and maneuverable type of aircraft, jets are capable of speeds similar to those attainable by grav vehicles.

First available at TL5, each Jet DTU produces 80 units of thrust (TH) per EP of power applied per round, takes up 10vl per unit installed and costs Cr8000 per unit.

Regardless of the number of DTU installed, the number of jets used must be specified at design time. Any number of jets may be specified for a Jet drive train. The first jet does not require any additional volume or cost, but each additional jet will add 0.1vl of volume and Cr1500 to the cost of each DTU. The total thrust of the drive train is divided by the number of jets installed to determine the thrust produced by each jet.

**Grav:** Almost as common as ground cars on higher technology worlds are antigravity or contragravity vehicles, more often referred to as 'grav' vehicles. Of all the drive trains available, grav modules offer the best speed and maneuverability for a vehicle.

First available at TL8, each Grav DTU produces 100 units of thrust (TH) per EP of power applied per round, takes up 4vl per unit installed and costs Cr46,000 per unit.

**Water:** Watercraft come in two types; surface and subsurface vehicles. Both use similar styles of propulsion, but subsurface vessels (when below the surface) are much slower than their surface counterparts.

**Surface:** First available at TL4, each Surface DTU produces 20 units of thrust (TH) per EP of power applied per round, takes up 25vl per unit installed and costs Cr125 per unit.

**Subsurface:** First available at TL5, each Subsurface DTU produces 5 units of thrust (TH) per EP of power applied per round, takes up 10vl per unit installed and costs Cr125 per unit.

**Multiple:** The drive train can be subdivided into multiple, independent sections usually at an increase to the cost and size of the drive train.

**Tech Level:** The minimum technological level at which this type of drive train is commonly available.

**Thrust Generated:** The amount of thrust (TH) generated per Drive Train Unit (DTU) installed for every 1 Energy Point (EP) applied to the drive train.

**Size/Volume:** The amount of size/volume each installed DTU requires within the chassis.

**Cost:** The cost in Credits per DTU installed.

**Max Agility:** The maximum agility rating for a vehicle equipped with this type of drive train.

## POWER PLANTS

Every vehicle must have a power plant to supply the energy needed by all the various installed components, particularly the drive train. If you want a fast vehicle, not only do you need a drive train capable of producing the necessary thrust, but you must also have a power plant capable of producing the energy needed to feed the drive train to capacity. If a vehicle has an undersized power plant, it is going to be limited by the maximum amount of power it actually delivers to the drive train, rather than the maximum rated speed for the drive train itself.

Various types of power plants are available depending upon the available technology. Each of the power technologies available below represents the smallest size unit possible for that type. Any size power plant may be installed equal to or greater than this smallest size to produce the required power for a vehicle.

**Steam:** Available at TL4, early versions of these power plants typically use wood, coal, or other readily available combustible fuel source to heat water and produce power using steam pressure. Bulky, noisy, temperamental, and quite dangerous if the boiler builds up too much pressure, steam engines are nonetheless a vital part of any developing technological society in its early stages of industrialization.

A steam power plant unit requires 25vl, produces 1 EP per round, costs Cr25, and requires 0.25vl of fuel per hour of operation.

**Internal Combustion:** When the smaller and more efficient internal combustion engine becomes available at TL5, most steam applications are relegated to antiquity. These hearty power plants remain a common fixture even in many higher technology societies.

An internal combustion engine unit requires 5vl, produces 1 EP per round, costs Cr50, and requires 0.5vl of fuel per hour of operation.

**Turbine:** Available at TL7, the turbine is a refinement and improvement of the internal combustion engine, providing more power, more efficiently, in a smaller package, but at a higher cost.

A turbine power plant unit requires 2vl, produces 1 EP per round, costs Cr100, and requires 0.25vl of fuel per hour of operation.

**Fuel Cells:** Chemical fuel cells first become available at TL9, and offer similar performance to the turbine, and much improved performance over the internal combustion engine, but these early alternatives are quite a bit more expensive.

A fuel cell unit requires 2vl, produces 1 EP per round, costs Cr300, and requires 0.15vl of fuel per hour of operation.

**Advanced Fuel Cells:** By TL12 new, more advanced fuel cell power systems become available and offer a much better alternative to earlier power plants.

An advanced fuel cell unit requires 1.5vl, produces 1 EP per round, costs Cr100, and requires 0.05vl of fuel per hour of operation.

**Fission:** These early nuclear power plants become available at TL7 and produce incredible amounts of power very efficiently, but still require very large amounts of space at this stage, and can produce catastrophic disasters if damaged or allowed to melt down. In addition, a fission plant produces an amount of highly radioactive waste equal to its fuel consumption that must be stored and ultimately disposed of safely.

A fission power plant unit requires 6000vl, produces 1000 EP per round, costs MCr1.32, and requires 140vl of fuel per month of operation.

**Early Fusion:** A much safer and cleaner alternative to fission plants, fusion first becomes available at TL8. Fusion plants are not subject to the risk of meltdown, nor do they produce any toxic (or other) waste material that must be dealt with.

An early fusion power plant unit requires 450vl, produces 100 EP per round, costs KCr100, and requires 150vl of fuel per month of operation.

**Modern Fusion:** By TL13 research and manufacturing advances have begun to produce fusion power systems in smaller sizes, with the same efficiency of larger models.

A modern fusion power plant unit requires 30vl, produces 10 EP per round, costs Cr6600, and requires 15vl of fuel per month of operation.

**Advanced Fusion:** At TL15, research and modernization once again allow for the construction of even smaller fusion plants of amazing power and efficiency.

An advanced fusion power plant unit requires 1.5vl, produces 1 EP per round, costs Cr330, and requires 1.5vl of fuel per month of operation.

**High Tech Fusion:** The ultimate in fusion power becomes available at TL16 offering the smallest power plant possible before the advent of antimatter plants.

A high tech fusion power plant unit requires 0.5vl, produces 1 EP per round, costs Cr330, and requires 1.5vl of fuel per month of operation.

**Antimatter:** Even fusion is nearly rendered obsolete with the availability of antimatter power systems at TL17. Cheap, requiring little fuel, and capable of producing tremendous amounts of power from even the smallest of systems, antimatter is at once the ultimate power system and an incredible danger. Should even the smallest amounts of antimatter escape the containment systems the results would be catastrophic to all people and items within a fairly sizable radius of the power plant.

An antimatter power plant unit requires 0.2vl, produces 1 EP per round, costs Cr110, and requires 0.001vl of fuel per year of operation.

## VEHICLE POWER PLANTS

Power Plant Type	Minimum Tech Level	Unit Size	Power Output	Unit Cost	Fuel Required Per Unit
Steam	TL4	25vl	1 EP	Cr25	0.25vl per hour
Internal Combustion	TL5	5vl	1 EP	Cr50	0.5vl per hour
Turbine	TL7	2vl	1 EP	Cr100	0.25vl per hour
Fuel Cells	TL9	2vl	1 EP	Cr300	0.15vl per hour
Advanced Fuel Cells	TL12	1.5vl	1 EP	Cr100	0.05vl per hour
Fission	TL7	6000vl	1000 EP	MCr1.32	140vl per month
Early Fusion	TL8	450vl	100 EP	KCr100	150vl per month
Modern Fusion	TL13	30vl	10 EP	Cr6600	15vl per month
Advanced Fusion	TL15	1.5vl	1 EP	Cr330	1.5vl per month
High Tech Fusion	TL16	0.5vl	1 EP	Cr330	1.5vl per month
Antimatter	TL17	0.2vl	1 EP	Cr110	0.001vl per year

FUEL TANKS AND  
OPERATIONAL DURATION

The amount of 'fuel' onboard a vehicle determines how long it can operate without needing to be refueled. It is up to the designer of the vehicle to determine how long this will be, based on need and available space. Every power plant has a specific rate of fuel consumption per hour. To determine how much fuel tankage will be required, multiply the number of hours of operation a vehicle is to be capable of by the fuel requirements of the installed power plant.

For example, a vehicle is designed with a power plant that consumes a total of 14vl of fuel per hour of operation. If the designer wants the vehicle to be capable of operating for up to 10 hours before requiring it to be refueled, a total of 140vl of fuel tanks must be installed to accommodate the needed fuel.

**Operational Duration (in Hours) X Total Power Plant Fuel Requirements = Fuel Tankage Required (in volume).**

Fuel tanks do not add to the cost of a vehicle, but their volume must be accounted for in the final designs.

## BATTERIES

Rechargeable battery packs are available to supply power to vehicles for a limited duration. They hold a specific number of EPs that may be used by the vehicle before the battery is drained and must be recharged. 1 battery unit can discharge up to 1 EP for 1 hour. Thus a battery that will provide 1 EP every hour

for 24 hours would require a storage capacity of 24 EP. A 24-hour, 7-day a week, 1 EP battery would have a storage capacity of 168 EP.

Recharging may be accomplished by hooking the battery into any available power plant/supply, at a rate of 1 EP recharged per round the battery is hooked to the power supply.

**Crude Battery:** These bulky, cumbersome contraptions are quite inefficient, but do work. First available at TL5, they cost Cr200, take up 0.4vl, and store 1 EP per unit.

**Basic Battery:** By TL9, batteries are quite common for small tasks, and have some use in larger applications, being far more efficient than their earlier counterparts. Basic batteries cost Cr35, take up 0.1vl, and store 1 EP per unit.

**Modern Battery:** The modern battery becomes available at TL11, and continues in wide use at later technological levels. These batteries cost Cr30, take up 0.04vl, and store 1 EP per unit.

## VEHICLE BATTERIES

Battery Type	Minimum Tech Level	Unit Cost	Unit Volume	Unit Storage Capacity
Crude	TL5	Cr2	0.4vl	1 EP
Basic	TL9	Cr0.25	0.1vl	1 EP
Modern	TL11	Cr0.30	0.04vl	1 EP
Advanced	TL14	Cr0.50	0.01vl	1 EP



## ENVIRONMENTAL CONTROLS

Facilities	TL	Cost	Energy	Size Requirements
Pressurized Interior	5	Cr25	0.025EP	1vl per 20vl of chassis size (5%)
Climate Control	7	Cr50	0.01EP	1vl per 100vl of chassis size (1%)

**Advanced Battery:** A more advanced battery system becomes available at TL14, but while smaller, the cost is higher per unit at a volume of 0.01vl and a cost of Cr50. Storage capacity remains at 1 EP per unit however.

## PASSENGER AND CREW FACILITIES

Unless you are designing a robot or remotely controlled vehicle, you will need to provide facilities for the crew (other than the pilot/driver) and passengers that may be carried aboard.

### ENVIRONMENTAL CONTROLS

**Pressurized Interior:** The interior of a vehicle may be equipped to be pressurized against an outside atmosphere. Without such a feature, if a vehicle is operated in a Vacuum, Trace, Very Thin, Tainted, Exotic, Corrosive, or Insidious atmosphere, the crew and passengers will be required to wear appropriate survival equipment.

It is assumed that the environmental facilities will be able to support a number of passengers equal to the normal passenger load of the vehicle for a period of time equal to four times the operational duration of the vehicle on a full tank of fuel. So a pressurized vehicle with an operational range of 10 hours at cruising speed, could provide a sealed environment for its passengers for up to 40 hours.

Pressurized Interiors can be installed on any vehicle of TL5. Pressurizing each 20vl of chassis size costs Cr25, requires 0.025EP per round and takes up 1vl.

**Climate Control:** A climate control system will allow the vehicle to be operated under conditions ranging from dry desert heat to high humidity swamps to frozen tundra without difficulty. Provides a +5 circumstance bonus to most checks relating to bad weather. This feature does not pressurize the interior of the vehicle; rather it circulates and controls the temperature and humidity of the interior air. One unit must be installed per 100vl of chassis size (unless the vehicle is to be without any form of climate control). First available at TL7, each unit costs Cr50, requires 1vl and 0.01EP per round.

### FACILITIES

A number of facilities are available for accommodating crew and passengers, depending on the requirements of the vehicle and the needs of the users.

**Passenger Saddle:** A saddle is a mount on the exterior of a vehicle suitable for a driver/pilot or passenger to safely ride upon. Cost is Cr25 and volume required is 10vl per saddle installed.

**Passenger Stand:** A passenger stand is usually just a pole running from the ceiling to the floor of the vehicle. Up to 6 passengers may cluster around the pole, using it as a brace against the force of the acceleration and deceleration of the vehicle. Handhold straps may also be available around the pole. Passenger stands are typically found in mass-transit vehicles where accommodating the maximum number of passengers is highly desirable and violent maneuvers are not expected. This often creates rather crowded conditions, which limits the time a passenger can be expected to tolerate such conditions to about 10 minutes. Cost is Cr10 and volume is 5vl for the pole and 100vl per position around the stand. Handstraps add Cr1 to the cost but do not increase the required volume.

**Passenger Seating:** A standard passenger seat with basic restraining harness, found in most short range private and commercial vehicles. Cost is Cr100 and volume is 110vl per seat installed. These costs assume a human sized passenger; they should be adjusted proportionately for larger or smaller creatures.

**Passenger Couch:** A harnessed acceleration couch to protect passengers from the dangers of high-G maneuvers, typically found in fast, highly maneuverable atmospheric craft such as rockets and fighter aircraft. Cost is Cr2000 and volume is 200vl per (human-sized) couch installed.

**Passenger Bunk:** Little more than a padded cushion, cot, or hammock big enough for a human to lie down and rest (if they don't move about too much...). A drape or screen may be available for some privacy, and there is room to store about 25vl in personal cargo and possessions. Cost is Cr250 and volume is 150vl per bunk installed.

**Privacy Cubicle:** Not much bigger than a small fresher, the privacy cubicle does offer a passenger bunk (see above) and a small storage unit able to hold up to 100vl of personal goods. The ability to lock a cubicle offers a bit more privacy than an open bunk, and a modicum of security for items stored within (although a determined thief could force the door rather easily). Cost is Cr4000 and volume is 500vl per cubicle installed.

## VEHICLE PASSENGER AND CREW FACILITIES

Facilities	Size	Cost
Passenger Saddle	10vl	Cr25
Passenger Stand	See description	Cr10
Passenger Seating*	110vl	Cr100
Passenger Couch*	200vl	Cr2000
Passenger Bunk*	150vl	Cr250
Privacy Cubicle	500vl	Cr4000
Small Cabin	2000vl	Cr8000
Galley Facilities	200vl	Cr1000
Fresher Facilities	200vl	Cr750
Low Berth	500vl	KCr50
Engineering Shop	1000vl	KCr20
Vehicle Shop	1000vl	KCr10
Laboratory	800vl	KCr50
Sickbay	1000vl	KCr100
Autodoc	2000vl	MCr1

\*These represent the minimum free space (vl) required to accommodate the passenger in rather cramped conditions. Roomier accommodations may be added by increasing the size and cost by x2 or x3. If a passenger is expected to spend more than 8 hours in the facilities at a time, multiply the size and cost by x4. This extra volume reflects roomier and more comfortable facilities and larger and more accommodating access to the facility, lounges and common areas etc. in other parts of the vehicle.

**Size:** The number of free kilograms that must be available in the chassis to accommodate the equipment.

**Cost:** Cost in Credits.

**Small Cabin:** Smaller than a hotel room, the small cabin nevertheless provides quite adequate accommodations for one (even two if they are very familiar with one another) passenger or crewmember for short periods of no more than a week at a time. The cabin is typically equipped with a bunk (possibly double-bunked), a chair, a storage unit capable of holding up to 250vl of goods, and retractable/recessed/concealed toilet facilities. Cost is Cr8000 and volume is 2000vl per cabin installed.

**Low Berth:** Cryosleep capsules used to transport passengers in suspended animation. One capsule can accommodate one passenger. Cost is Cr50,000 and volume is 500vl per capsule installed.

**Galley:** Food storage (up to 100vl) and preparation facilities for up to four passengers or crew for each galley.

Cost is Cr1000 and volume is 250vl per galley installed.

**Fresher:** A basic fresher provides toilet and washbasin facilities for one passenger per fresher unit installed. Cost is Cr750 and volume is 200vl per fresher. Shower/bathing facilities may be added for an additional cost of Cr100 and added volume of 150vl

**Engineering Shop:** Can accommodate one mechanic, and will add +1 to any T/Engineering skill checks made when attempting repairs. Cost is KCr20 and volume is 1000vl per shop installed.

**Vehicle Shop:** Can accommodate one mechanic, and will add +1 to any T/Mechanical, T/Electronic, or T/Gravitics skill checks made when attempting repairs. Cost is KCr10 and volume is 1000vl per shop installed.

**Laboratory:** Can accommodate one scientist working within, adds +1 to any Research skill checks made while conducting experiments or investigations using its resources. Cost is KCr50 and volume is 800vl per lab installed.

**Sickbay:** Can accommodate one patient and one physician working within, adds +1 to any T/Medical skill checks made while using its resources. Cost is KCr100 and volume is 1000vl per lab installed.

**Autodoc:** Can accommodate one patient within. Cost is MCr1 and size is 2000vl per unit installed.

## APPENDAGES

Specialized arms and tentacles (referred to as appendages) for tasks such as moving cargo, manipulating objects, or lifting equipment may be installed onto any vehicle. Grappling appendages are usually designed for cargo handling and such duties requiring lifting power but not fine control, while manipulatory appendages are designed for fine control and handling of small and delicate devices.

The maximum Strength of an appendage is effectively unlimited, but the maximum Dexterity for any appendage is equal to the Tech Level (TL) at which the appendage is built, regardless of the number of appendage units that are installed and make up the individual arm. When manipulating an appendage on a vehicle, the operator may add his or her own Dexterity bonus to any skill or other checks required for its use. This is particularly useful when attempting to control the powerful, but unwieldy heavy grappling appendages. The Strength of an appendage is only limited by the type of appendage installed and its size.

**Appendage Unit:** Strength is 1, cost is Cr100, volume is 0.5vl, requires 0.1 EP in power per round. Appendage strength is cumulative with the number of units installed. For example, 10 units installed would give an appendage with a Strength of 10, cost of Cr1000, volume of 5vl, and requiring 1EP per round to operate.

All appendages, regardless of the number of units installed, have a minimum Dexterity score of 1, and may have maximum Dexterity score equal to the TL at which is was built. The designer may specify what Dexterity rating he wishes the appendage to have within this range, but the higher the Dexterity rating, the greater the overall cost of the appendage. Multiply the Dexterity score times the base cost to determine the total cost for the appendage.

**Appendage Cost Formula:** (STR Score x Cr100) x DEX Score = Total Cost in Credits.

Using our example from previously (STR 10 appendage, Cr1000), it automatically has a DEX of 1. If this were to be increased to a DEX of 10, the cost of the arm would rise to Cr10,000 (Base cost of Cr1000 x DEX 10).

**High Pressure Pump:** Used for generating high-pressure streams of water for fire fighting or crowd control. Uses 200 liters of water per minute. Being hit by the stream of water will knock creatures over unless they make a Reflex save (DC20 - range in meters). Cost is Cr250, volume is 4vl, and requires 0.5EP per round.

**Low Pressure Pump:** Used for moving volumes of liquid like fuel or water, up to 50 liters per minute. Cost is Cr50, volume is 2.5 vl, and requires 0.1EP per round.

**Toolkits:** The various toolkits listed under personal equipment (see pg. 210) may be adapted as maneuverable appendages under the control of an operator within the vehicle or by a computer. Double the cost of the toolkit, and the volume required will be equal to the weight of the toolkit. Power required to operate the toolkit will equal the size in volume x 0.01EP. For example to adapt a Mechanical Tool Set, the cost would be Cr2000, volume would be 2vl, and it would require 0.02EP per round to operate.

**Winch:** A winch consists of a cable with a hook and a motor to wind the cable in. Strength is 1, Cost is Cr10, volume is 0.2 vl, requires 0.01EP in power. Winch Strength is cumulative with the number of units installed. For example, 10 units installed would give a winch with a Strength of 10, cost of Cr100, volume of 2vl, and requires 0.1EP per round.

## WEAPON MOUNTS

A vehicle may mount all sorts of weapon systems, but they must be installed into some form of mounting. This may be anything from bolting a machinegun to the fender of a ground vehicle, to a small manned turret, to a massive

fusion gun turret mounted on a grav tank. Weapons (and other components in the case of turrets) installed into a mount do not count against the available space in a vehicle. The space for the weapon has already been accounted for in the design of the mount selected to house the weapon.

**Appendages:** Installed appendages can be used as a form of weapon mount. An appendage may have installed weaponry up to a volume equal to the appendage's Light Load carrying capacity (determined by its Strength). Multiple weapons are typically of the same type and are generally linked, allowing them to all fire at the same target using a single attack roll. For each linked weapon (over 1), add 1 die of damage.

Each weapon may also be fired individually. If each weapon has its own fire computer installed, all weapons may be fired once per round. If there is only a single fire control computer and/or a gunner, only one weapon may be fired per round.

**Pintle Mounts:** Pintle mounts can hold any type of combat rifle or heavier personal weapon. They may not be equipped with vehicle weapon systems. They consist of little more than a mounting rod affixed to the floor of the vehicle and must be manned by a live gunner. A pintle mounted weapon can usually be rotated 360 degrees, and elevated up to a 90 degree angle.

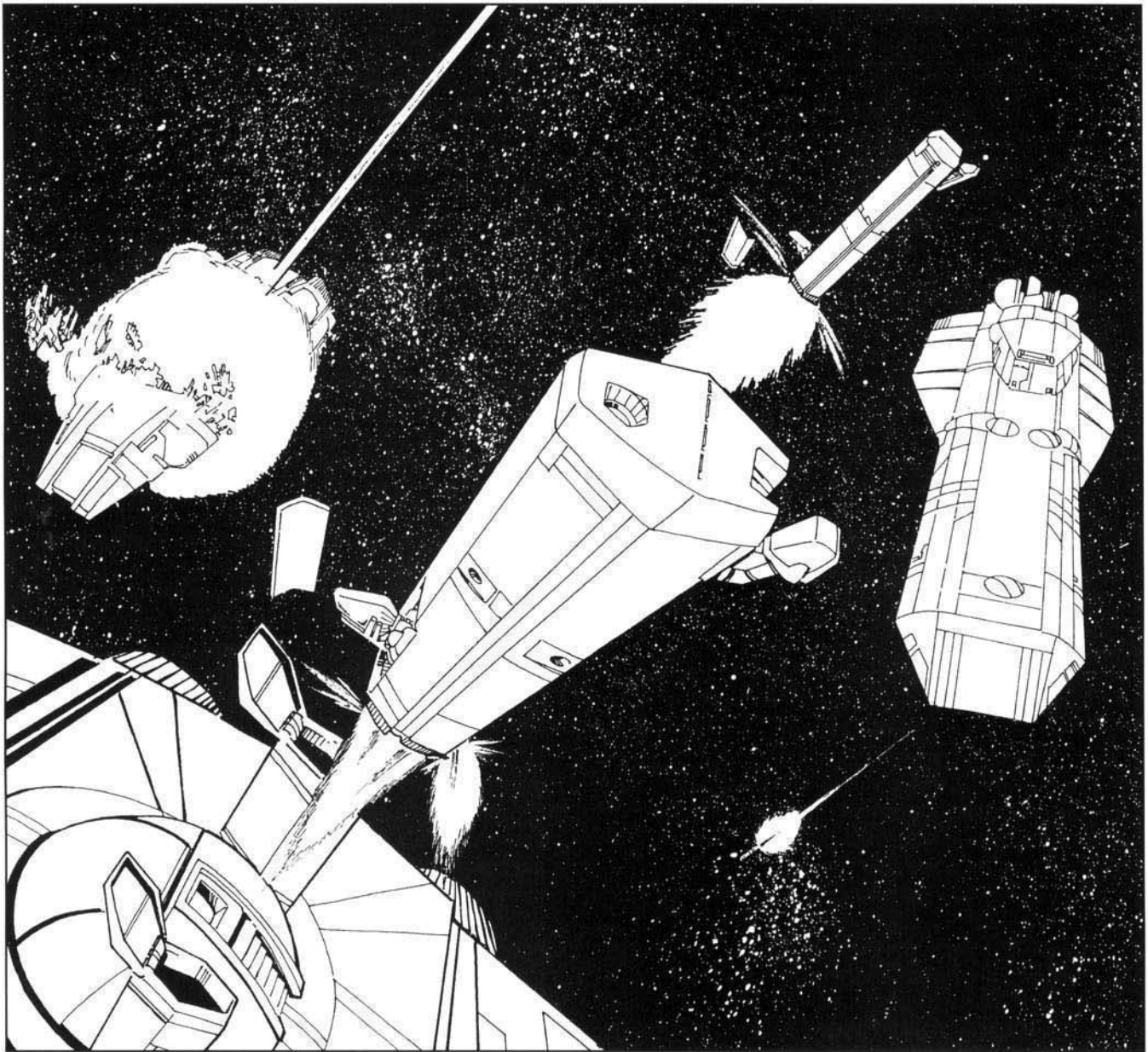
1vl of space for the pintle mount must be allocated for every 100vl of size of the weapon to be mounted. Cost is Cr1 per 1vl of space required. Only one weapon at a time may be attached to a pintle mount. Space to accommodate the gunner, fire control computer, or ammunition must be allocated separately.

A pintle mount offers no protection to a gunner firing the attached weapon. Some versions may be installed with cover (50%), but this adds +50vl to the required volume for the mount, and cost an additional Cr500.

**Fixed Mounts:** Fixed mounts are weapons that have been permanently fixed to the outer frame or bed of a vehicle. They cannot traverse, and must be aimed by aligning the vehicle with the intended target. A fixed weapon pointed to the front of a vehicle (the most common type of fixed weapon) will always fire at targets directly in front of the vehicle. A fixed mount must allocate 0.1vl of space every 1vl of weapon size to be mounted, and cost is Cr1. No more than 1 fixed mount may be installed per 200vl of total vehicle chassis.

Up to two weapons of the same type may be installed within a fixed mount if there is enough space. These weapons are generally (but not always) linked, allowing them to all fire at the same target using a single attack roll. Each weapon may also be fired individually. Space to accommodate a gunner, fire control computer, or ammunition must be allocated separately.





A fixed mount offers no protection to a gunner firing the attached weapon. Some versions may be installed with cover (50%), but this adds +50vl to the required volume for the mount, and cost an additional Cr500.

**Cupola:** A cupola is an enclosed version of the fixed mount similar in design to a turret but unable to move, and must be aimed by aligning the vehicle with the intended target. The advantage of a cupola over a regular fixed mount is that it is enclosed within the chassis of the vehicle itself offering any gunner within the same armor protection as anything else within the vehicle. A cupola must allocate 1.1vl of space every 1vl of weapon size to be mounted, and cost is Cr5 per 1vl of total size. Space to accomo-

date a gunner, fire control computer, or ammunition must be allocated separately.

Up to two weapons of the same type may be installed within a cupola if there is enough space. These weapons are generally (but not always) linked, allowing them to all fire at the same target using a single attack roll. Each weapon may also be fired individually. Space to accommodate a gunner, fire control computer, or ammunition must be allocated separately.

**Turrets:** Turrets are mechanized weapons mounts, typically manned by a gunner although computer controlled auto turrets are available. A fire control computer with sufficient CPU power must be installed to control one or more

## VEHICLE WEAPON MOUNTS

Type	Size	Cost	EP	Rotation/Elevation
Manned Pintle Mount	1vl per 100vl	1/vl	-	R360, E90
Fixed Mount	0.1vl per 1vl	5/vl	-	None
Cupola	1.1vl per 1vl	5/vl	-	None
Standard Turret	1.2vl per 1vl	10/vl	0.001 per 1vl	R180, E45
Heavy Turret	1.4vl per 1vl	10/vl	0.002 per 1vl	R360, E90

**Size:** Volume requirements per 1vl of accommodation for gunners, fire control computers, weapon systems, and ammunition.

**Cost:** Cost is Credits per 1vl of space allocated.

**EP:** Energy point requirements per round to operate a turret. Energy required to power any computers and/or weapon systems are in addition to this amount.

**Rotation/Elevation:** The range of maximum rotation and weapon elevation/declination possible with this type of mount.

auto turrets. Heavy turrets are capable of a greater traverse and elevation range than their lighter counterparts, but are otherwise pretty much the same. No more than 40% of the available volume of a chassis may be allocated for one or more turrets.

While built out of the overall chassis itself, a turret is considered a separate but integrated part of a vehicle. Space must be allocated from the main chassis body in an amount equal to 1.2vl for every 1vl of internal space available within the turret itself. The extra 0.2vl is used to house the gearing and other mechanisms needed to give the turret its ability to rotate and elevate. Weapons, gunners, fire control computers, ammunition, or other items may be designated as contained within the turret rather than the body of the vehicle itself, as long as there is enough room to hold it all. In addition, a turret must be supplied with 0.001EP of power and a cost of Cr10 for every 1vl of total turret size.

A heavy turret version is also available with a greater range of rotation and elevation, but the size and energy requirements increase to 1.4vl and 0.002EP respectively. Cost remains the same.

Up to four weapons of the same type may be installed within the tonnage already allocated for the turret (they do not count further against the remaining available space in the vehicle). These weapons are generally (but not always) linked, allowing them to all fire at the same target using a single attack roll. For each linked weapon (over 1), add 1 die of damage. Each weapon may also be fired individually. If each weapon has its own fire computer installed, all weapons may be fired once per round. If there is only a single fire control computer and/or a gunner, only one weapon may be fired per round.

**Turret Example:** A vehicle with a 10,000vl chassis may have a maximum size turret of 4000vl (40% limit). We decide to go a little smaller and settle on a turret that will have an internal volume of 3000vl. This will take up 3600vl of space from the chassis itself (3000vl X 1.2vl) to account for the gearing systems that drive the rotation of the turret, leaving a remaining available chassis space total of 6400vl for other components. Components can also be installed within the space allocated to the turret itself. Our turret we just installed has 3000vl worth of space that can be filled with weapons and other components. Unlike other mountings, a turret can house equipment other than weapons and fire control computers, such as sensors or communications equipment.

## WEAPONS

The following weapons may be installed into an available weapon mount. Cost is listed in Credits figured at TL 14 or higher. Area of effect is radius in meters.

**Mountable Personal Weapons:** Any personal weapon can be mounted on a vehicle. Normally, only heavier types such as machine-guns, grenade launchers and plasma guns are fitted to vehicle mounts. See the descriptions found in the section on Available Weapons (pg. 199).

**Mortars:** First available at TL5, the basic mortar is an elevated firing tube into which a prepared round is typically dropped and fired. The tube controls the firing angle and thus the range at which the round will land. Mortars are usually fairly light and portable when not mounted on a vehicle.

**Lasers:** Similar in design to a personal laser but much larger in scale to accommodate the range and power

## VEHICLE MOUNTED WEAPONS

	Power	Min TL	Size	Cost	Damage	Area of Effect	Rate of Fire	Range	Ammo Volume Vl/Rnds	Ammo Cost Cr/Rnds
<b>Mountable Personal Weapons</b>										
Light Machinegun	0	6	5.5vl	1200	1d12 (1d12-5*)	-	20	60m	2.5/100	120/100
Autocannon	0	8	300vl	10,000	6d10 (1d10*)	-	10	111m	100/200	1000/200
VRF Gauss Gun	0	10	2000vl	200,000	2d12 (1d12-4*)	-	100	111m	10/1000	200/1000
*damage vs vehicles										
<b>Standard Vehicle Weapons</b>										
Light Mortar	0	5	10vl	300	1d10	3	1:2	150m	4	20
Medium Mortar	0	5	20vl	7,500	2d12	5	2:3	240m	6	35
Heavy Mortar	0	5	150vl	15,000	3d12	10	1:3	450m	15	50
Very Heavy Mortar	0	5	2000vl	40,000	4d12	20	1:10	600m	100	100
Light Laser	1	7	50vl	2500	1d10	-	1	Sensor	-	-
Medium Laser	1	7	100vl	3500	3d10	-	1	Sensor	-	-
Heavy Beam Laser	2	7	1000vl	1,000,000	6d8	-	1	Sensor	-	-
Heavy Pulse Laser	2	7	1000vl	500,000	6d10	-	1	Sensor	-	-
Light Artillery	0	5	500vl	5000	5d12	2	2:3	705m	6	50
Field Artillery	0	5	900vl	10,000	6d12	4	1:3	1.2km	15	75
Medium Artillery	0	5	2000vl	20,000	7d12	9	1:5	1.2km	40	100
Heavy Artillery	0	5	9000vl	40,000	8d12	18	1:10	1.5km	100	200
Light Mass Driver	2	11	12,000vl	500,000	7d12	25	4	2.1km	15	35
Medium Mass Driver	4	10	20,000vl	1,500,000	9d12	30	4	2.31km	40	50
Heavy Mass Driver	10	9	50,000vl	4,000,000	6d20	35	4	2.46km	150	150
Light MRL (100 tubes)	0	11	60vl	500	1d8	3	1/4/10/20/100	900m	5	10
Medium MRL (40 tubes)	0	6	1800vl	5000	3d8	10	1/4/10/20	1.2km	50	50
Heavy MRL (100 tubes)	0	10	1000vl	5000	6d8	20	1/4/10/20/100	2.1km	20	60
Light Plasma Cannon*	20	10	4000vl	1,000,000	3d12	5	1	450m	-	-
Medium Plasma Cannon*	40	11	6000vl	2,000,000	6d12	10	1	1.2km	-	-
Heavy Plasma Cannon*	80	12	7000vl	5,000,000	9d12	15	1	2.1km	-	-
Light Fusion Cannon*	40	12	4000vl	1,500,000	3d20	8	1	750m	-	-
Medium Fusion Cannon*	80	13	6000vl	3,000,000	6d20	12	1	1.8km	-	-
Heavy Fusion Cannon*	160	14	7000vl	10,000,000	9d20	21	1	3km	-	-
Meson Accelerator	240	15	60,000vl	30,000,000	9d20	50	1	6km	-	-

**Power:** The power required to fire this weapon (if any).

**Min TL:** The earliest technological level at which these weapons become available.

**Size:** The volume required inside a vehicle to fit this type of weapon. May be installed in the allotted tonnage of a turret (if any).

**\*Energy Weapon Size and Power Modifiers by TL**

The TL listed for each of these weapons is the earliest TL that they are available, however the Size and Power requirements are based on TL14 or higher versions of the weapon. For earlier TL models (when available), consult the chart below to determine the actual Size and Power requirements. These modifiers do not apply to personal class weapons mounted on a vehicle.

Actual TL	Size and Power Modifier
TL 10 or less	x5 Size, X2 Power
TL 11	x4 Size, X1.5 Power
TL 12	x3 Size, X1.5 Power
TL 13	x2 Size
TL 14 or greater	x1 Size

**Cost:** The cost of this weapon in Credits (Cr).

**Damage:** The base damage this weapon will inflict with a successful attack on another vehicle.

**Area of Effect:** Some weapons are capable of inflicting their damage over a given area rather than just a specific target. Normally, anyone within the listed area of effect must make a Reflex save (DC20). If successful, the victim only suffers half damage. Anyone within twice the given area of effect must also make a successful Reflex save (DC10) or suffer half the normal damage. If successful, victims in the outer radius of effect suffer no damage at all.

**Rate of Fire:** How many shot may be fire per round from the weapon.

**Range:** The range increment for this type of weapon.

**Ammo Volume:** How much space (vl) the given number of rounds will take up within a vehicle. For example, 2.5/100 would mean ammo for this weapon requires 2.5vl of space for every 100 rounds of ammo carried. If only a single value is listed, that is the volume required for a single round.

**Ammo Cost:** How much the given amount of ammo will cost in Credits. For example, 120/100 would mean ammo for this weapon costs Cr120 for every 100 rounds of ammo carried. If only a single value is listed, that is the cost for a single round.



needed for attacks against armored vehicles and other targets. Vehicle mounted lasers first become available at TL7.

**Artillery:** An artillery piece is basically an oversized mortar designed for greater range and power, typically mounted on a tow carriage or a self-propelled vehicle (e.g. a tank). Early models are muzzle loaded and are much more prone to misfires and other problems. Later models are breech-loading designs using prepared rounds, greatly increasing the rate of fire and reducing the chance of mishap.

**Mass Drivers:** Magnetic linear accelerators capable of propelling a projectile at very high velocities, at long ranges, and at rapid rates of fire. These devastating weapons begin to appear at TL9.

**Multiple Rocket Launchers (MRLs):** Early crude versions of the MRL first appear at TL6 and are rather large and bulky, firing a missile larger than most standard artillery rounds of the era. At later TLs the MRL becomes much smaller and more powerful. In some regions MRLs completely replace artillery in the field.

**Plasma and Fusion Cannon:** Massively upsized versions of the PGMP or FGMP personal fusion weapons, suitable for use on the modern tactical battlefield. These power-hungry cannon first become available at TL10 and TL12 respectively.

**Meson Accelerators:** These early TL15 weapons generate high-energy mesons that can be directed against a target. Mesons have very short lives, but can be manipulated to last for specific durations by accelerating them towards relativistic speeds. In combat, the gunner's task is primarily to determine the duration of the mesons based on the range so that the final point of decay is within the hull/chassis/body of the target. Because of their nature, mesons pass through armor, rock, ice, and any other matter without effect. Damage occurs only at the point of decay (i.e. the target).

## ELECTRONICS

Various electronic and sensor systems may be installed into a vehicle giving it a much wider range of capabilities and benefits to its occupants and/or drivers.

## VISUAL SYSTEMS

Unless view ports are made available there must be some means of a pilot, driver, and gunner to see where they are going and/or what they are shooting at.

**Window or View Port:** A window or view port may be installed in a vehicle, and take up no actual space or volume. All chassis come with an automatic allowance towards windows and viewports worth Cr200 for every 250vI of chassis size (round down). Additional units have a cost of Cr200 per personal-sized (roughly 0.25 to 0.5 square meters) viewing area, times the maximum atmos-

phere the window or view port is rated for use. A vacuum rated personal view port has a cost of Cr400. For example, the standard ground car (2000vI) has a window/view port allowance of Cr1600, or enough for 8 windows rated for an atmosphere of 1. Two windows making up the front windshield, two windows that form the back windshield, and four windows for the driver and passengers (two windows on each side).

**Video:** Provides a standard video representation of everything within the field of view and the range of the recorder. First available at TL7, cost of Cr600 per unit, volume is 0.5vI, requires 0.03EP of power, and has a base clear range of view of 100m. At least one video monitor is required to display the video feed.

**Video Monitor:** More than one video display monitor may be fed by a single video system feed. A monitor adds +Cr100 to the cost, +0.5vI to the required volume, and +0.02EP to the power requirements.

**HUD:** A Heads-Up-Display, first available at TL7, may be installed in place of a video display monitor, reducing the volume required for standard video systems. Each HUD adds +KCr10 to the cost, +0.1vI to the required volume, and +0.01EP to the power requirements.

**Holographic:** Provides a high-resolution, 3-dimensional representation of everything within the field of view and range of the recorder. First available at TL13, cost of Cr2000 per unit, volume is 1.5vI, requires 0.1EP of power, and has a base clear range of view of 100m. At least one holo display is required to view the holo feed.

**Holo Display:** More than one holo display monitor may be fed by a single holo system feed. Each display adds +Cr500 to the cost, +0.1vI to the required volume, and +0.05EP to the power requirements.

**Infrared (IR):** The addition of infrared detection capabilities to a visual system allows a vehicle to detect, track, or navigate around obstacles based on variations in local temperatures. IR capabilities are first available at TL6, add +Cr1500 to the cost, +1vI to the required volume, and +0.03EP to the required power of a video of the holo visual system.

**Lights:** May be added to the interior (dash, overhead, compartment, etc.) or the exterior (headlight, spot beam, etc.) of a vehicle. A light unit costs Cr5. Volume is 0.2vI, and it requires 0.01EP per round. Vehicle lights will illuminate an area of up to 1.5m, or project a beam up to 3m. Multiple lights may be installed to increase the area of illumination, to create a longer beam length from a single lamp, or simply to provide light sources in multiple locations along or within the vehicle. Lighting systems have a maximum area of illumination of 150m and a maximum beam length of 300m.

**Light Intensification (LI):** LI systems amplify any ambient light (including nothing more than starlight) into

something approaching normal daylight conditions, allowing a vehicle to operate a full capability at night or in very low light situations. An LI system would not work in a situation where there is no light available at all, such as underground. First available at TL7, LI capability add +Cr500 to the cost, +0.2vl to the required volume, and +0.01EP to the required power of a visual system (video or holographic).

## Increasing Visual

**Range:** The base range of these visual systems may be increased. For each 100m increase in range, double the cost, increase the size of the unit by 0.1vl in volume, and add 0.01 to the power requirements. For example, to increase the range of a video system from 100m to 1100m range would multiply the cost by x10, increase the size by 1vl, and increase the power requirements by +0.01. The upgraded video unit would thus cost Cr6000, have a volume of 1.4vl, and require 0.13EP of power.

## PRIMARY SENSOR SYSTEMS

**Sonar:** A more advanced version of the auditory sensor capable of detecting sounds at greater distances and over a broad range of wavelengths. Underwater, sonar becomes even more effective due to the effects of sound in this environment. A sonar operator may add +1 to all Listen checks for sounds with using the sonar in passive mode, and a +2 bonus to Listen checks when using the sonar in active mode. Passive sonar scans are undetectable, while active sonar scans are automatically detected by other vehicles similarly equipped with sonar and within their detection range. Sonar units first appear at TL6 and cost Cr5000. Volume is 4vl. Sonar requires 0.05EP of power per round. It has a base range of 1km and a maximum range of 50km.

**Radar:** Standard radar detection systems may be operated in active or passive mode. A radar unit, available at TL 6, costs Cr375,000. Volume is 5vl. Radar requires 0.25EP of power per round and has a base range of 5km. A radar system is required for computer aided attacks.

## VEHICLE VISUAL SYSTEMS

Type	Cost	Size	Power	Range	TL
Window/View Port	200	-	-	Sight	1
Light	5	0.2	0.01	1.5/3m	4
Video	600	0.4	0.03	100m	7
Monitor	+100	+0.5	+0.02	-	7
HUD	+10,000	+0.1	+0.01	-	7
Holovideo	2000	1.5	0.1	100m	13
Display	+500	+0.1	+0.05	-	13
IR Capability	+1500	+1	+0.03	-	6
LI Capability	+500	+0.2	+0.01	-	7

**Cost:** The base cost of the system in credits at the given range capability.

**Size:** The free volume (vl) that must be available in the chassis to accommodate the system.

**Power:** The power requirements in Energy Points (EPs) per round to use this system.

**Range:** The base range of the system at the listed base price. See Increasing Visual Range for increasing a system's base range.

**TL:** The minimum technology level required to find such a system available for barter or purchase.

**Ladar:** An undetectable (except to the target) tight beam version of the radar system (using a laser instead of radio-frequency emissions) used for pinpoint object targeting and tracking. Ladar is impossible to jam. A ladar unit, available at TL8, costs MCr2.5m. Volume is 5vl. Ladar requires 0.025EP of power per round and has a base range of 5km. Ladar must be used in conjunction with radar systems, but provides a +1 bonus to all vehicle attack rolls (gunner and computer based).

**Densitometer:** A densitometer is capable of producing a density map of the interior of an object up to the range of the system. Densitometers are very useful in mapping mineral deposits, cave systems, underground rivers, etc. When used for prospecting skill checks, the operator may add +1 to all P/Prospecting skill checks. A densitometer, first available at TL11, costs Cr1000. Volume is 1vl. A densitometer requires 0.4EP of power per round and has a base range of 1m.

**Neutrino:** Neutrino sensors are designed to detect the presence of fission or fusion reactions within the range of the system. A neutrino sensor, available at TL11, costs Cr1200. Volume is 4vl. Neutrino sensors require 1EP of power per round and have a base range of 1km.

**Neural Activity:** Neural activity sensors can be used to detect lifeforms within range of the system, and classify

## VEHICLE SENSOR SYSTEMS

Type	Cost	Size	Power	Base Range	TL
Sonar	Cr5000	4	0.05	Medium 50km	6
Radar	KCr250	5	0.25	Short 5km	6
Ladar	MCr2.5	5	0.025	Short 5km	8
Densitometer	KCr750	1	0.4	Short 5km	11
Neutrino	KCr60	4	1	Short 5km	11
Neural Activity	KCr20	0.1	0.2	Close 1km	13

**Cost:** The base cost of the system in credits at the given range capability.

**Size:** The space (vl) that must be available in the chassis to accommodate the system.

**Power:** The power requirements in Energy Points (EPs) per round to use this system.

**Range:** The base range of the system at the listed base price. See Increasing Sensor Range for increasing a system's base range.

**TL:** The minimum technology level required to find such a system available for barter or purchase.

them based on their level of brain activity. A neural sensor, available at TL13 or higher, costs Cr200. Volume is 0.5vl. Neural Activity Sensors require 0.2EP of power per round and have a base range of 1km.

**Increasing Sensor Range:** The base range of these sensor systems may be increased. For each range level of increase, double the cost, size, and power requirements. For example, to increase the range of a radar system from Short (5km) to Long (500km) range would multiply the cost, size, and power requirements by x4 (+x2 to increase from short to medium range, +x2 to increase from medium to long range). The upgraded radar unit would thus cost MCr1, have a volume of 20vl, and require 1EP of power per round.

## COMMUNICATION SYSTEMS

**Voder:** A vehicle or robot equipped with a voder is capable of relay data and information through speech. The earliest models, available at TL7, have a very metallic, monotone, and obviously synthesized voice that is often difficult to understand if the listener is not following along closely. As technology improves so does the quality of the 'voice' produced by a voder, allowing for male and female voices, and even certain accents may be recreated. A voder unit costs Cr1200, volume is 0.5vl, and it requires 0.03EP of power per round.

**Radio Receiver:** A radio receiver is only capable of receiving radio transmissions and broadcasts over a wide range of frequencies. It is not capable of broadcasting. A radio receiver costs Cr50, volume is 0.3vl, and it requires 0.01EP of power per round. The receiver has a base range of reception of 5km.

**Radio, 2-way:** A standard radio set capable of both broadband reception and broadcasting. A 2-way radio

costs Cr75, volume is 0.5vl, and it requires 0.2EP of power per round. The unit has a base range of 5km.

**Tight Beam Laser:** A tight beam laser offers a virtually undetectable form of communications, visual interference. A laser comm. unit costs Cr1200, volume is 1vl, and it requires 0.05EP of power per round. The unit has a base range of 50km.

**Maser:** A maser communication system is very similar to the tight beam laser in capability, but since it uses microwaves instead of visual light, it is unaffected by the conditions that can hamper laser based systems. A maser comm. unit costs Cr2400, volume is 1.5vl, and it requires 0.1EP in power per round. The unit has a base range of 5km.

**Meson:** With the advance of controlled meson decay technologies, the meson communicator offers the most advanced form of secure, long-range communications. Meson beams are capable of passing through anything, including planets, thus it is possible to communicate with someone on the other side of a planet (without the use of satellites) by using an extreme range meson communicator, if the coordinates of the receiver are known. A meson comm. unit costs Cr250,000, volume is 5vl, and it requires 0.5EP of power per round. The unit has a base range of 500km.

**Increasing Communication Range:** The base range of these communications systems may be increased. For each range level of increase, double the cost, size, and power requirements. For example, to increase the range of a 2-way radio system from Short (5km) to Long (500km) range would multiply the cost, size, and power requirements by x4 (+x2 to increase from short to medium range, +x2 to increase from medium to long range). The upgraded



**VEHICLE COMMUNICATION SYSTEMS**

Type	Cost	Size	Power	Range		TL
Voder	1200	0.5	0.03	-	-	7
Radio Receiver	50	0.3	0.01	Short	5km	5
Radio, 2-way	75	0.5	0.02	Short	5km	5
Laser	1200	1	0.05	Short	5km	8
Maser	2400	1.5	0.1	Close	5km	8
Meson	250,000	5	0.5	Long	500km	15

**Cost:** The base cost of the system in credits at the given range capability.

**Size:** The space (vl) that must be available in the chassis to accommodate the system.

**Power:** The power requirements in Energy Points (EPs) to use this system.

**Range:** The base range of the system at the listed base price. See Increasing Communication Range for increasing a system's base range.

**TL:** The minimum technology level required to find such a system available for barter or purchase.

radio unit would thus cost Cr300, have a volume of 2vl, and require 0.08EP of power.

**SECONDARY SENSOR SYSTEMS**

**Auditory Sensor:** Auditory sensors have about the same capability as the human ear for detecting sound. This type of sensor allows the operator to make a Listen check to hear any noise within range of the sensor. An Auditory Sensor system costs Cr200. Volume is 0.2vl and it requires 0.01EP of power per round. The system has a base range of 50m.

**Olfactory Sensor:** This type of sensor, first available at TL9, allows for the replication of the human range of olfactory sensation (smell). An olfactory sensor system costs Cr1500. Volume is 0.5vl and it requires 0.05EP in

power each round. The system has a base range of 3m and a maximum range of 1km.

**Enhanced Olfactory:** The enhanced version of the olfactory sensor allows a wider more specific ability to detect specific scents and airborne particles at a longer range. Enhanced Olfactory Sensors cost Cr2000, have a volume of 1vl and require 0.1EP in power each round. They have a base range of 1km and a maximum range of 5km. Operators using an enhanced olfactory sensor may add +2 to all Spot checks involving scents or smells. Enhanced olfactory sensors are available beginning at TL10.

**Tactile Sensor:** Tactile sensors installed into a vehicle appendage are capable of feeding back standard human tactile response to the operator (i.e. the operator can 'feel'

**SECONDARY SENSOR SYSTEMS**

Type	Cost	Size	Power	Range		TL
Auditory Sensor	200	0.2	0.01	Short	50m	5
Olfactory	1500	0.5	0.05	Close	1 km	9
Enhanced Olfactory	2000	1	0.1	Close	1 km	10
Tactile	3000	1	0.2	-	-	8
Enhanced Tactile	6000	2	0.3	-	-	9

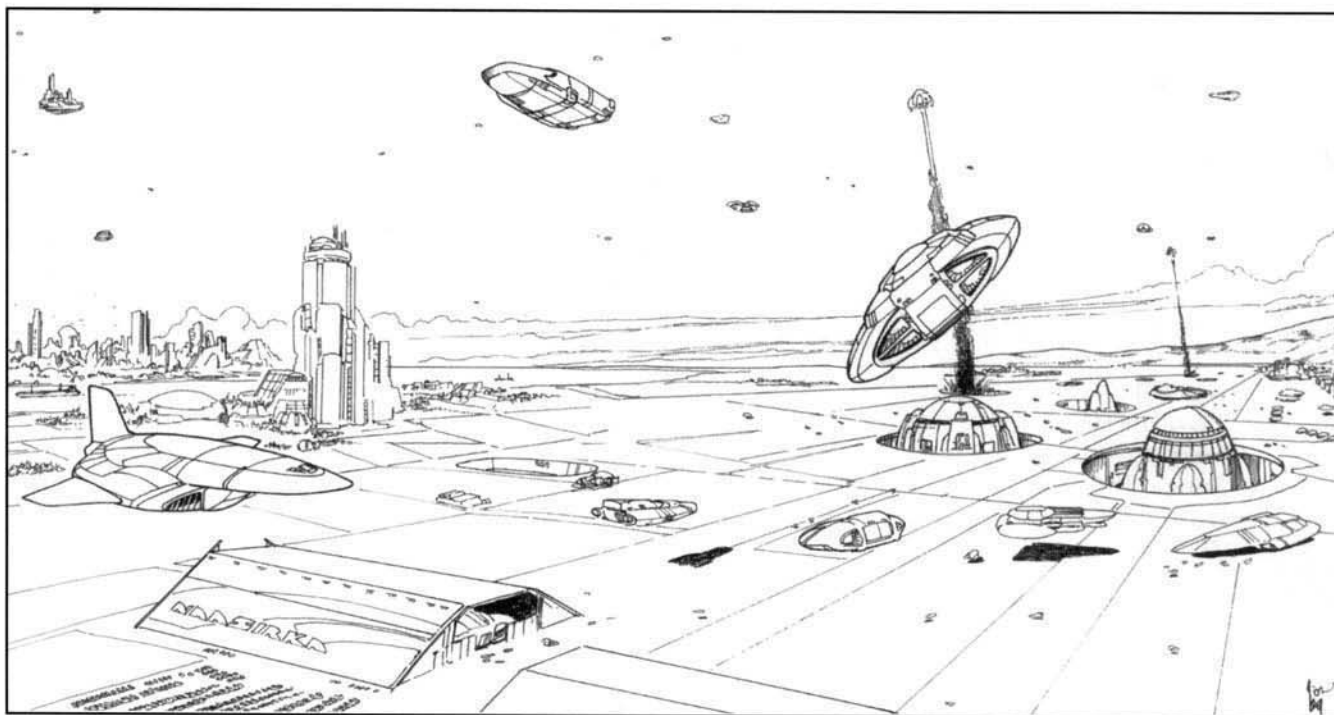
**Cost:** The base cost of the system in credits at the given range capability.

**Size:** The space (vl) that must be available in the chassis to accommodate the system.

**Power:** The power requirements in Energy Points (EPs) to use this system.

**Range:** The base range of the system at the listed base price. See Increasing Lighting and Increasing Olfactory Range for increasing a system's base range.

**TL:** The minimum technology level required to find such a system available for barter or purchase.



what the appendage is touching). Tactile sensors become available at TL8, and must be installed into an appendage. Each sensor has a cost of Cr3000, volume of 1vl, and requires 0.2EP of power each round.

**Enhanced Tactile Response:** An improved version of the tactile sensor that gives a +2 bonus to all DEX ability checks and DEX based skill checks when using a vehicle appendage for fine manipulation (such as performing surgery). These sensors each have a cost of Cr6000, volume of 2vl, and require 0.3EP of power per round. ETR sensors are only available at TL9 and later.

**Increasing Lighting:** The base range of a light source may be increased. For each 1.5/3m increase in range, add Cr5 to the cost, increase the size of the unit by 0.02vl in volume, and double the power requirements. For example, to increase the range of a light from 1.5/3m to 15/30m range would add Cr50 to the cost, increase the size by +0.2vl, and increase the power requirements by +0.1. The upgraded light unit would thus cost Cr100, have a volume of 0.4vl, and require 0.11EP of power.

**Increasing Olfactory Range:** The base range of an olfactory sensor may be increased to 5km by doubling the size, cost, and power requirements.

## THE BOTTOM LINE

Once all components and systems have been selected, the design can be finalized by calculating its performance within the game system.

## AGILITY RATING

If the installed Power Plant produced excess Energy Points beyond those required, the excess power may be used to increase the agility of the vehicle itself while in combat. This represents the vehicle's ability to make violent maneuvers to avoid being hit in combat. It is applied in two ways, it acts as an Initiative bonus in combat and it also acts as an AC bonus to the vehicle's defense in combat. A vehicle's Agility rating may never exceed the maximum agility listed for its Drive Train type plus any agility modifiers due to a streamlined or airframe chassis configuration.

**Agility Rating:** Extra Energy Points / (1 per 250vl of vehicle). Round any resulting fractions down.

E.g. a 1850 vl vehicle with 25 extra energy points:

This gives 25 divided by 7.4 (1850 / 250 = 7.5)

25 divided by 8 gives 3.378, rounded to 3.

## ARMOR CLASS

The armor class (AC) of a vehicle begins at a base value of 10. Add to this the Agility rating of the vehicle, its Armor Rating and its Size Modifier. For example a vehicle with an Agility of 3 and an Armor Rating of 2 would have an Armor Class of 15.

**Armor Class (AC):** 10 + Agility Rating + Armor Rating + Size Modifier

## STRUCTURAL INTEGRITY

The structural integrity or SI rating of a vehicle represents the amount of damage it may withstand (whether

## VEHICLE STRUCTURAL INTEGRITY

Size	Weight or Volume	Base SI	Additional SI (round down)	Weight in Pounds (d20 size)
Fine	up to 0.05	0	0.1 per 0.005 over 0.005	0.11 (1/8)
Diminutive	0.05 to 0.5	1	0.1 per 0.05 over 0.05	1.1 (1)
Tiny	0.5 to 5	2	0.3 per 0.5 over 0.5	11 (8)
Small	5 to 30	5	0.5 per 2.5 over 5	66 (60)
Medium	30 to 250	10	1.5 per 22 over 30	550 (500)
Large	250 to 2000	25	2.5 per 175 over 250	4400 (4000)
Huge	2000 to 15,000	50	2.5 per 1300 over 2000	33,000 (32,000)
Gargantuan	15,000 to 115,000	75	2.5 per 10,000 over 15,000	253,000 (250,000)
Colossal	115,000 to 1,315,000	100	1.5 per 12,000 over 115,000	253,000 or more
Enormous	1,315,000+	250	2.5 per 12,000 over 1,315,000	2,893,000 or more

caused by accidents, attacks or other means) before being destroyed. The SI of any vehicle is based on its size and is determined by the chart above.

## VEHICLE SPEED

The maximum speed of a vehicle can be determined by dividing the total Thrust output of the drive train by the Thrust Requirement of the chassis itself. For example: a 10,000vl chassis vehicle has installed a tracked drive train capable of producing 800 Thrust. The Chassis Size Table indicates that a 10,000vl chassis has a Thrust Requirement of 10 per 1kph of speed, thus the maximum speed for this vehicle would be 80kph ( $800 / 10 = 80$ ).

**Maximum Speed:** Total Thrust Output / Chassis Thrust Requirement

**Standard Acceleration:** One-tenth of maximum speed. A vehicle's maximum acceleration is equal to its standard acceleration X its Agility rating.

Other levels of speed for a vehicle are derived as follows:

**Very Slow (Stall) Speed:** Up to one-tenth of maximum speed. This is stall speed for vehicles employing jet or propeller drive trains.

**Slow Speed:** Very slow to one-quarter of maximum speed. This is also usually the take-off and landing speed of aircraft.

**Cruising Speed:** Slow to one-half of maximum speed

**Fast Speed:** Cruising to three-quarters of maximum speed.

**Max Speed:** Fast to maximum speed.

**Off-Road Speed:** Determine the off-road speed factor based on the type and number of drive trains installed as shown.

**Underwater Speed:** The maximum speed of a watercraft submerged is one-half its normal surface speed, but

fuel consumption is doubled. The vehicle must have a pressurized interior.

## VEHICLE RANGE

The range listed for most vehicles is based on its cruising range. This value is determined by multiplying the operation duration of a vehicle by the top cruising speed of the vehicle. For example, a vehicle with a 14 hour operational duration and a top cruising speed of 75kph, would have a range of 1050km before refueling is necessary.

## SPACECRAFT AND STARSHIP DESIGN

The only real difference between a vehicle and a space vessel is that a spacecraft is capable of maneuvering and operating in interstellar space. A starship takes this further; a starship can enter Jump Space and move to a different star system. Note that vessels intended to travel between the stars in normal space (at sublight speeds, and taking years to get there) are considered to be "space vessels" in these rules because they cannot enter Jump Space.

## OFFROAD SPEED

Drive Train Type	Maximum Off-road Speed
Wheeled	Very Slow
Tracked	Slow + 5kph or Cruising speed, whichever is slower.
Legged	Cruising
Hovercraft	Slow + 10kph or Cruising speed, whichever is slower.
Per Additional pair of Drive Trains over 1	+5kph



## SPECIAL FEATURES OF SPACECRAFT AND STARSHIP DESIGN

**Displacement:** The size of a starship or spacecraft is rated in displacement tons (t) rather than vl, since they are much bigger than most vehicles. Larger ships may be rated in kilotons (Kt)

**Designations:** Starship design tends to follow a procedure quite similar to that used for vehicles, but spacefaring vessels are subdivided into several types for ease of classification:

Starships are vessels capable of traveling through Jump space under their own power. Starships must be over 99 tons in displacement, but otherwise can be of any size.

**Spacecraft:** Also known as spaceships, spacecraft are large vessels that are not capable of entering Jump Space under their own power.

**Small Craft:** Small space vessels of 99t or less displacement, often carried aboard other vessels, are known as Small Craft. Because all small craft are not large enough to carry a jump drive, all small craft are also considered spacecraft.

**Big Craft:** Larger craft intended to be carried aboard another vessel are known as Big Craft. The only difference between a Big Craft and a Space Vessel is whether the craft is carried aboard (and thus subordinate to) another vessel.

**Hull Weight:** To determine the weight of a ship simply multiply by 1.35 to determine weight in metric tons or mTons (multiply by 1350 to determine weight in kilograms). USP: Spacecraft and Starship data is presented in a short-hand form called a Universal Ship Profile (USP). A USP gives critical data such as hull size and Jump capability at a glance.

## DESIGN PHILOSOPHY

Anyone designing a starship will have a clear role in mind for it, though this role may be quite broadly defined. While the expense involved guarantees that extraneous systems are not added, there is a strong argument for a vessel to have a reasonable range of capabilities. One-trick ponies are an expensive luxury and are found only in the military. However, vessels will be focused on a particular mission. In very broad terms, the most common missions are: Military, Commercial and Specialist.

Commercial and Specialist ships are built as big as they need to be for their mission, assuming the builder can afford them.

Commercial vessels are generally classified according to their size and role. Ships of 100-2000 tons are usually referred to as Merchants (Or Free Traders, if privately owned), while those over 2000 tons are usually termed

"Freighters", "Liners" or "Freightliners". Very large ships may have titles such as Bulk Transporters or Megafreighters. Some smaller ships do claim these rather grand titles, such as the 600-ton Liner.

Commercial ships are designed to be as economical as possible, and to last a long time between refits. They may carry some armament, but for the most part they are built on the "removal van" model. The overriding concerns are ease of loading and the ability to haul as much cargo as possible at the cheapest possible price.

Specialist ships are designed for a particular mission, which can be just about anything. They are optimised for that mission, and carry whatever other systems are necessary to make it possible. Thus a lab ship has the best scientific equipment available, a courier has high-Jump drives. A survey vessel carries sensors and vehicles. Jump capability or cargo capacity come a long way second in most such designs, unless it is vital to the mission (such as an exploration or courier ship).

Military ships vary greatly, since the military mission has many sub-roles that must be filled. Ships tend to be named for their role rather than size, which can cause some confusion. For example, powerful interstellar states typically build Heavy Cruisers that are larger (and more capable) than the entire fleets of smaller powers. Planetary and minor-power navies cannot afford anything approaching the size of vessels employed by these larger navies, but of course will name their ships however they like. Thus the Escort Destroyers of a major power may be the same size as the Command Cruiser of one of their allies. A lone light cruiser of the Imperial Grand Fleet may be able to take out a whole planetary navy of so-called Battleships and Assault Dreadnaughts.

Military ships are built to many designs with an infinite number of variations. Even transport vessels are built tougher than their civilian counterparts. Most military ships are fast and mount good electronics and sensors in addition to the obvious armament. The main missions are:

- Patrol/Escort: Small ships intended to police the spaceways and deter piracy. These are the commonest ships in any fleet.
- Strike: Fast, well-armed but relatively fragile ships intended for raiding and strike operations
- Cruiser: General-purpose major warships. Cruisers do most of the navy's work
- Line-of-Battle: Powerful ships such as battleships and dreadnaughts designed to destroy an enemy's major units
- Carrier or Tender: A lightly armed ship that transports smaller combat ships
- Assault: Ships designed to land troops on a world, and/or to support them there.
- Tanker: Ships designed to carry and supply fuel to other vessels

- Logistics: Ships that carry supplies for a fleet or squadron but do not fight
- Transport & Supply: Large and small freight-carrying vessels.
- Courier: Small, fast ships that carry information.

As a general rule, most navies classify ships roughly on size:

- 100-1000 tons: Close Escorts, Patrol Ships, Couriers
- 1000-10,000 tons: Escorts, Destroyers
- 10-40 kilotons: Light Cruisers, Light Carriers
- 40-100 kilotons: Cruisers, Heavy Cruisers, Strike Carriers
- 100kt +: Fleet Units (Battleships, Dreadnoughts, Fleet Carriers)
- 500kt: The very largest warships.

This is not always the case, however. For example, the term "cruiser" is often given to some very small ships, and can be misleading. In this case it is a reference to the long cruises such vessels undertake on patrol or piracy-suppression duty.

Non-starships (those without Jump engines), also known as spacecraft, can be very large. Various names are given to non-starships. While these are actually interchangeable, most have become associated with a particular class of vessel. The common usage is:

- Launch: A slow, 20-ton utility passenger/cargo craft. Available in a lifeboat variant and as the Gig, a faster, armed version used mainly by the military
- Ship's Boat: A fast, 30-ton utility craft used by many starships
- Pinnace: A long-range 40-ton streamlined small craft
- Cutter: A common, 50-ton craft used mainly by starports and customs services. The cutter can take a variety of slot-in modules, making it suitable for anything from cargo handling to rescue work; customs inspection and even some military action
- Shuttle/Lighter: A streamlined 95t design is most common but these cargo & passenger transfer vessels come in many shapes and sizes

Larger non-starships do exist. Non-Jump-capable freighters ply the routes between the secondary holdings of a major system. There are also many types of military non-starship:

- Fighter: A small (5-50 ton) vessel armed with light weapons. Mainly useful for patrol and security work
- Gunship/System Defense Boat: A larger, heavily armed non-starship designed to patrol and defend a local region

- Monitor: The non-jump equivalent of cruisers and battleships are termed Monitors
- Battle Rider: A specialist Monitor designed to be carried between star systems by a tender

Non-starships, ton for ton, can carry more armament and cargo than their jump-capable brethren.

## TECHNOLOGY LEVEL

The technology level of a shipyard is based on the technological level of the world that it serves. Normally a ship cannot be built using components of a higher technology level than the shipyard itself; a TL12 shipyard can only build a ship with up to TL12 components. However, if there are higher tech level shipyards available at nearby star systems, it is possible to construct a higher technology ship, but high-tech components will have to be built elsewhere and shipped in at twice their normal cost. This will delay production by 20-50%.

## SHIP HULLS

Once a role for the ship, its general size and its tech level have been decided upon, components can be purchased. The first requirement is a hull suitable to contain all the other components. The construction of any ship begins with the hull. The hull forms the shell into or onto which the remaining components of the ship are installed. Two types of hulls are available; manufactured and planetoid. Manufactured hulls are constructed out of high-tech composite materials, while planetoids are simply large hollowed-out asteroids. For obvious reasons, planetoid hulls are far less expensive than their manufactured counterparts but they also waste a lot of interior space. Planetoid hulls can be "Buffered" to make them more resilient. This simply means leaving more waste space (rock) to strengthen the vessel.

To design a ship using a hull size not listed, simply add the data from the appropriate hull sizes that total the size of your ship.

*Example 1: To construct a 350-ton ship, simply add the data from the 100-ton entry three times (100 + 100 + 100 = 300), and add the data for the 50-ton entry once (300 + 50 = 350).*

*Example 2: To design a 73,000-ton ship, add the 50,000-ton entry once, the 10,000-ton entry twice (50,000 + 10,000 + 10,000 = 70,000), and the 1000-ton entry three times (70,000 + 1000 + 1000 + 1000 = 73,000).*

The construction time for a custom hull is equal to the construction time of the next higher listed hull size.

Note that while any size hull can be constructed, all Jump-capable starships must have a minimum size hull of 100 tons.

## MANUFACTURED HULLS

Hull	Required Computer	Build Time	Bridge**	Cylinder	Needle/Wedge	Cone	Close Struct	Sphere	Flatten Sphere	Disp Struct
1	Model 1	3	0.02/0.2	0.1	0.12	0.11	0.06	0.07	0.08	0.05
5	Model 1	4	0.1/1	0.5	0.6	0.55	0.3	0.35	0.4	0.25
10	Model 1	5	0.2/2	1	1.2	1.1	0.6	0.7	0.8	0.5
50	Model 1	7	1/10	5	6	5.5	3	3.5	4	2.5
100	Model 1	9	2	10	12	11	6	7	8	5
200	Model 1	11	4	20	24	22	12	14	16	10
400	Model 1	14	8	40	48	44	24	28	32	20
500	Model 1	18	10	50	60	55	30	35	40	25
600	Model 1	22	12	60	72	66	36	42	48	30
800	Model 2	25	16	80	96	88	48	56	64	40
1000	Model 2	27	20	100	120	110	60	70	80	50
5000	Model 3	36	100	500	600	550	300	350	400	250
10,000	Model 4	48	200	1000	1200	1100	600	700	800	500
50,000	Model 5	52	1000	5000	6000	5500	3000	3500	4000	2500
100,000	Model 5	56	2000	10,000	12,000	11,000	6000	7000	8000	5000
500,000	Model 6	58	10,000	50,000	60,000	55,000	30,000	35,000	40,000	25,000
1,000,000	Model 6	60	20,000	100,000	120,000	110,000	60,000	70,000	80,000	50,000

\*\* Amounts shown are for calculation reference only. A starship must allocate a minimum of 20 tons in bridge space, while small craft must allocate a minimum of 4 tons for bridge space.

## MANUFACTURED HULLS

When constructing a manufactured hull, it is necessary to consider not only the size of the hull itself, but how the hull will be configured. This will affect the Streamlining (or lack thereof) of the ship and thus its ability to enter a world or gas giant's atmosphere, and thus whether or not it may land and take off from a world with an atmosphere.

**Hull:** The displacement tonnage of the ship if immersed in liquid hydrogen. Also represents the available space in tons for installing other equipment, systems, and components, storing fuel, etc.

**Required Computer:** The minimum model computer that must be installed to run the ship.

**Build Time:** How long the ship will take to build from start to finish, in months.

**Bridge:** The required amount of tonnage that must be allocated to bridge control for this size hull. For starships, if this tonnage is below 20 tons for the entire ship, a minimum of 20 tons must be allocated anyway. For small craft, at least 4 tons must ultimately be allocated toward bridge space. For example a 100-ton ship would require 20 tons of bridge space allocated, even though the table specifies 4 tons. But an 1100-ton ship would require 24 tons of bridge space, using the 1000-ton hull and the 100-ton hull specifications.

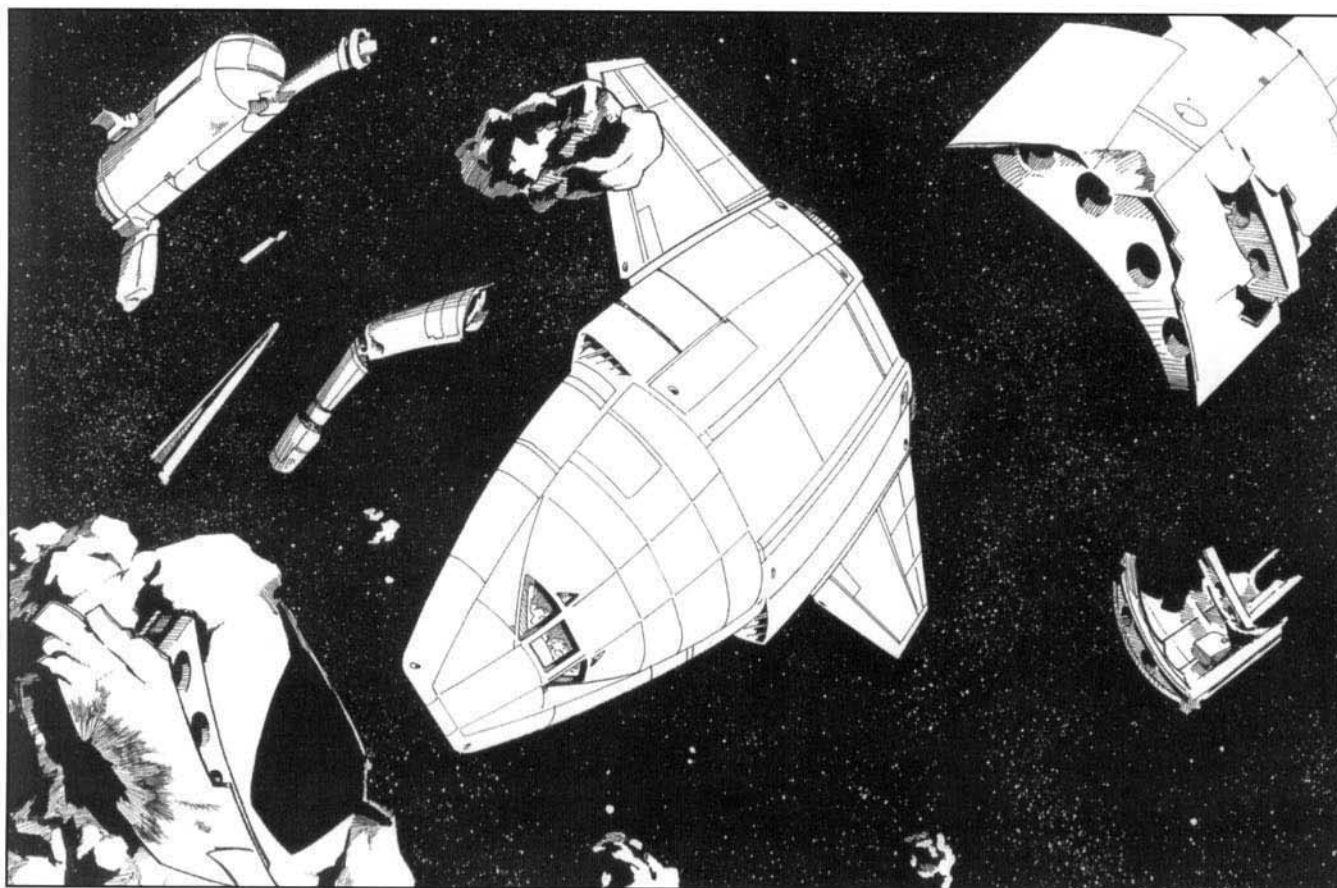
**Cylinder:** A cylindrical hull shape, which may be somewhat flattened or flared. Cylinders only offer partial streamlining. This is the standard hull design and costs are as listed. USP Code 3. Cost listed is in Megacredits (MCr).

**Needle/Wedge:** A somewhat 'flattened' version of the Cone. Like the Cone, a Needle/Wedge is also fully streamlined. The Needle/Wedge configuration will increase the cost of the hull by 20% (this is already factored into the costs listed in the Manufactured Hulls Table). USP Code 1. Cost listed is in Megacredits (MCr).

**Cone:** Similar to the Cylinder, but tapering to something of a point at one end. Cones are fully streamlined. Design and construction of a ship using a Cone configuration will increase the cost of the hull by 10% (this is already factored into the costs listed in the Manufactured Hulls Table). USP Code 2. Cost listed is in Megacredits (MCr).

**Close Structure:** A Close Structure is only partially streamlined. The term is used for vessels that consist of a number of similarly or differently-shaped structures joined without significant projections. Close Structured configurations reduce the cost of the hull by 40% (this is already factored into the costs listed in the Manufactured Hulls Table). USP Code 4. Cost listed is in Megacredits (MCr).





**Sphere:** Literally a perfectly round hull, though possibly with some projections. A Sphere is only partially streamlined. Using a Sphere based ship design will reduce the cost of the hull by 30% (this is already factored into the costs listed in the Manufactured Hulls Table). USP Code 5. Cost listed is in Megacredits (MCr).

**Flattened Sphere:** A "flying saucer". The Flattened Sphere is fully streamlined. A Flattened Sphere configuration will reduce the cost of a hull by 20% (this is already factored into the costs listed in the Manufactured Hulls Table). USP Code 6. Cost listed is in Megacredits (MCr).

**Dispersed Structure:** A Dispersed Structure is completely unstreamlined. The term is used for ships that have several awkwardly shaped parts sticking out at various points. Components are often connected by narrow accessways and struts rather than a solid hull. Dispersed Structures reduce the cost of the hull by 50% (this is already factored into the costs listed in the Manufactured Hulls Table). USP Code 7. Cost listed is in Megacredits (MCr).

## PLANETOID HULLS

Planetoids (asteroids, small moonlets, etc.) may be transported to an orbital shipyard for use as a ship's hull.

The interior will be hollowed out providing space for drives, power plants, and other equipment and features needed for the operation of the ship as per a manufactured hull.

Although such planetoids are pretty much free for the taking in any star system, there is still a cost involved in transporting the planetoid into orbit and the fusion tunneling and excavation of the planetoid itself. Towing is usually available at a standard fee of Cr100 per ton of planetoid moved into orbit. Excavation will typically run Cr1000 per ton excavated (not total tonnage of the planetoid).

The main drawback with planetoids is that a fair bit of their tonnage must remain unused to maintain structural integrity. Standard planetoids lose 20% of their available possible tonnage to this waste space, while a buffered planetoid designed to withstand greater combat damage loses 30% of its available tonnage to waste space. For example, a 100 ton planetoid would only have a maximum available tonnage for drives and other features of 80 tons ( $100 \times 20\% = -20$  tons). A 100 ton buffered planetoid would only have a maximum available tonnage of 70 tons ( $100 \times 30\% = -30$  tons).

**Hull:** The displacement tonnage of the ship if immersed in liquid hydrogen. Also represents the available space in tons (less any wasted space) for installing other equipment, systems, and components, storing fuel, etc.



**Required Computer:** The minimum model computer that must be installed to run the ship.

**Build Time:** How long the ship will take to build from start to finish, in months.

**Bridge:** The required amount of tonnage that must be allocated to bridge control for this size hull. For starships, if this tonnage is below 20 tons for the entire ship, a minimum of 20 tons must be allocated anyway. For small craft, at least 4 tons must be ultimately allocated toward bridge space. For example a 100-ton ship would require 20 tons of bridge space allocated, even though the table specifies 4 tons. But an 1100-ton ship would require 24 tons of bridge space, using the 1000-ton hull and the 100-ton hull specifications.

**MCr:** The cost of the hull in Megacredits.

**Planetoid:** Wasted (unusable space) in tons for standard planetoid hulls.

**Buffered:** Wasted (unusable space) in tons for standard buffered planetoid hulls.

## DRIVE REQUIREMENTS AND ARMOR FACTORING

Whether a manufactured or planetoid hull, if a ship is to do much more than act as a stationary platform, it must install jump and/or maneuver drives.

**Hull:** The size of the ship's hull in tons. For unlisted hull sizes, add the requirements for the appropriate entries totaling the ship's size. For example, when determining the drive and armor requirements for a 25,000-ton ship, use the entry for a 10,000-ton hull twice, and the entry for a 5,000-ton hull.

**Drive Units:** The minimum number of Jump Drive (for interstellar travel) and Maneuver Drive (for in-system travel) units that must be installed in the ship. Jump drives are not required on small craft and space ships. While most ships have maneuver drives it is possible to design a ship without them; a stationary orbital weapons platform for example.

**Armor Factoring:** If the ship is to be armored, this is the armor factor that must be used when calculating how much armor must be installed to achieve the desired Armor USP rating for the ship.

### PLANETOID HULLS

Hull	Required Computer	Build Time	Bridge**	MCr	Planetoid	Buffered Planetoid
1	Model 1	3	0.02/0.2	0.0011	0.2	0.3
5	Model 1	4	0.1/1	0.0055	1	1.5
10	Model 1	5	0.2/2	0.011	2	3
50	Model 1	7	1/10	0.055	10	15
100	Model 1	9	2	0.11	20	30
200	Model 1	11	4	0.22	40	60
400	Model 1	14	8	0.44	80	120
500	Model 1	18	10	0.55	100	150
600	Model 1	22	12	0.66	120	180
800	Model 2	25	16	0.88	160	240
1000	Model 2	27	20	1.1	200	300
5000	Model 3	36	100	5.5	1000	1500
10,000	Model 4	48	200	11	2000	3000
50,000	Model 5	52	1000	55	10,000	15,000
100,000	Model 5	56	2000	110	20,000	30,000
500,000	Model 6	58	10,000	550	100,000	150,000
1,000,000	Model 6	60	20,000	1100	200,000	300,000

\*\* Amounts shown are for calculation reference only. A starship must allocate a minimum of 20 tons in bridge space, while small craft must allocate a minimum of 4 tons for bridge space.



## DRIVES AND ARMOR

Hull	Drive Units**	Armor Factoring
1	0.02	0.01
5	0.1	0.05
10	0.2	0.1
50	1	0.5
100	2	1
200	4	2
400	8	4
500	10	5
600	12	6
800	16	8
1000	20	10
5000	100	50
10,000	200	100
50,000	1000	500
100,000	2000	1000
500,000	10,000	5000
1,000,000	20,000	10,000

\*\* Ships under 100 tons may not install a jump drive. For such vehicles, this applies to maneuver drives only.

## HULL TONNAGE AND CLASSIFICATION USP CODES

A ship is classified by its tonnage and function as expressed by a USP code. Find the tonnage of your ship on the table (pg. 260) to determine both codes. For civilian vessels, select the closest appropriate classification for the size and function of the ship under Civilian Classifications. Military ships would obviously use the Military Classifications column instead.





## HULL TONNAGE AND CLASSIFICATION USP CODES

Hull USP Code	Tonnage	Civilian Classifications	Military Classifications
0	to 99		
1	100-199	Seeker (J), Scout/Courier (S)	Scout/Courier (S)
2	200-299	Far Trader (A2), Free Trader (A), Yacht, (Y) Safari Ship (K)	
3	300-399		Close Escort (CE)
4	400-499	Subsidized Merchant (R), Corsair (P), Lab Ship (L)	Patrol Cruiser (T), System Defense Boat (SDB)
5	500-599		
6	600-699	Subsidized Liner (M)	
7	700-799		
8	800-899	Mercenary Cruiser (MC)	
9	900-999		
A	1000-1999		Escort (E), Destroyer (D)
B	2000-2999	Freighter (R2) or Liner (M2)	
C	3000-3999		
D	4000-4999		
E	5000-5999		
F	6000-6999		
G	7000-7999		
H	8000-8999		
J	9000-9999		
K	10,000-19,999		Light Cruiser (LC), Light Carrier (LCV)
L	20,000-29,999		
M	30,000-39,999		
N	40,000-49,999		Cruiser (C), Heavy Cruiser (HC), Strike Carrier (SCV)
P	50,000-74,999		
Q	75,000-99,999		
R	100,000-199,999		Battleship (B), Dreadnaught (BD), Fleet Carrier (FCV)
S	200,000-299,999		
T	300,000-399,999		
U	400,000-499,999		
V	500,000-699,999		
W	700,000-899,999		
X	900,000-999,999		
Y	1,000,000+		
Z	Reserved		

## HULL STRUCTURAL INTEGRITY

The SI rating of any small craft or starship is based on its size as determined by the Hull Structural Integrity table, pg. 261.

## HULL STREAMLINING

Depending on the configuration you selected for a ship's hull, it will either be Unstreamlined, Partially Streamlined, or Fully Streamlined. Streamlined hulls can be constructed in an Airframe configuration, for even better performance in atmosphere.

**Streamlined:** The streamlined hull configuration allows a ship to function and maneuver in the atmosphere of any world, including take-off and landings. In an atmosphere, a streamlined ship's top speed is 2-G.

**Partially Streamlined:** These configurations allow a ship to function and maneuver in the upper atmosphere of worlds with an atmosphere of Very Thin (2) or heavier, but they may not land on such worlds. In an atmosphere a partially streamlined ship has a top speed of 1-G.

**Unstreamlined:** An unstreamlined ship may not enter any part of a Very Thin (2) or heavier atmosphere for any reason.

## UPGRADING STREAMLINING

Most hull configurations begin either Partially or Fully Streamlined. The only hull configuration that begins as unstreamlined is a Dispersed Structure, and it may never be streamlined under any circumstances. Upgrading a Partially Streamlined hull to a Fully Streamlined hull costs Cr5000 per tonnage size of the hull and will increase the required Flight Avionics Computer by 1 Model. For example, to upgrade a 100-ton Cylinder configuration hull to a Fully Streamlined hull would cost Cr500,000 extra (5000 x 100 = 500,000), and the installed Flight Avionics computer must be a Model/1bis rather than just a Model/1.

## AIRFRAMES

Airframe hulls are designed for maximum performance within an atmosphere. A ship with an airframe hull may use its full acceleration rating within an atmosphere (see the Airframe Atmospheric Speeds table above). An airframe must begin with a Fully Streamlined hull (automatic or improved to that level), add 10% to the cost of the hull, add +1 to the minimum Model Flight Avionics computer required, and allocate the following tonnage for control surfaces from the available hull space.

## HULL STRUCTURAL INTEGRITY

<i>Hull Size</i>	<i>Structural Integrity Points SIs (round down)</i>
1-9 tons	50 + 2.5 per additional 1 ton
10-99 tons	75 + 2.5 per additional 10 tons
100-999 tons	100 + 15 per additional 100 tons
1000-9999 tons	250 + 25 per additional 1000 tons
10,000-99,999 tons	500 + 25 per additional 10,000 tons
100,000-999,999 tons	750 + 25 per additional 100,000 tons
1,000,000+ tons	1000 + 100 per additional 1,000,000 tons

## AIRFRAME ATMOSPHERIC SPEEDS

<i>Maneuver Drive</i>	<i>Maximum</i>	<i>Cruising</i>	<i>Nap-Of-The-Earth</i>
1-G	3500kph	2625kph	875kph
2-G	4700kph	3525kph	1175kph
3-G	5300kph	3975kph	1325kph
4-G	5600kph	4200kph	1400kph
5-G	5800kph	4350kph	1450kph
6-G	5900kph	4425kph	1475kph

<i>Atmospheric Density</i>	<i>Speed Modifier</i>
Vacuum, Trace, or Very Thin	x 2
Thin	x 1.5
Dense	x 0.75
Very Dense	x 0.25

## THE BRIDGE

When designing a ship the term 'bridge' is used to represent all of the command and control systems on board a vessel. In essence everything needed to run and control the vessel's subsystems and make it all work, with the exceptions of the main computer, power plant, and drives. The minimum Bridge required is already determined for the standard hulls listed earlier, but for custom sized hulls here are the minimum requirements:

The tonnage and cost for the bridge of a ship may be allocated among the following areas as per their normal cost and size requirements:

- 1) Main command and control bridge. This is the heart and soul of a vessel's control and operation, typically housing at least the commander's stations, helm and navigation controls, along with the communications and sensor station. A minimum of 10 tons must be allocated to the main command and control bridge, though larger ships will in almost all cases have correspondingly larger command and control bridges if not secondary bridges installed.
- 3) Command (non-passenger) Workstations and Terminals
- 4) Airlocks
- 5) Ship's Locker
- 6) Engineering Shops
- 7) Vehicle Shops
- 8) Laboratories
- 9) Sickbays

## SHIP'S COMPUTER

A ship's computer actually consists of 4 systems; the Main Computer along with the Flight Avionics, Sensor, and

## STREAMLINING UPGRADE COSTS

	Unstreamlined	Partially Streamlined	Fully Streamlined
Cylinder	-	Auto	Cr5000/ton
Needle/Wedge	-	-	Auto
Cone	-	-	Auto
Closed	-	Auto	Cr5000/ton
Sphere	-	Auto	Cr5000/ton
Flat Sphere	-	-	Auto
Dispersed	Auto	X	X

## AIRFRAME CONTROL SURFACES

Hull Size	Tonnage Lost to Control Surface
1 ton	0.05
10 tons	0.5
100 tons	5
1000 tons	50
5000 tons	250
10,000 tons	500
100,000 tons	5000
1,000,000 tons	50,000
Custom Hull	5% of total Hull Size

Communications subsystems. Each of these systems will, in most cases, include 2 or more backups. These backups are included in the cost of the computer system.

## MAIN COMPUTER

Any spaceship or starship must install at minimum a Model/1 Main Computer to handle the operation of the ships and integration of the avionics, sensor, and communications subsystems. The Model number of the computer must also be sufficient to support the Jump and Flight

## CUSTOM SIZED HULL MINIMUM REQUIREMENTS

Ship Type	Required Tonnage	Minimum Tonnage	Cost
Starship or Spaceship	2% of Ship's total tonnage	20 tons	Cr5,000 per ton of Ship
Small craft	20% of Ship's total tonnage	4 tons	Cr25,000 per ton of Bridge installed



**SHIP'S COMPUTERS**

Computer Model	Min TL	Cost	Size	EPs	Jump Support	Flight Avionics Support	Sensors and Comm. Support	Free CPU Output
Model/1	5	*	0.1	0	Jump-1	Model/1	Model/1	5
Model/1bis	6	*	0.1	0	Jump-2	Model/2	Model/1	5
Model/2	7	*	0.2	0	Jump-2	Model/2	Model/2	20
Model/2bis	8	*	0.2	0	Jump-3	Model/3	Model/2	20
Model/3	9	*	0.3	1	Jump-3	Model/3	Model/3	300
Model/4	10	*	0.4	2	Jump-4	Model/4	Model/4	400
Model/5	11	*	0.5	3	Jump-5	Model/5	Model/5	1000
Model/6	12	*	0.6	5	Jump-6	Model/6	Model/6	1320
Model/7	13	*	0.7	7	Jump-6	Model/7	Model/7	1680
Model/8	14	*	0.8	9	Jump-6	Model/8	Model/8	2080
Model/9	15	*	0.9	12	Jump-6	Model/9	Model/9	2520

\* Cost is determined after selecting the Flight Avionics, Sensors, and Communications subsystems. See Final Costs, pg. 264.

Avionics subsystems, thus the Model number of the ship's computer must equal or exceed the Model number of either of these subsystems (whichever is higher). Ships smaller than 100 tons may install a computer up to a maximum model number equal to the size of the hull divided by 10. Thus, a 20-ton vessel could install at best a Model/2 computer, while an 80-ton vessel could install up to a Model/8 computer.

The computer is also required to support aid Jump navigational plotting, synchronizing and initiating the Jump drives, and maintain the ship's integrity while in Jump space. The Model number of the computer also equals the farthest Jump the ship is capable of (i.e.: a starship equipped with a Model/2 computer could do at most a single Jump-2 at one time. A Model/5 computer would allow up to a Jump-5).

**BIS Computers:** A 'bis' version of the Model/1 and Model/2 computer is available. A 'bis' computer acts as one model level higher for determining Jump and Flight Avionics support, but acts as its normal model number for sensor and communications support. For example a Model/2 bis computer could support a Jump-3 and a Model-3 Flight Avionics subcomputer, but can still only support Model/2 Sensor and Communications systems. Double the final cost for a BIS computer.

**FLIGHT AVIONICS**

The size of a spaceship or starship determines the required Model of Flight Avionics that must be installed to be able to properly fly

the craft. Streamlining and Airframe designs will also further increase these requirements to allow for complete control while operating within an atmosphere.

**Streamlined Hulls:** If the type of hull being used is not automatically streamlined, add +1 to the Minimum Flight Avionics Model Number required. If Flight Avionics is below minimum, apply a -1 Agility penalty for each model number below the minimum of the ship's flight avionics system when flying within in an atmosphere.

**Airframe Hulls:** If the type of hull being used was automatically streamlined to begin with, add +1 to the Minimum Flight Avionics Model Number required, otherwise add +2 to the minimum Model required. If Flight Avionics is below minimum, apply a -1 Agility penalty for each model number below the minimum of the ship's flight avionics system when flying within in an atmosphere.

**FLIGHT AVIONICS**

Ship Size	Minimum Model #	Min TL	Size	Cost Factor
1-600 tons	Model/1	5	0.4	0.9
601-1000 tons	Model/2	7	0.8	1.8
1001-4000 tons	Model/3	9	1.2	2.7
4001-10,000 tons	Model/4	10	1.6	3.6
10,001-50,000 tons	Model/5	11	2.0	4.5
50,001-100,000 tons	Model/6	12	2.4	5.4
100,001+ tons	Model/7	13	2.8	6.3
100,001+ tons	Model/8	14	3.2	7.2
100,001+ tons	Model/9	15	3.6	8.1

## SHIP SENSORS

Sensor Range	Minimum Model #	Min TL	Size	Cost Factor	
Close Range	Model/1	5	0.3	0.6	
Short Range	Model/2	7	0.6	1.2	
Medium Range	Model/3	9	0.9	1.8	
Long Range	Model/4	10	1.2	2.4	
Very Long Range	Model/5	11	1.5	3	
Extreme Range	Model/6	12	1.8	3.6	
System Wide	Model/7	13	2.1	4.2	
1 Parsec	Model/8	14	2.4	4.8	Passive, very basic system survey data
2 Parsecs	Model/9	15	2.7	5.4	Passive, very basic system survey data

## SENSORS

Sensors are required on every starship or spaceship as safe navigation is nearly impossible without them. The range and quality of the sensors installed depends on the Sensor Model selected.

## COMMUNICATIONS

At a minimum, all spacecraft and starships must install a Model/1 communications subsystem, which provides close range communications and the required transponder code system. Ships caught with altered or deliberately disabled transponder systems are dealt with harshly by the authorities.

## FIBER OPTIC BACKUP (FIB)

Fiber optic backups (FIB) for the entire system may be installed to harden the system against the effects of radiation damage. Such radiation protection increases the size and cost of the entire system (Main Computer and ALL subsystems) by x2.

## FINAL COSTS

Once the Main Computer, Flight Avionics, Sensor, and Communications models have been selected, the final costs can be determined. Add the Cost Factor of all the subsystems and multiply that total by the Model Number of the Main Computer. This is the final cost in MCr.

**Final Cost:** Main Computer Model Number • Total Cost Factor of All Subsystems (Flight Avionics, Sensors, and Communications)

## DRIVES AND POWER PLANTS

These systems are the heart of any ship. The power plant provides the energy required to make the vessel capable of travel either using maneuver drives to cross interplanetary distances or Jump drives to voyage between the stars.

## JUMP DRIVES

A Jump Drive is required for any interstellar craft, and may only be installed on ships of 100-tons in size or larger.

## COMMUNICATIONS

Communication Range	Minimum Model #	Min TL	Size	Cost Factor
Close Range	Model/1	5	0.2	0.5
Short Range	Model/2	7	0.4	1
Medium Range	Model/3	9	0.6	1.5
Long Range	Model/4	10	0.8	2
Very Long Range	Model/5	11	1	2.5
Extreme Range	Model/6	12	1.2	3
System Wide	Model/7	13	1.4	3.5
System Wide	Model/8	14	1.6	4
System Wide	Model/9	15	1.8	4.5

Maser

+1 to the Minimum Communications Model Number required. Ignores atmospheric conditions

Meson

+2 to the Minimum Communications Model Number required. Multiply installed Communications Model price by x5. Can penetrate anything but meson screens

It is the means by which a ship may cross the vast distances involved in interstellar travel in a matter of days rather than decades or centuries. Jump drives require large amounts of fuel to power the ship across the threshold into Jump Space; fully 10% of the ship's total tonnage per Jump potential of the drive.

The size of the ship's hull determines the number of jump units that must be installed in a ship to allow it to enter Jump space (see the Drives and Armor table on pg. 259). All installed units must be of the same type.

In rare cases, a ship may have more than one jump drive installed as a backup or secondary system. This second drive must also meet the installed jump unit requirements based on the size of the ship's hull. Only one Jump drive may be actively used at any given time.

**Jump-1 Drive Unit:** Consists of the jump grid, jump capacitor, and actual drive unit. Cost is MCr4. Requires 1 ton of space, a supply of 0.5 EP per round, and 5 tons of dedicated Jump Fuel. Not available before TL9. Propels the ship 1 parsec (3.27 light years) in distance while a week is spent in jump space.

**Jump-2 Drive Unit:** Consists of the Jump grid, Jump capacitor, and actual drive unit. Cost is MCr6. Requires 1.5 tons of space, a supply of 1 EP per round, and 10 tons of dedicated Jump Fuel. Not available before TL11. Propels the ship 2 parsecs (6.54 light years) in distance while a week is spent in Jump space.

**Jump-3 Drive Unit:** Consists of the Jump grid, Jump capacitor, and actual drive unit. Cost is MCr8. Requires 2 tons of space, a supply of 1.5 EP per round, and 15 tons of dedicated Jump Fuel. Not available before TL12. Propels the ship 3 parsecs (9.81 light years) in distance while a week is spent in Jump space.

**Jump-4 Drive Unit:** Consists of the Jump grid, Jump capacitor, and actual drive unit. Cost is MCr10. Requires 2.5 tons of space, a supply of 2 EP per round, and 20 tons of dedicated Jump Fuel. Not available before TL13. Propels the ship 4 parsecs (13.08 light years) in distance while a week is spent in Jump space.

**Jump-5 Drive Unit:** Consists of the Jump grid, Jump capacitor, and actual drive unit. Cost is MCr12. Requires 3 tons of space, a supply of 2.5 EP per round, and 25 tons of dedicated Jump Fuel. Not available before TL14. Propels the ship 5 parsecs (16.35 light years) in distance while a week is spent in Jump space.

**Jump-6 Drive Unit:** Consists of the Jump grid, Jump capacitor, and actual drive unit. Cost is MCr14. Requires

## JUMP DRIVES

Type	TL	Cost	Size	EP	Fuel
Jump-1	9	MCr4	1 ton	0.5	5 tons
Jump-2	11	MCr6	1.5 tons	1	10 tons
Jump-3	12	MCr8	2 tons	1.5	15 tons
Jump-4	13	MCr10	2.5 tons	2	20 tons
Jump-5	14	MCr12	3 tons	2.5	25 tons
Jump-6	15	MCr14	3.5 tons	3	30 tons

3.5 tons of space, a supply of 3 EP per round, and 30 tons of dedicated Jump Fuel. Not available before TL15. Propels the ship 6 parsecs (19.62 light years) in distance while a week is spent in Jump space.

**JUMP FUEL OPTION:** In campaigns where the Referee wishes to make interstellar trade and commerce more economically feasible, reduce the Jump Fuel requirements by one-half. A Jump-4 ship would then only require 10 tons of fuel per drive unit. Please note however that because this is an optional rule, all published ship designs will not use it. Use of this optional will also greatly affect the suitability of starships previously designed for use with *Classic Traveller*, in T20.

**Jump Drive USP Rating:** A ship's Jump Drive USP rating is equal to its maximum range in parsecs.

## MANEUVER DRIVES

If a ship is to be capable of independent movement in normal space (as opposed to Jump Space), maneuver drives are required. Although unusual, there are some ship designs that do not have maneuver drives installed. Xboats (Express Messenger Boats) are one example. Maneuver drives do not require fuel directly; instead they draw their energy from the vessel's installed power plant (which must be fueled).

The Drives and Armor table on pg. 259 determines the number of maneuver drive units that must be installed based on the size of the ship's hull. All installed units must be of the same type.

**1-G Maneuver Drive Unit:** Costs MCr1.5 per unit, requires 1 ton of space, and requires 0.5 EP in power per round. Becomes available at TL7. The ship may accelerate or decelerate at a maximum of 1-G per round.

**2-G Maneuver Drive Unit:** Costs MCr1.75 per unit, requires 2.5 tons of space, and requires 1 EP in power per round. Becomes available at TL7. The ship may accelerate or decelerate at a maximum of 2-Gs per round.

**3-G Maneuver Drive Unit:** Costs MCr2 per unit, requires 4 tons of space, and requires 1.5 EP in power per



## MANEUVER DRIVES

Type	TL	Cost	Size	EP
1-G	7	MCr1.5	1 ton	0.5
2-G	7	MCr1.75	2.5 tons	1
3-G	8	MCr2	4 tons	1.5
4-G	8	MCr2.75	5.5 tons	2
5-G	8	MCr3.5	7 tons	2.5
6-G	9	MCr4.25	8.5 tons	3

round. Becomes available at TL8. The ship may accelerate or decelerate at a maximum of 3-Gs per round.

**4-G Maneuver Drive Unit:** Costs MCr2.75 per unit, requires 5.5 tons of space, and requires 2 EP in power per round. Becomes available at TL8. The ship may accelerate or decelerate at a maximum of 4-Gs per round.

**5-G Maneuver Drive Unit:** Costs MCr3.5 per unit, requires 7 tons of space, and requires 2.5 EP in power per round. Becomes available at TL8. The ship may accelerate or decelerate at a maximum of 5-Gs per round.

**6-G Maneuver Drive Unit:** Costs MCr4.25 per unit, requires 8.5 tons of space, and requires 3 EP in power per round. Becomes available at TL9. The ship may accelerate or decelerate at a maximum of 6-Gs per round.

**Maneuver Drive USP Rating:** A ship's Maneuver Drive USP rating is equal to its maximum possible acceleration in Gs.

## POWER PLANT

All vessels regardless of size and purpose require the installation of a Power Plant. The installed Power Plant must produce enough power in the form of Energy Points (EP) to power either the ship's maneuver drive or Jump drive at full capacity at any given time. Since a ship does not use its maneuver drives while in jump space, it is not necessary for the power plant to have to supply power to both systems at the same time.

The power plant should also produce enough EP to power any install subsystems such as weapons, screens, and other facilities. If a ship does not produce enough EP to power all of its systems, the chief engineer will have to reroute power from one system to another as needed. Most ships are designed with power plants large enough to handle all the system aboard the ship operating at the same time (with the exception of the maneuver or Jump drive as appropriate).

**TL7 Fission Power Plant:** Produces 1 EP per round, volume is 2 tons per unit, cost is MCr6 per unit, and requires 1 tons of fuel per 4 weeks of operation per unit installed. Unused EPs are lost at the end of each round

and may not be carried over as surplus into the next round. Not available before TL7.

**TL-9 Fusion Power Plant:** Produces 1 EP per round, volume is 1.5 tons per unit, cost is MCr4.5 per unit, and requires 1 tons of fuel per 4 weeks of operation per unit installed. Unused EPs are lost at the end of each round and may not be carried over as surplus into the next round. Not available before TL9.

**TL13 Fusion Power Plant:** Produces 1 EP per round, volume is 1 tons per unit, cost is MCr3 per unit, and requires 1 tons of fuel per 4 weeks of operation per unit installed. Unused EPs are lost at the end of each round and may not be carried over as surplus into the next round. Not available before TL13.

**TL15 Fusion Power Plant:** Produces 2 EP per round, volume is 1 ton per unit, cost is MCr3 per ton, and requires 1 ton of fuel per 4 weeks of operation per unit installed. Unused EPs are lost at the end of each round and may not be carried over as surplus into the next round. Not available before TL15.

**TL16 Fusion Power Plant:** Produces 3 EP per round, volume is 1 ton per unit, cost is MCr3 per ton, and requires 1 ton of fuel per 4 weeks of operation per unit installed. Unused EPs are lost at the end of each round and may not be carried over as surplus into the next round. Not available before TL16.

**TL17 Antimatter Power Plant:** Produces 8 EP per round, volume is 1 ton per unit, cost is MCr1 per ton, and requires 0.1 tons of fuel per year of operation per unit installed.

**Ship's Agility:** Once you have calculated the required Energy Point cost of all installed components, if the installed Power Plant produced excess Energy Points beyond those required, these may be used to increase the agility of the ship itself while in combat. This represents the ship's ability to make violent maneuvers to avoid being hit in combat. A ship's Agility rating may never exceed the installed Maneuver Drive rating.

**Ship's Agility Rating:** Extra Energy Points / (1 per 100 tons of ship). Round fractions down.

Optionally, the formula: Extra Energy Points x (100 / total ship tonnage) may be used. Some referees may find this second formula easier to use with spreadsheets and basic calculators, but it will cause some minor differences when applied to non-standard ship tonnages.

## FUEL

Jump and Power Plant fuel are available in unrefined and refined versions. Unrefined fuel is little more than plain water or atmospheric gases from a gas giant. Refined fuel is unrefined fuel that has been processed and purified into liquid hydrogen.

Streamlined ships may draw unrefined fuel for free from any available water source (including ice) on a world, aster-

oid, or even a comet. On some worlds however this may be illegal, or may require a permit first. Make a basic check using the Law Level of the world as a DC. If the check is successful, no permits are needed and no restrictions exists. If the check fails, a permit and fee will usually be required before refueling will be allowed. If the check fails by 10 points or more, refueling outside of the starport is illegal. Once the ship has landed near such a water based fuel supply, the crew may begin pumping the unrefined fuel aboard, a process that will take approximately 4 hours to complete.

Streamlined and partially streamlined ships that are equipped with Fuel Scoops may skim the upper atmosphere of gas giants to collect unrefined fuel for free. The upper atmosphere of a gas giant is not the most hospitable place in the world for a starship, requiring the pilot to make a successful Pilot skill check (DC15) to avoid complications. Refueling from a gas giant will normally take approximately 10 hours to complete.

**Fuel Scoops:** No extra tonnage cost, but cost Cr1000 per ton of ship

## UNREFINED FUEL

Unrefined fuel, while often free for the taking is dangerous to use, and can often result in malfunctions and Misjumps. Fuel Purification plants can be installed on ships and are capable of refining the raw fuel into pure liquid hydrogen or refined fuel. It takes a single fuel purification plant 20 - Plant TL hours to refine 200 tons of fuel. Multiple purification plants may be installed to increase the amount of fuel that may be processed at any given time.

**TL:** The minimum technological level at which a subsystem or component first becomes available.

**Tons:** The number of tons of space that must be available in the hull to accommodate the subsystem or component.

**Cost:** Cost is listed in Credits.

## FUEL PURIFICATION PLANTS

TL	Tons	Cost
8	10	40,000
9	9	38,000
10	8	36,000
11	7	34,000
12	6	32,000
13	5	30,000
14	4	28,000
15	3	30,000

## SHIP POWER PLANTS

Type	TL	Cost	Size	EP	Fuel
Fission	7	MCr6	2 tons	+1	1 ton
Fusion	9	MCr4.5	1.5 tons	+1	1 ton
Fusion	13	MCr3	1 ton	+1	1 ton
Fusion	15	MCr3	1 ton	+2	1 ton
Fusion	16	MCr3	1 ton	+3	1 ton
Antimatter	17	MCr1	1 ton	+8	0.1 tons

## DROP TANKS

Reusable drop tanks may be fitted to the outside of any ship to increase its range. The fuel from the drop tanks is fed to the Jump Drives just before jump and the tanks jettisoned when the fuel transfer is complete. Obviously, such tanks must be replaced each time they are used. Jettisoned tanks are almost always recovered, usually by the company that manufactures and sells them, which allows the cost to be kept down somewhat.

When installed and attached to a ship they increase the ship's overall tonnage, thus reducing the effectiveness of the ship's maneuver drives. When the tanks are jettisoned, the ship will regain its normal maneuvering capabilities.

Drop tanks can be used in two ways:

The ship can jump, pump fuel from its drop tanks into its now-empty internal storage, and jump again with or without dropping the tanks. Dropping the tanks may increase jump range for the second jump. In this case it is quite safe to jump, as the ship can maneuver away from its now-empty and dropped tanks.

Alternatively, the fuel from drop tanks can be used along with or instead of internal jump fuel. Since most of the Jump fuel is used up in initiating the Jump, the tanks can be drained and blasted free just as the ship is about to jump, leaving some fuel in the internal tanks to maintain the Jumpfield. Using drop tanks in this manner increases the risk of a Misjump, as the vessel will be jumping in proximity to the discarded tanks. Because of the risk, this method is never used by commercial ships. In the OTU, drop tanks are not available for commercial ships until the 1100s.

**L-Hyd Drop Tanks:** TL15; Cr10,000 + Cr1000 per ton of fuel capacity

## SHIP DEFENSES

While the hull of a small craft or starship is sufficient to protect it from micrometeorites, low-level radiation, and other common hazards of space travel, they are not designed to provide much in the way of defense against

enemy attacks. To provide such defense a ship must install hull armor, electronic screens, or both.

## STANDARD HULL ARMOR

The hull of a ship may be armored and reinforced to withstand greater damage in combat situations. Ships of any configuration except a Dispersed Structure (Hull USP 7) may be armored. If no armor is installed a ship is considered to have a Hull Armor USP rating of 0. Planetoids (Hull USP 8) have an automatic base Hull Armor USP rating of 3, Buffered Planetoids (Hull USP 9) enjoy an automatic based Hull Armor USP rating of 6, and both may be armored additionally from there.

A ship with a manufactured hull may never have an Armor USP rating greater than the Tech Level of the ship itself. Ships based on a planetoid hull have a maximum Armor USP rating of 3 + the Tech Level of the ship, while Buffered Planetoids have a maximum Armor USP rating of 6 + the Tech Level of the ship.

**TL7-9 Armor:** Weight is 4 tons per unit. Base cost is KCr300 plus KCr400 per unit installed.

**TL10-11 Armor:** Weight is 3 tons per unit. Base cost is KCr300 plus KCr300 per unit installed.

**TL12-13 Armor:** Weight is 2 tons per unit. Base cost is KCr300 plus KCr200 per unit installed.

**TL14+ Armor:** Weight is 1 ton per unit. Base cost is KCr300 plus KCr100 per unit installed.

**Armor USP Rating:** Without armor, a ship's Armor USP rating is 0. To achieve the first layer of armor (Armor USP rating of 1), a ship must install twice as many armor units as the armor factor specified for the hull size and TL of the armor. For example a TL12, 200-ton ship with an Armor USP rating of 1 must have installed 8 units of armor.

Once the first layer of armor is installed, the ship need only allocate an amount of space equal to the armor factor specified for the hull size and TL of the armor per +1 improvement in the ship's Armor USP rating. Following our previous example, the same TL12, 200-ton ship could improve its Armor USP rating to a maximum of 12 (limited by its TL) after installing an additional 44 units of armor (for a total of 52 units).

## SCREENS

Ships may deploy various types of defensive screens capable of reducing or eliminating the damage from certain types of attacks. Screens are considered a passive defense system; they are either on or off. When on they function continuously without having to be reactivated each time they need to be used. In combat the USP rating of the screen is used in place of the Armor rating of the ship where appropriate.

**Nuclear Dampers:** Nuclear dampers suppress nuclear explosions, effectively rendering missiles equipped with nuclear warheads useless. Note that nuclear dampers will not

defeat the effects of a distant detonation. Thus a ship with nuclear dampers can still suffer blast damage from a warhead detonating distance away so long as there is a medium (e.g. an atmosphere) to carry the blast effect. Similarly, missiles that detonate at a distance and use nuclear energy to generate laser pulses will still affect the screened ship. A direct hit with a nuclear warhead will not, however.

**Meson Screens:** Meson screens are effective against Meson Gun attacks.

**Force Fields:** Also known as Black Globe Generators, these devices envelop a ship in an energy-absorbing screen capable of absorbing all incoming and outgoing energy, in any form. The energy is captured by the screen and redirected into large capacitors installed on the ship.

A Jump Drive has energy capacitors already built-in and may be used for storing energy redirected by a Black Globe. Additional capacitors are also available and may be purchased and installed as desired. A Jump drive has capacitors equal in size to  $(0.5\% \times \text{Jump USP Rating}) \times \text{Hull Tonnage}$ . So a Jump-3 capable 200-ton ship would have 3 tons of capacitors, while a Jump-3 capable 200,000 ton ship would have 3000 tons in capacitors. Extra capacitors are available for MCr4 per ton. A 1-ton capacitor (in a Jump drive or not) can store up to 36 Energy Points.

Black Globes are not commercially available; they are either recovered artifacts or experimental versions installed on highly classified military ships. While Black Globes are the ultimate in defensive screens, they also are a bit problematical. They stop

## NUCLEAR DAMPERS

Tons	EPs	MCr	TL	USP
50	10	50	12	1
15	20	40	13	2
20	30	45	13	3
8	40	30	14	4
10	50	35	14	5
12	60	38	14	6
10	70	30	15	7
15	80	40	15	8
20	90	50	15	9

**Tons:** The number of tons of space that must be available in the hull to accommodate the subsystem or component.

**EPs:** The power requirements in Energy Points (EPs) to use this component or subsystem.

**MCr:** Cost is listed in Megacredits.

**TL:** The minimum technological level that at which a subsystem or component first becomes available.



## MESON SCREENS

Tons	EPs	MCr	TL	USP
90	0.2	80	12	1
30	0.4	50	13	2
45	0.6	55	13	3
16	0.8	40	14	4
20	1	45	14	5
24	1.2	50	14	6
20	1.4	40	15	7
30	1.6	50	15	8
40	1.8	60	15	9

**Tons:** The number of tons of space that must be available in the hull to accommodate the subsystem or component.

**EPs:** The power requirements in Energy Points (EPs) to use this component or subsystem, for every 100 tons of ship size. For example a 20,000 ton ship with a factor 4 meson screen would require 160 EPs (0.8 x (20,000 / 100)).

**MCr:** Cost is listed in Megacredits.

**TL:** The minimum technological level that at which a subsystem or component first becomes available.

any energy from getting in, but they also stop it from getting out. A ship within a Black Globe is effectively blind, its sensors and communications will fail to penetrate the globe. Weapons fire will be treated just as if they were an enemy attack.

## SHIP WEAPONS

While it is not surprising that a military ship would be armed, even private ships often install weapons for defensive (and sometimes offensive) purposes. Pirates and similar hazards, while not as common as popular vid shows portray, are a threat to starships. Weaponry is thus considered desirable in some areas.

## WEAPON TYPES

The following various types of weapon systems may be installed on small craft and starships:

**Sandcaster:** A sandcaster is not a weapon, but a fairly basic defense system designed to protect the craft that fires it in a defensive envelopment of ceramic particles known as "sand". This sand absorbs laser energy and obscures the target vessel, giving a measure of defense against incoming missiles and energy weapons. Sand fired defensively by a ship will continue at the original course and speed of the ship. If the ship does not accelerate, decelerate, or change course, the ship will stay within the defensive cloud for a time until it drifts apart.

**Missiles:** Missiles are available with two types of war-

## BLACK GLOBE GENERATORS

Tons	EPs	MCr	TL	USP
10	-	400	15	1
15	-	600	15	2
20	-	800	15	3
25	-	1000	15	4
20	-	-	16	5
30	-	-	16	6
35	-	-	16	7
20	-	-	17	8
20	-	-	17	9

**Tons:** The number of tons of space that must be available in the hull to accommodate the subsystem or component.

**EPs:** The power requirements in Energy Points (EPs) to use this component or subsystem.

**MCr:** Cost is listed in Megacredits.

**TL:** The minimum technological level that at which a subsystem or component first becomes available.

heads, a standard high explosive or plasma warhead, and a nuclear warhead. Nuclear missiles also inflict radiation damage against a target.

**Bomb-Pumped Laser Missiles:** In some areas, nuclear-pumped laser warheads are also used. These weapons use a nuclear device to generate energy for a cluster of laser pulses. Since they detonate short of a ship, such weapons are not defeated by nuclear dampers and do no radiation damage. Laser missiles are similar in effect to close-range laser fire. Successful defensive energy weapon fire on the missile will destroy it before detonation, and any other defenses that affect laser fire will work against the laser pulses.

**Mining Laser:** A low-powered beam laser suitable for asteroid mining. A mining laser may be used as a weak offensive or defensive weapon if needed.

**Beam Laser:** A weapons-grade beam laser designed for defensive applications. If need be a beam laser can be used for offense.

**Pulse Laser:** A weapons-grade pulsed laser designed for both offensive and defensive use.

**Plasma Weapon:** A high-energy system suitable for short range offensive power. Fires a stream of superheated plasma.

**Particle Accelerators:** A particle accelerator fires a stream of charged or neutral particles; usually electrons or hydrogen nuclei, at high velocities. These weapons inflict both standard and radiation damage against a target.

**Fusion Weapon:** A further refinement of the plasma weapons, fusion weapons bring the ionized gas to the point fusion before discharging the beam.

**Meson Weapons:** A meson gun generates high-ener-

## SMALL CRAFT AND STARSHIP WEAPON TYPES

Weapon Type	Damage Dice	Threat Range**	Critical Damage	Special Damage (dice)
Missile	d6	18	x1	
Nuclear Missile*	d6	17	x2	Radiation (d12)
Bomb-Pumped Laser Missile***	d10	19	X1	
Mining Laser	d6	20	x1	
Beam Laser	d8	20	x1	
Pulse Laser	d10	19	x2	
Plasma	d12	18	x2	
Particle Accelerator	d12	17	x1	Radiation (d10)
Fusion	d20	16	x5	
Meson	d20	15	x10	Radiation (d12)

\* All missiles do a base 5d6 damage +1d6 per USP factor (not added to Radiation damage)

\*\* If spinal mount, increase Threat Range by 5.

\*\*\* Treat bomb-pumped laser missiles as 1d6 (+1 extra hit per USP Factor) from a pulse laser with no radiation damage.

**Damage Dice:** The number of damage dice to be rolled equals the USP code rating of the attacking weapon system. For example, a USP code 6 Pulse Laser would inflict 6d10 damage against its target if it hits. Major weapons (i.e.: spinal mounts) always roll 16 dice for damage regardless of their actual USP code rating.

**Threat Range:** If the natural attack roll is this value or higher, a critical threat has occurred. A second attack roll should be made using the same modifiers as the original attack roll. If this second roll is also a successful hit, a critical hit is scored.

**Critical Damage:** The extra damage inflicted by a critical hit with this weapon.

**Special Damage:** Any radiation damage that may be inflicted by this weapon, specifying the type of damage dice to use.

gy mesons that can be directed against a target. Mesons have very short lives, but can be manipulated to last for specific durations by accelerating them towards relativistic speeds. In combat, the gunner will determine the necessary duration of the mesons so that the final point of decay is within the hull/chassis/body of the target. Because of their nature, mesons pass through armor, rock, ice, and any other matter without effect. Damage occurs only at the point of decay (i.e. the target).

## SHIP'S ORDNANCE AND STORAGE

While most starship weaponry is energy based, missiles and sandcasters once fired must be reloaded from available stocks. A ship must be sure to provide adequate stores of this ordnance, lest they be caught short at a critical moment in battle!

**Missile Magazine:** A missile magazine is normally installed alongside the turret or bay mounting the weapon system itself, to reduce the distance the ordnance must travel. A magazine can hold up to 20 missiles (standard or

nuclear), and is armored (AR1) in case of accidental detonation of the magazine by enemy fire. A ship may install as many missile magazines as needed and can be fit aboard.

**Sand Canisters:** A standard single reload for a sand-caster system. Sand canisters do not require any protective storage as they are non-explosive.

**Standard Missiles:** A missile equipped with a standard high explosive warhead.

**Nuclear Missiles:** A missile equipped with a nuclear warhead. Nuclear missiles are generally only found on military ships and are illegal for civilians to possess in most jurisdictions.

**Bomb-Pumped Laser Missiles:** Also illegal for civilian use, bomb-pumped laser missiles are preferred by some navies and ignored by others.

## HARDPOINTS

Hardpoints are external weapon fittings that can be installed upon a ship's hull. One hardpoint may be installed per 100 tons not otherwise allocated to large weapon systems (weapon bays and spinal mounts). Vessels smaller

than 100 tons may install a single hardpoint. Hardpoints require no tonnage but cost Cr100,000 for each hardpoint. Hardpoints must be designated when the ship is designed and may not be added after construction is begun.

**Turrets:** One turret (any type) may be installed per available hardpoint on the ship. A turret can be added or replaced at any time to an existing hardpoint. For example, a 100-ton ship with 1 hard point installed and a single laser turret installed on that hard point, could be upgraded to mount a double or triple turret at any time, or the turret could be completely removed if desired.

**Weapon Bays:** Subtract 10 potential hardpoints for every weapon bay (50 or 100 ton) installed. For example, a ship with 20 100-ton weapon bays installed would lose 200 potential hardpoints. One weapon bay, regardless of size, may be installed per 1000 tons of ship. Round all tonnage down to the nearest 1000 tons. For example a 1900 ton ship may install only 1 weapon bay. Weapon bays may not normally be mounted in ships smaller than 1000 tons.

**Major Weapons (Spinal Mounts):** Subtract one potential hardpoint for every 100 tons of major weapons system installed. For example, a ship sporting a 5000 ton spinal mounted meson gun would lose 50 potential hardpoints. Only one Major weapon system may be installed on a ship regardless of the size of the ship.

**HARDPOINTS OPTION:** When determining potentially available hardpoints, subtract the total Major Weapon (Spinal Mount) and Weapon Bay tonnage installed from the total Hull tonnage. Use this new total when calculating hardpoint availability at 1 per 100 tons, and ignore the Major Weapons and Weapons Bays modifiers. Please note however that because this is an optional rule, all published ship designs will not use it. Use of this rule will also greatly affect the suitability of starships previously designed for use with *Classic Traveller*, in T20.

**BAY WEAPON OPTION:** Ships have been designed in previous versions of *Traveller* that squeezed weapon bays into vessels smaller than 1000 tons. Optionally, a single 50-ton bay may be fitted into any ship big enough to carry it. Such a vessel loses half its potential hardpoints. Since vessels of this type have been used in *Traveller* materials in the past, T20 vessels may occasionally be created which use this rule.

## TURRET WEAPONS

Turrets are available in single, double, and triple weapon configurations and may mount lasers (beam or

## STARSHIP AND SMALL CRAFT ORDNANCE

Item	Tons	Cost
Missile Magazine	1	100,000
Sand Canisters	0.05(50kg)	400
Standard Missiles	0.05 (50kg)	5,000
Nuclear Missiles	0.05 (50kg)	50,000
Bomb-Pumped Missile	0.05 (50kg)	75,000

Tons: The number of tons of space that must be available in the hull to accommodate the subsystem or component.

Cost: The cost of the item in Credits.

pulse), energy weapons (plasma or fusion), sand casters, particle accelerators, and missile racks. Ships with 10 or fewer turrets may mix the types of weapons mounted in each turret. Plasma and Fusion guns and Particle Accelerators cannot be mixed with any other weapon in a given turret.

Popup turrets take up considerably more room, as they are designed to remain hidden within the body of the ship until needed, at which time they 'pop out' and go into action. Because of their secretive nature most authorities frown upon them

**Missile Racks and Sandcasters:** These are launchers for that particular type of ordinance, and do not include the ordinance itself. Missiles and Sand Canisters must be purchased separately. Each Missile Rack or Sandcaster can hold up to 3 shots in internal magazines.

## BARBETTES

Barbettes are really little more than an extra-large turret. One barbette may be installed per available hardpoint. Barbettes may only mount particle accelerators.

## TURRET TYPES

Type	Cost	Notes
Single	0.5	-
Double	0.75	-
Triple	1	-
Popup	x5	Double the size requirements for installed weaponry.

**Cost:** The cost of the turret in Megacredits (MCr).



## AVAILABLE TURRET WEAPONS

Installed Weapons	Tons	EPs	MCR	Min	+1 TL	+2 TL	USP = # Required Installed									Range
				TL	Mod	Mod	1	2	3	4	5	6	7	8	9	
Missile Rack	1	0	0.75	7	13+	-	1	3	6	12	18	30	-	-	-	90,000km
Mining Laser	1	0.5	0.5	7	13+	-	1	4	8	-	-	-	-	-	-	15,000km
Beam Laser	1	1	1	7	13+	-	1	2	3	6	10	15	21	30	-	30,000km
Pulse Laser	1	1	0.5	7	13+	-	1	3	6	10	21	30	-	-	-	45,000km
Plasma Gun	2	1	1.5	10	11+	12+	1	4	10	16	20	-	-	-	-	4500km
Fusion Gun	2	2	2	12	14+	-	-	-	1	4	10	16	20	-	-	4500km
Sandcaster	1	0	0.25	7	8+	10+	1	3	6	8	10	20	30	-	-	-
Particle Accelerator	3	5	3	15	-	-	-	1	2	4	6	8	10	-	-	30,000km

**Tons:** The tonnage of the turret based on the type of weaponry it contains, regardless of the actual number of weapons mounted in it. Particle accelerators may only be singly mounted (i.e. one weapon in a turret). Plasma and Fusion guns may be installed in single or dual mounts.

**EPs:** The Energy Point requirement for each weapon mounted on the ship of that type.

**Min TL:** The minimum tech level at which this type of weapon may be installed.

**+1 TL Mod:** If all installed weapons of this type are at the TL indicated or higher, the USP rating for those weapons is increased by 1.

**+2 TL Mod:** If all installed weapons of this type are at the TL indicated or higher, the USP rating for those weapons is increased by 2. This modifier is not cumulative with the +1 TL Mod.

**USP = # Required Installed:** The number of weapons that must be installed in a battery, or turret, to achieve the desired USP rating (1-9).

**Range:** The range at which this weapon may engage a target without penalty.

## BARBETTES

Installed Weapons	Tons	EPs	MCR	Min	+1 TL	+2 TL	USP = # Required Installed									Range
				TL	Mod	Mod	1	2	3	4	5	6	7	8	9	
PA Barbette	5	5	4	14	-	-	1	2	4	6	8	10	-	-	-	30,000km

**Tons:** The tonnage of the barbette.

**EPs:** The Energy Point requirement for each weapon mounted on the ship of that type.

**Min TL:** The minimum tech level at which this type of weapon may be installed.

**+1 TL Mod:** If all installed weapons of this type are at the TL indicated or higher, the USP rating for those weapons is increased by 1.

**+2 TL Mod:** If all installed weapons of this type are at the TL indicated or higher, the USP rating for those weapons is increased by 2. This modifier is not cumulative with the +1 TL Mod.

**USP = # Required Installed:** Show the number of weapons that must be installed in a battery to achieve the desired USP rating (1-9).

**Range:** The range at which this weapon may engage a target without penalty.

## BAY WEAPONS

Weapon bays are large areas near the skin of a ship's hull that mount large weapon systems. These weapon systems can be easily installed and removed as need arises. Bays must be built into the ship during initial construction and may not be added once a ship has already been built, though a ship can be built with empty bays and fitted-out later. Bays are available in 100 and 50 ton versions. The cost of the bay itself is included in the listings for bay weapons. Only one bay (regardless of size) may be installed per 1000 tons of ship size.

## SPINAL MOUNTS

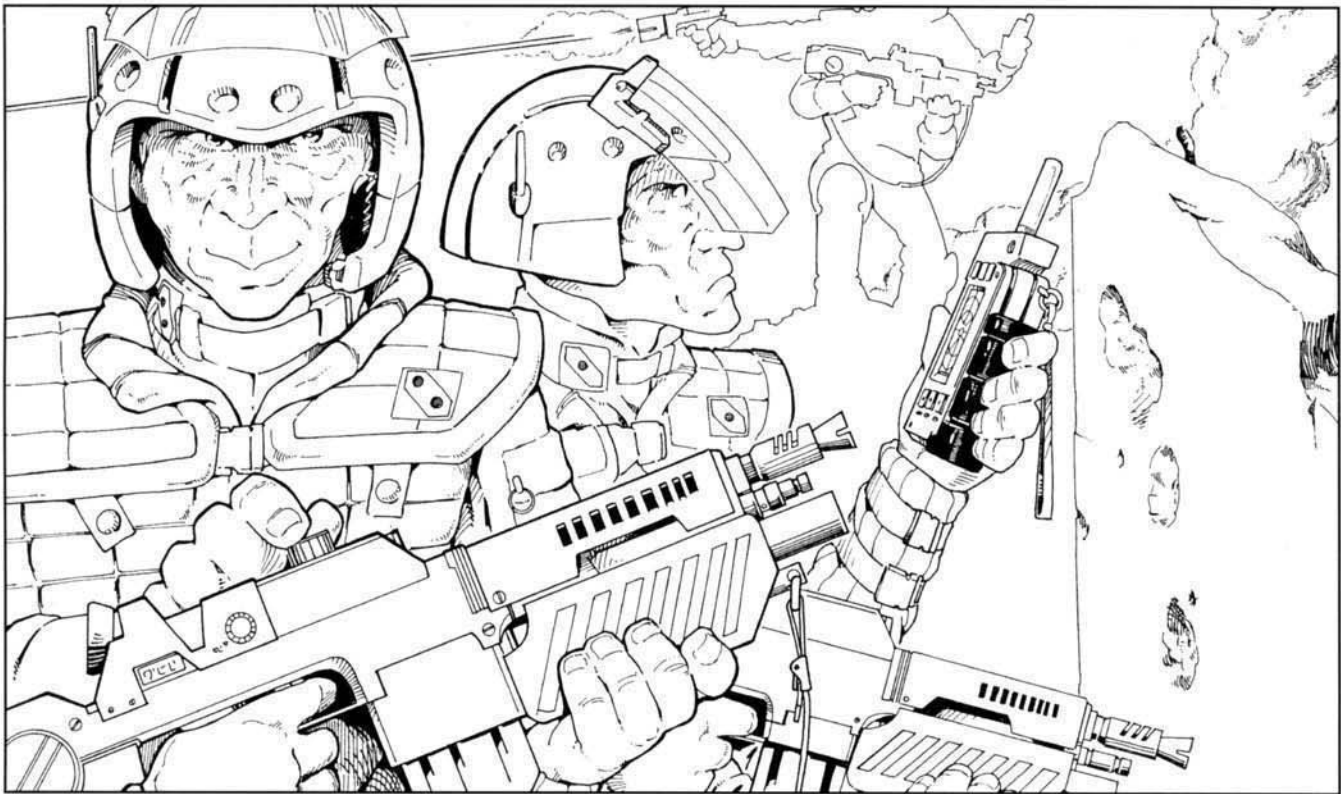
Spinal mounts are the heaviest weapon available to a starship, and run along the length of a vessel's structure (hence the name). They may only be installed on ships

larger than 1,000 tons in size. Spinal weapons may either be a particle accelerator or a meson gun. Because they form the spine of the ship, upon which everything else is built, only a single spinal mounted weapon may be installed.

If a particle accelerator is selected as the spinal mount, then particle accelerator weapons may not be installed in other bays, barbettes, and turrets. Similarly, if a meson gun is selected, then meson guns may not be installed in other bays, barbettes, and turrets.

## SHIP'S VEHICLES

Any vehicle, small craft (1-99 tons), or large craft (100+ tons) that is permanently carried aboard another ship and available for use by the crew of the ship is classified as a ship's vehicle.



### BAY WEAPONS

USP/Attack Bonus by Tech Level

	Tons	EPs	MCR	7	8	9	10	11	12	13	14	15	Range
<b>100 Ton Bay</b>	100	-	1										
Meson Gun	-	200	70	-	-	-	-	-	-	3	5	9	45,000km
Particle Accelerator	-	60	35	-	6	6	7	7	8	8	9	9	60,000km
Repulsor	-	10	10	-	-	-	2	4	6	7	8	9	-
Missile	-	0	20	7	7	7	8	8	9	9	9	9	90,000km
Nuclear Missile	-	0	20	7	7	7	8	8	9	9	9	9	90,000km
<b>50 Ton Bay</b>	50	-	0.5										
Meson Gun	-	100	50	-	-	-	-	-	-	-	-	4	30,000km
Particle Accelerator	-	30	20	-	-	-	3	3	4	4	5	5	45,000km
Repulsor	-	5	6	-	-	-	-	-	-	-	3	5	-
Missile	-	0	12	-	-	-	7	7	8	8	9	9	90,000km
Nuclear Missile	-	0	12	-	-	-	7	7	8	8	9	9	90,000km
Plasma Gun	-	10	5	-	-	-	4	5	6	6	6	6	15,000km
Fusion Gun	-	20	8	-	-	-	-	-	7	8	9	9	15,000km

**Tons:** The amount of free tonnage that must be available in the hull in order to accommodate this weapon.

**EPs:** The number of energy points required to maintain and fire this weapon.

**MCR:** The cost of the weapon in Megacredits.

**TL:** The minimum technological level at which this weapon is available.

**USP:** The combat rating of this weapon based on its technological level.

**Range:** The range at which this weapon may effectively engage a target without penalty.

## PARTICLE ACCELERATOR SPINAL MOUNT

Tons	EPs	MCr	Damage	TL	USP	Range
5500	500	3500	16d12	8	10	105,000km
5000	500	3000	16d12	9	11	105,000km
4500	500	2400	16d12	10	12	105,000km
4000	600	1500	16d12	11	13	105,000km
3500	600	1200	16d12	12	14	105,000km
3000	600	1200	16d12	13	15	105,000km
2500	700	800	16d12	14	16	105,000km
2500	700	500	16d12	15	17	105,000km
5000	800	3000	16d12	10	18	105,000km
4500	800	2000	16d12	11	19	105,000km
4000	800	1600	16d12	12	20	105,000km
3500	900	1200	16d12	13	21	105,000km
3000	900	1000	16d12	14	22	105,000km
2500	900	800	16d12	15	23	105,000km
4500	1000	2000	16d12	12	24	105,000km
4000	1000	1500	16d12	13	25	105,000km
3500	1000	1200	16d12	14	26	105,000km
3000	1000	1000	16d12	15	27	105,000km

**Tons:** The amount of free tonnage that must be available in the hull in order to accommodate this weapon.

**EPs:** The number of energy points required to maintain and fire this weapon.

**MCr:** The cost of the weapon in Megacredits.

**Damage:** The damage the weapon will inflict if it hits a target.

**TL:** The minimum technological level at which this weapon is available.

**USP:** The combat rating of this weapon

**Range:** The range at which this weapon may engage a target without penalty.

## COMPONENTS \*

Accommodations for the storage, launch, recovery, and maintenance of ship's vehicles must be provided.

**Vehicle Hanger:** Vehicles carried aboard a starship or small craft must allocate storage space equal to the size of the vehicle (in tons).

**Small Craft Hanger:** A starship may carry other small craft (craft under 100-tons) within their hulls as long as a Small Craft Hanger has been made available for it. If the ship carrying the small craft displaces 1000 tons or less, the small craft hanger must be at least as large (100%) as the small craft (in tons) it is meant to house.

If the mothership is larger than 1000 tons in size, the small craft hanger must allocate an amount of space equal to 130% of the size of a smaller ship that will be housed within. For example, to store a 40-ton Pinnacle aboard a starship, a small craft hanger of 52 tons or larger must be provided.

**Large Craft Hanger:** A starship may carry other smaller starships (craft over 100-tons) within their hulls as long

as a Large Craft Hanger has been made available for it. The large craft hanger must allocate an amount of space equal to 110% of the size of smaller ship that will be housed within. For example, to store a 100-ton Scout/Courier aboard a larger starship, a large craft hanger of 110 tons or larger must be provided.

**Maintenance Shop:** 1 shop can accommodate up to 20 mechanics. Maintenance shops are not required, but add +2 to any attempt at repairing a vehicle or small craft. A vehicle shop requires 10 tons of space and has a cost of MCr2.

**External Docking Mount:** To conserve interior deck space, it is possible to mount a small or large craft on the outside of another ship. Rather than taking up space from the hull, whenever a craft is docked to the ship the size of the craft is added to the hull size of the ship for purposes of determining acceleration, jump capability, fuel use, etc. An external docking mount does require a small amount of interior space from the mothership's hull. This is equal to 30% of the size of the craft to be docked. For example, to



**MESON GUN SPINAL MOUNT**

<i>Tons</i>	<i>EPs</i>	<i>MCr</i>	<i>Damage</i>	<i>TL</i>	<i>USP</i>	<i>Range</i>
5000	500	10,000	16d20	11	10	75,000km
8000	600	12,000	16d20	11	11	75,000km
2000	600	3000	16d20	12	12	75,000km
5000	700	5000	16d20	12	13	75,000km
1000	700	800	16d20	13	14	75,000km
2000	800	1000	16d20	13	15	75,000km
1000	800	400	16d20	14	16	75,000km
2000	900	600	16d20	14	17	75,000km
1000	900	400	16d20	15	18	75,000km
8000	1000	10,000	16d20	12	19	75,000km
5000	1000	3000	16d20	13	20	75,000km
4000	1000	800	16d20	14	21	75,000km
2000	1000	600	16d20	15	22	75,000km
8000	1100	5000	16d20	13	23	75,000km
7000	1100	1000	16d20	14	24	75,000km
5000	1100	800	16d20	15	25	75,000km
8000	1200	2000	16d20	14	26	75,000km
7000	1200	1000	16d20	15	27	75,000km

**Tons:** The amount of free tonnage that must be available in the hull in order to accommodate this weapon.

**EPs:** The number of energy points required to maintain and fire this weapon.

**MCr:** The cost of the weapon in Megacredits.

**Damage:** The damage the weapon will inflict if it hits a target.

**TL:** The minimum technological level at which this weapon is available.

**USP:** The combat rating of this weapon

**Range:** The range at which this weapon may engage a target without penalty.

install an external docking mount capable of carrying a 40-ton small craft would require 12 tons of hull space in the mothership.

An external docking mount will reduce the streamlining of a small craft or starship by one factor (i.e. streamlined to partially streamlined, etc). This streamlining penalty can be avoided by doubling the cost of the mount to reflect the extra care and expense of working the mount directly into the streamlining of the mothership itself.

**Launch Facilities:** Any ship with at least one large or small craft hanger is also considered to have a launch facility from which one craft (of any size) may be launched or recovered per turn. There is no cost or size requirement for this facility, but only one is available per 10,000 tons in size of the mothership. For example, a 20,000-ton starship can have up to two separate launch facilities available and could launch or recover up to two large or small craft per turn.

**Launch Tubes:** Rapid launch facilities typically used for the fast launching and recovery of fighters and other

military craft. A launch tube must allocate at least 25 times the tonnage of the largest craft that will use the facility. For example, to install a launch tube capable of launching and recovering craft up to 40 tons in size, the launch tube itself must be 1000 tons in size.

**CREW REQUIREMENTS**

The size of the crew and the positions required to be filled aboard a vessel depend on its size.

**SMALL CRAFT**

Small craft are 1-99 ton, non-jump capable ships. A small craft only requires 1 crewmember, the pilot. One or more gunners may be added as crew members as needed. If a bridge is installed on the craft, space and accommodations are automatically provided for 2 crew members.

**STANDARD VESSELS**

A standard vessel is any ship of 100 to 1000 tons in size, jump capable or not, and requires the following crew

## SHIP'S VEHICLES, COMPONENTS

Component	Size	Cost
Vehicle Hanger	-	-
Small Craft Hanger	100%/130%	2,000 per ton
Large Craft Hanger	110%	2,000 per ton
Maintenance Shop	10 tons	2,000,000 each
External Docking Mount	30%	4,000 per ton
Launch Facilities	-	-
Launch Tubes	x25	2000 per ton

**Size:** The size, in tons that must be allocated to accommodate this component. See the descriptions for Hangers, Docking Mounts, and Launch Tubes.

**Cost:** The cost of the component in Credits per given amount.

for proper, safe operation.

**Pilot:** All ships require at least one pilot. This is a command position.

**Astrogator:** 1 Astrogator is needed aboard any vessel that uses Jump drive. Astrogator is a required crew position on a vessel of 201 tons or larger. Ships of 200 tons and smaller can allow the computer to handle the task (utilizing pre-plotted Jump coordinates), or the Pilot may handle it if he or she has any T/Astrogation skill rank. Astrogator is a command position.

**Engineer:** 1 Engineer is required per 35 tons of Jump Drive, Maneuver Drive, and Power Plant installed. A ship with fewer than 35 tons of drives installed does not require an engineer.

**Steward:** 1 Steward is required per 8 high passengers, or 50 middle passengers (or non-command crew). A steward is required even if there is only 1 high passenger aboard, but if there are none then a Steward is not required if there are less than 50 middle passengers or non-command crew on board.

**Medic:** 1 Medic is required per ship of 200 tons or more. An additional medic is required for every 120 passengers and crew in excess of 120.

**Gunner:** As required.

## CAPITAL VESSELS

Any vessel displacing over 1000 tons is considered a Capital vessel. Because of their large size, these types of ships typically require a much larger crew for safe and efficient operation making them costly to run. Most ships of this size will be owned by militaries or very large corporations, and crewed by their personnel.

**Command Officers:** A capital vessel requires the following command personnel to oversee the rest of the crew's operation:

**Captain** (Commanding Officer): 1 per ship

**Executive or First Officer:** 1 per ship

**Helm Officer:** 2 per ship. Requires Pilot skill and the Vessel/Starship feat.

**Astrogation Officer:** 2 per ship Requires T/Astrogation skill

**Medical Officer:** 1 per ship. Requires T/Medical skill.

**Flight Officer:** 1 per ship if the ship carries extra crew for any small craft on board. Requires Pilot skill

**Gunnery Officer:** 1 per ship. Requires Gunnery skill.

**Communications Officer:** 1 per ship. Requires T/Communications skill.

**Engineering Officer:** 2 per ship. Requires T/Engineering skill.

**Command Crew:** There should be 1 support personnel/ratings for every 2 command officers. On ships of 20,000 tons or larger this number should be increased to 5 support personnel/ratings for every 10,000 tons of ship.

## AVAILABLE SMALL CRAFT

The small craft listed here are presented in detail starting on pg. 311.

### SHIP'S VEHICLES, SMALL CRAFT

Small Craft	Tons	MCr	Speed	Crew	Cargo
Launch	20	9.842	1-G	2	9.5
Ship's Boat	30	30.362	6-G	2	3.2
Pinnacle	40	45.522	5-G	2	5.1
Cutter	50	51.422	4-G	2	1.4(+30)
Fuel Module	30	1			
ATV Module	30	1.8			
Open Module	30	2			
Slow Boat	30	25.682	3-G	2	8.4
Slow Pinnacle	40	26.722	2-G	2	16.8
Shuttle	95	54.42	3-G	2	44.6
Fighter	10	27.3	6-G	1	2.2

**Medical Crew:** 1 additional medic is required to support the ship's Medical officer for every 250 crew members or middle passengers, and every 120 high passengers on board.

**Engineering Crew:** There should be 1 engineering petty officers for every 100 tons of Jump Drive, Maneuver Drive, and Power Plant tonnage (combined) installed over 200 tons.

**Gunnery Crew:** Each Defensive Screen device (Force Field, Nuclear Damper, Meson Screen) installed requires 4 crew to operate. Weapon Bays require 2 crew each for normal operation. Turrets require a crew of 1 per battery (regardless of size. Major weapons (Spinal Mounts) require a crew of 1 per 100 tons of major weapon installed. There should also be at least one petty officer overseeing each battery, screen, or major weapon installation.

**Flight Crew:** In addition to the crew for each craft carried onboard the ship, there should be at least 1 mechanic per craft. Each Launch Tube installed requires an additional 10 crew members to oversee launch and recovery operations. If there are more than 3 vehicles (ATVs, air/rafts, etc.) carried aboard the ship, the flight crew will include the crews for each vehicle, along with an additional 1 mechanic per 3 vehicles.

**Service Crew:** These are the ratings that handle the mundane day to day operations of the ships to keep it running such as maintenance, supply, security, food services, and other essential but less than noteworthy functions. You should allow for 3 service crew per 1000 tons of ship. Thus a 20,000 ton ship would require 60 service crew. On ships with a complement of Ship's Troops (see below), this can be reduced to only 2 service crew per 1000 tons of ship.

**Ship's Troops:** Most military ships over 1,000 tons have a marine (or military) contingent on board acting as security and available for ship's defense and boarding actions. Depending on the actual role and function of the ship, the actual number of Ship's Troops aboard will range from 3 per 100 tons of ship, all the way to 3 per 1000 tons of ship.

## ACCOMMODATIONS AND FITTINGS

Accommodations and provisions must be made for any crew or passengers in the form of sleeping accommodations, privacy, personal hygiene, medical care, and other needs.

**Stateroom:** While a stateroom typically houses a single passenger, they can be equipped to accommodate up to 2 passengers (at a discounted rate), or 2 crew members. Staterooms actually average 2.5 tons, with the addi-

### AVAILABLE VEHICLES

The vehicles listed here are presented in detail starting on pg. 284.

#### SHIP'S VEHICLES, VEHICLES

Vehicle	Tons	Cost	Notes
Ground Car	2	5400	TL 5+
ATV (Wheeled)	8	48,840	TL 12+
ATV (Tracked)	8	47,240	TL 12+
Hovercraft	6	143,600	TL 7+
Air/Raft	5	273,200	TL 8+
Speeder	6	MCr3.974	TL 8+
G-Carrier	8	502,880	TL 8+

tional tonnage being used for life-support (1/2 ton), corridors, access ways, the galley, and recreation areas. The Captain of a ship is always allowed to have a private stateroom. Other command crew and officers are also usually given their own staterooms. When necessary, a stateroom may be used to hot-bunk 4 crew members or non-commercial passengers, but this only allows each access for half a day. A stateroom requires 4 tons of space and cost Cr500,000.

**Small Cabin:** Can accommodate 1 middle passenger or crew member. Like the stateroom, a small cabin is actually only about 1 ton, with the additional tonnage used elsewhere as corridors, etc. When necessary, a small cabin may be used to accommodate 2 crew members or non-commercial passengers, but this only allows each access for half a day. A small cabin requires 2 tons of space and cost Cr250,000.

**Low Berth:** Travel via cryogenic suspension capsule. Can accommodate 1 low passenger. Travel via Low Berth is not entirely without risk (see Low Passage pg. 343). A low berth requires 0.5 tons of space and cost Cr50,000.

**Emergency Low Berth:** Similar to a standard low berth, but capable of accommodating up to 4 people. The chance of survival is the same as in a normal Low Berth, except that only one saving roll is made for all passengers within. They each apply their Fortitude saving throw modifiers for their character, but they share the same single 1d20 roll. An emergency low berth requires 1 ton of space and has a cost of Cr100,000.

**Small Craft Couch:** Provides acceleration protection and life-support for a single passenger or crew member. These accommodations are not designed for prolonged use (over 24 hours). A small craft couch requires 0.5 tons



of space and has a cost of Cr25,000.

**Engineering Shop:** 1 shop can accommodate up to 20 engineers. Engineering shops are not required, but add +2 to any Technical: Engineering, Mechanical, Electronic, or Gravitic repairs attempted. An engineering shop requires 6 tons of space and has a cost of MCr1.

**Laboratory:** A single laboratory can accommodate up to 2 scientists. Labs are not required, but add +2 to any Research conducted within. A lab requires 8 tons of space and has a cost of MCr5.

**Sickbay:** A sickbay can handle up to 2 patients at a time. While not required, a sickbay adds +2 to any T/Medical skill checks made while treating patients within. An installed sickbay requires 8 tons of space and has a cost of MCr5.

**AutoDoc:** A small self-contained diagnostic, robotic medical system about the size of a Low Berth chamber or large coffin. See Medical Technology (pg. 217). An autodoc requires 2 tons of space and has a cost of MCr10.

**Airlock:** At least one airlock is required in any small craft or starship, and more than one is usually installed allowing for passengers to embark and disembark from one location while not having to avoid cargo being loaded or unloaded through the cargo airlock. One airlock is provided on every hull built at no additional charge, but takes up the normal 3 tons of space within the hull itself. Any airlocks beyond this first must be bought and installed separately.

**Fresher:** A personal hygiene cubical providing basic facilities for cleansing and the relief of bodily waste. Freshers are already provided for in a stateroom, but at least 1 is required for every 10 passengers or crew traveling in lesser accommodations (except low berth).

**Cargo Space:** Cargo space is basically any remaining tonnage on a ship not used by another subsystem, component, fuel tank, etc. To designate such areas as 'cargo space' costs nothing.

## FINALIZING DESIGNS AND CONSTRUCTION

### BATTERIES

Ships with more than one turret containing the same number and type of weapon installed may group them into batteries. Ships with more than ten turrets of the same type must group them into batteries. A battery may contain

## STARSHIP/SMALL CRAFT ACCOMMODATIONS AND FITTINGS

Accommodation	Tons	Cost
Stateroom	4	500,000
Small Cabin	2	250,000
Low Berth	0.5	50,000
Emergency Low Berth	1	100,000
Small Craft Couch	0.5	25,000
Engineering Shop	6	1,000,000
Vehicle Shop	10	2,000,000
Laboratory	8	5,000,000
Sickbay	8	5,000,000
Autodoc	2	10,000,000
Airlock	3	5000
Fresher	0.5	2000
Cargo Space	Any	None

**Tons:** The number of tons of space that must be available in the hull to accommodate the subsystem or component.

**Cost:** The cost of the item in Credits.

as few as one and as many as ten turrets. A mixed turret (i.e.: two or more different weapons installed in the same turret) may not be grouped into a battery, and each weapon in the turret is considered a single battery unto itself. Each battery may fire once per round.

For example, a ship has eighty triple beam lasers turrets. They may be grouped into 80 batteries of one turret (attack bonus of +3), 40 batteries of two turrets (attack bonus of +4), 16 batteries of five turrets (attack bonus of +6), or 8 batteries of ten turrets (attack factor of +8). Other configurations are possible, but these constitute the optimal configurations based on the Turret Weapons table.

### BLUEPRINTS

If the ship to be built is a new design that has never been constructed before, a Naval Architect is needed to take the requirements and produce a workable design and blueprints to build from. These blueprints will cost 1% of the final price of the ship, and take four weeks to draw. The plans can be hurried, reducing the time required to draw them to only two weeks, but this will raise the architect's fee to 1.5%. A qualified Naval Architect is anyone with the Naval Architect feat (see pg. 107 for more information).

### SHIPYARDS

Shipyards capable of constructing starships (ships with

a jump drive) are available at most worlds with a Class A starport. Spaceships (ships without a jump drive) may be built at the shipyards found at most Class A and Class B starports.

## PAYING FOR IT ALL

Most ship purchases are typically financed rather than paid in full at the time of delivery, though such arrangements can be made for a 10% cash discount.

## USED SHIPS

Given the cost of most new ships, a used ship may be a bit more affordable (though probably not much...) than a new one. A used version of a ship will usually be for sale at a price roughly equal to 90% of the original price minus an additional 10% per 10 years of age (or fraction thereof).

## FINANCING

As long as the person attempting to finance the purchase has no (accessible) criminal history and appears of good reputation, a loan for a new or used ship can usually be secured with a 20% down payment and the ship itself as collateral. A ship loan will be for a period of 40 years, with a monthly payment equal to 1/240th of the total price of the ship. If paid out regularly over the entire 40-year loan period, the eventual total cost paid for a ship will be 220% of its original price.

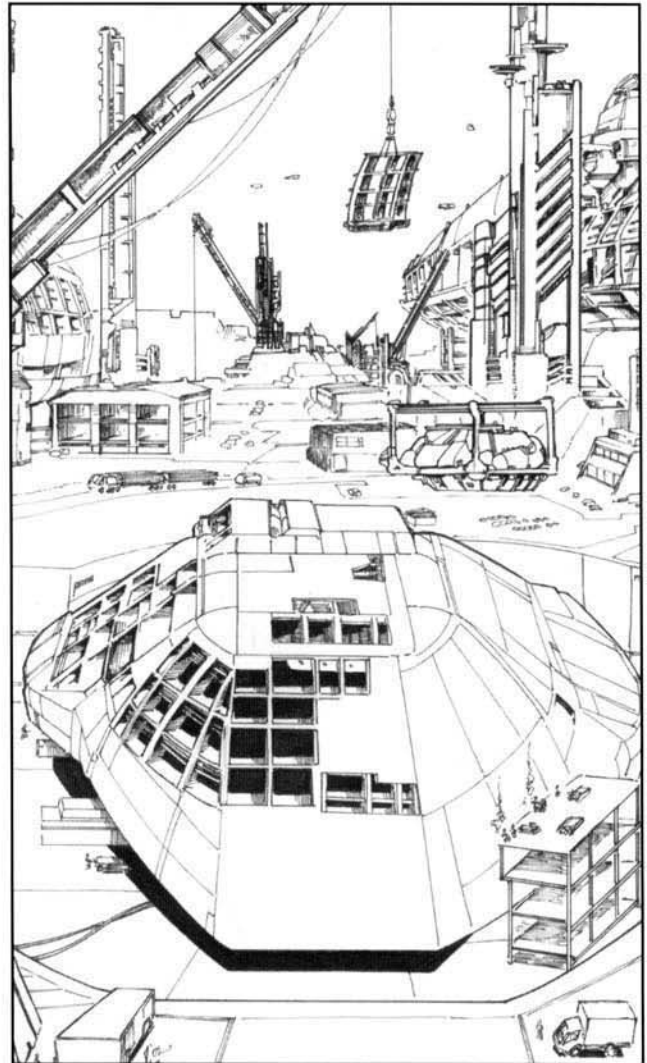
**Taking Over a Payment:** A payment (and thus ownership and title) may be taken over by a new party, but the lending agency will usually require two conditions. Any payments that are currently behind must be paid to date, and twelve additional payments (1 years worth) are required at the time of the transfer to show the good faith of the new owner.

**Late Payments and 'Skips':** Late payments are fined a 10% penalty per month late. If a payment is more than 12 months late, the lending agency will usually report the ship and owner as 'skipped' and turn the account over to a bounty-hunting agency for collection.

**Depreciation:** The value of a newly constructed ship decreases by 10% immediately upon purchase. If properly maintained (routine or annual maintenance), the value of the ship will decrease at a rate of 1% for every two years of age. Without proper maintenance this rate of depreciation rises to 1% for every year of age.

## CREATING DECKPLANS

Deckplans for a ship can easily be drawn out on square grid graph paper, at a scale of 1.5 meters per square. This assumes 1.5 meters per side with a clearance (height) of 3 meters. One ton of displacement on a ship is based on the weight of Hydrogen (not water), and is equal to approximately 14 cubic meters. One 'map square' (1.5



meters x 1.5 meters x 3 meters) is approximately 6.75 cubic meters, thus two map squares equals one ton on a ship.

By using this scale, ship components and compartments can be drawn in relative detail on the deckplans using their listed tonnage. By counting the squares on a deckplan that have already been mapped in, the accuracy of the plans can be checked. Ideally, this should total no more than twice the hull tonnage of the ship when all squares have been counted. If the final count comes within 20% of the specified hull tonnage x 2, then they should be considered acceptable.

Remember that when allocating space for staterooms and cabins, only a portion of the listed tonnage is actually used for the stateroom itself. The remainder is used for common areas, corridors, galleys, and other accommodations for the crew and passengers.

# STANDARD DESIGNS

13

This chapter contains examples of standard computers, vehicles and spacecraft in use throughout the *Traveller* universe.

## VEHICLE DATA BLOCK

Every vehicle uses the following data block for easy reference to commonly used information during play. They have been designed to fit well on a standard 3"x5" index card. The information presented in the leftmost column is that which will be most used during normal operation of travel, trade, and commerce. The information in the middle column is the data that will be most needed when the vessel is engaged in combat. The rightmost column is used to detail the vehicle's offensive weapon systems. At the bottom of each block will be a listing of any other equipment or supplies installed or stored aboard the vessel, that have not already been detailed.

Class:	EP Output:	
Cost:	Agility:	
Tech Level:	Initiative:	
Size:	AC:	
Streamlining:	AR:	
Pressurized?	SI:	
Climate Control?	Visual:	
Drive Train:	Crew:	
Passengers:	Sensors:	
Cargo Space:	Fuel:	
Range:	Comm.:	
Speeds:		
Acceleration =		
Offroad =	Very Slow =      Slow =	
Cruising =	Fast =      Maximum =	
Other Equipment:		

TAS Form 3.1v (Condensed)

Vehicle Data (Commercial)

## STARSHIP AND SPACECRAFT DATA BLOCK

Every starship and spacecraft uses the following data block for easy reference to commonly used information during play. They have been designed to fit well on a standard 3"x5" index card. The information presented in the leftmost column is that which will be most used during normal operation of travel, trade, and commerce. The information in the middle column is the data that will be most needed when the vessel is engaged in combat. The rightmost column is used to detail the ship's offensive weapon systems. At the bottom of each block will be a listing of any other equipment or supplies installed or stored aboard the vessel, that have not already been detailed.

Class:	EP Output:	
Tech Level:	Agility:	
Size:	Initiative:	
Streamlining:	AC:	
Jump Range:	Repulsors:	
Acceleration:	Nuclear Dampers:	
Fuel:	Meson Screens:	
Duration:	Black Globes:	
Crew:	AR:	
Staterooms:	SI:	
Small Cabins:	Main Computer:	
Bunks:	Sensor Range:	
Couches:	Comm. Range:	
Low Berths:		
Cargo Space:	Cost:	
Atmospheric Speeds:	NoE =	
Cruising =	Maximum =	
Other Equipment:		

TAS Form 3.1 (Condensed)

Ship's Data (Commercial)



## STANDARD COMPUTERS

### HAND COMPUTER

0.135vl. A small hand-held computer system, complete with miniature keyboard and view screen. While technically these types of computers can be built at any TL, the effective computer power of a hand computer before TL9 is negligible. Even at this point they are little more than glorified address books with limited computing capability. It is not until about TL11 that the true hand computer becomes a standard part of most societies and capable of any real processing power.

Type	TL	Units	Cost	Volume	EP	CPU	Model	INT	PP
Parallel	9	x0.25	50	0.135	0.003	2.5	B1	0	2/1
Synaptic	11	x0.5	75	0.135	0.006	5	B2	0	3/2
Adv. Synaptic	13	x1	100	0.135	0.009	10	B3	0	4/2
Positronic	16	x10	1000	0.135	0.009	25	B4	0	5/3

### PORTABLE COMPUTER

1.35vl. A lightweight portable computer, complete with a full sized keyboard and small view screen. Until about TL 8 or 9, these small computers are found only in use among high ranking businessmen, executives, and government officials, but they soon become fairly commonplace with the general population. Portable computers (Portacomps) start to be replaced by the hand computer at TL11.

Type	TL	Units	Cost	Volume	EP	CPU	Model	INT	PP
Linear	7	x1	250	1.35	0.09	2	B1	0	2/1
Parallel	9	x2.5	500	1.35	0.03	25	B4	0	5/3
Synaptic	11	x5	750	1.35	0.06	50	B7	1	8/4
Adv. Synaptic	13	x10	1000	1.35	0.09	100	B9	1	10/5
Positronic	16	x100	10,000	1.35	0.09	250	A2	2	13/7

### STANDARD DESKTOP COMPUTER

13.5vl. The desktop computer can be found at most TL and is never really replaced due to its reasonable power to size ratio when compared to other types of computers.

Type	TL	Units	Cost	Volume	EP	CPU	Model	INT	PP
Linear	7	x10	2500	13.5	0.9	20	B4	0	5/3
Parallel	9	x25	5000	13.5	0.3	250	A2	2	13/7
Synaptic	11	x50	7500	13.5	0.6	500	A7	3	18/9
Adv. Synaptic	13	x100	10,000	13.5	0.9	1000	M1	4	28/11
Positronic	16	x1000	100,000	13.5	0.9	2500	M1	4	28/11

### MINIFRAME COMPUTER

135vl. Miniframes are typically found powering the computer networks for businesses, manufacturing plants, research facilities, and other locations where massive computing power is required, and size is not a major issue.

Type	TL	Units	Cost	Volume	EP	CPU	Model	INT	PP
Electromechanical	5	x10	10,000	135	9	10	B3	0	4/2
Linear	7	x100	25,000	135	9	200	A1	2	12/6
Parallel	9	x250	50,000	135	3	2500	M1	4	28/11
Synaptic	11	x500	75,000	135	6	5000	M2	4	35/12
Adv. Synaptic	13	x1000	100,000	135	9	10,000	M4	5	49/13
Positronic	16	x10,000	1,000,000	135	9	25,000	M6	6	65/14

**SHIP'S COMPUTER**

Varies. The computers below are built using advanced synaptic components, but do not reflect the costs of the additional software and interfaces needed for the computer to be used on board a starship. Such fittings increase the cost listed below by x10. Divide the EP requirements by 10 when installing on a starship.

Type	TL	Units	Cost	Volume	EP	CPU	Model	INT	PP
Model/1	5	x1000	100,000	135	9	2500 (x4)	M1	4	28/11
Model/2	7	x2000	200,000	270	18	5000 (x4)	M2	4	35/12
Model/3	9	x3000	300,000	405	27	7500 (x4)	M3	5	42/12
Model/4	10	x4000	400,000	540	36	10,000 (x4)	M4	7	49/13
Model/5	11	x5000	500,000	675	45	12,500 (x4)	M4	7	49/13
Model/6	12	x6000	600,000	810	54	15,000 (x4)	M5	6	57/13
Model/7	13	x7000	700,000	945	63	17,500 (x4)	M5	6	57/13
Model/8	14	x8000	800,000	1080	72	20,000 (x4)	M5	6	57/13
Model/9	15	x9000	900,000	1215	81	22,500 (x4)	M6	6	65/14

**AUTOPILOT COMPUTER**

(Hardwired) A basic computer system capable of operating a single vehicle or vessel type safely, and with access to limited emergency maneuvers intended to bring the vehicle back under control rather than undertaking automated combat maneuvers. Software is hardwired; the computer cannot be transferred to a different type of vehicle.

Type	TL	Units	Cost	Volume	EP	CPU	Model	INT	PP
Linear	7	x112.5	28,125	151.87	10.12	300	A3	2	14/7
Parallel	9	x22.5	4500	12.15	0.27	300	A3	2	14/7
Synaptic	11	x22.5	3375	6.07	0.27	300	A3	2	14/7
Adv. Synaptic	13	x22.5	2250	3.04	0.202	300	A3	2	14/7
Positronic	16	x90	9,000	1.21	0.081	300	A3	2	14/7

Software	PP Cap	Cost	INT Mod	Ability Mod.	Total Skill Mod.
*Low Basic Logic	2	1000	+0	-	-
*Limited Verbal Interface	2	500	+0	-	-
Driving	5	5000	-	-4 (Int)	+1
Navigation	5	5000	-	-5 (Edu)	+0
Totals	14	11,500	+0	-	-

\*always operating

**TARGETING COMPUTER**

(Hardwired). A basic fire control computer capable of controlling missiles and other weapon systems. Programs are hardwired and cannot be upgraded.

Type	TL	Units	Cost	Volume	EP	CPU	Model	INT	PP
Linear	7	x168.75	42,187	227.81	15.19	450	A6	3	17/9
Parallel	9	x33.75	6750	18.22	0.405	450	A6	3	17/9
Synaptic	11	x33.75	5062.5	9.11	0.405	450	A6	3	17/9
Adv. Synaptic	13	x33.75	3375	4.56	0.304	450	A6	3	17/9
Positronic	16	x135	13,500	1.82	0.121	450	A6	3	17/9

Software	PP Cap	Cost	INT Mod	Ability Mod.	Total Skill Mod.
*Low Basic Logic	2	1000	+0	-	-
*Limited Verbal Interface	2	500	+0	-	-
Gunner Interact	1	1000	-	-	-
Predict	1	7500	-	-	-
Select	1	3000	-	-	-
Return Fire	1	5000	-	-	-
Anti-Missile	2	1000	-	-	-
Weapons Systems	1	4000	-	-	-
Gunnery	6	6000	-	-5 (Wis)	+3 (+2 Predict)
Totals	17	29,000	+0		

\*always operating

### MODEL/M1 ROBOT BRAIN

TL12. Cr119600. A fairly universal 'brain' used in many types of robots, with a reasonable intelligence, a few basic skills, and the ability to learn as it works. This model currently has enough data storage to hold up to 10,000 experience points. More storage capacity may be added as needed. Only the basic programming itself is provided. Additional skill programs or other software must be purchased and installed separately. Twenty of the brain's 28 total PP points are constantly devoted to supporting its intelligence, leaving only 8 PP free for use with other programs.

#### Computer Core

Units:	Synaptic x90 (10% reduction due to miniaturization)
Size:	24.3vl
Cost	Cr135,000
Total PP	28
Max PP	11
EP: 1.08	
CPU Output:	1000 (Model/1 Master Computer)

#### Data Storage

Units	Synaptic x10
Storage Capacity	10,000XP
Size:	0.135vl
Cost	Cr2,500

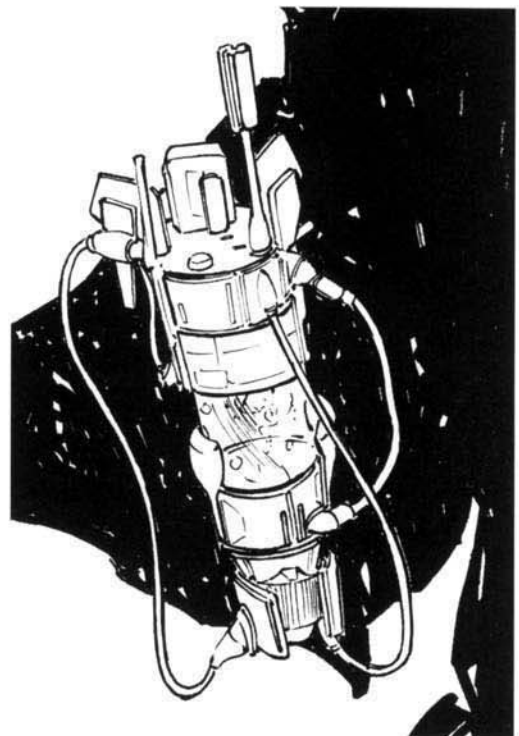
#### Software

Programming	Cost	PP	Notes
Low Autonomous Logic	Cr7000	10	Int +2, Dex +2
Full Verbal Command	Cr5000	10	Int +2
Cost	Cr12,000	20	

#### Abilities

Str -, Dex +2, Con -, Int 8 (-1), Wis 0 (-5), Edu 2 (-4), Cha 0 (-5), Soc (-5)

<b>Total Cost:</b>	Cr149,500 (Cr119,600)
<b>Total Size:</b>	24.435vl
<b>Total EP:</b>	1.08





## STANDARD VEHICLES AND ROBOTS

All of the following vehicles and robots are commonly available (unless otherwise noted), and have been designed from the ground up using the T20 vehicle design system. Vehicles may be used as described, or be customized using the design system rules.

**Vehicle and Robots Table:**

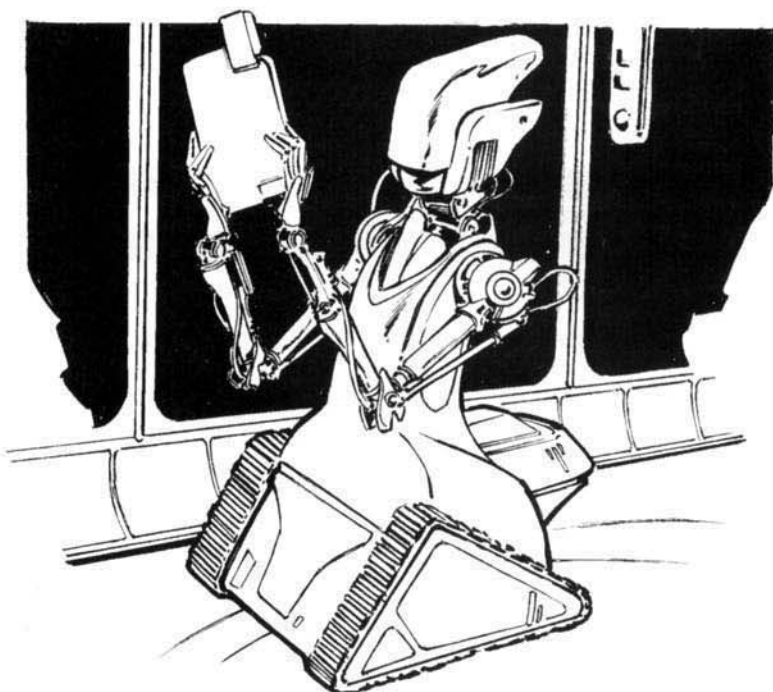
Vehicle/Robot	TL	Cost	Size	Max Speed	SI	AC
Personal Robot	12	Cr174,801	100vl	10kph	12	10
Battledress	13	Cr90,335	300vl	10kph	25	26
Jeep	5	Cr2540	1000vl	120kph	50	12
Ground Car	5	Cr5400	2000vl	150kph	53	10
Small Cargo Truck	5	Cr12,280	5000vl	120kph	60	10
Wheeled ATV	12	Cr48,840	10,000vl	100kph	75	10
Tracked ATV	12	Cr47,240	10,000vl	80kph	75	11
Wheeled AFV	12	Cr67,040	10,000vl	100kph	75	16
Tracked AFV	12	Cr65,440	10,000vl	80kph	75	16
Hovercraft	7	Cr143,600	8000vl	150kph	68	13
Primitive Biplane	4	Cr11,840	1000vl	200kph	50	11
Cargo Plane	4	Cr363,760	10,000vl	600kph	75	10
Cargo Jet	7	MCr1.594	12,000vl	1100kph	75	10
Helicopter	5	Cr82,760	5000vl	250kph	60	11
Air/raft	8	Cr273,200	6000vl	120kph	63	10
Pressurized Air/raft	8	Cr372,720	8000vl	120kph	68	10
GCarrier	8	Cr502,880	10,000vl	120kph	75	10
Speeder	8	MCr3.947	8000vl	1100kph	68	10
Grav Belt	12	Cr9,232	200vl	120kph	5	10
Small Steamship	4	Cr337,800	150,000vl	60kph	100	10
Hydrofoil	7	Cr197,200	60,000vl	100kph	88	10
Submersible	6	MCr1.875	500,000vl	40kph (20kph)	160	10

## ROBOTS AND AUGMENTED ARMOR

### PERSONAL SERVICE ROBOT (PERCY)

*Medium (Intelligent) Robot*

TL12, Cr174,801, 100vl. The personal service robot, (PSR), also called a Purser (Per-Ser) or just simply a Percy, is an early robotic design that first begins to appear with the development of the synaptic computers. Its 'humanesque' appearance combined with its protocol, etiquette, and personality interfaces make the Percy well suited for a wide range of tasks that require constant interfacing with people in the performance of their duties. In private use, the Percy serves admirably as a butler, housekeeper, cook, or similar repetitive or remedial tasks. In commercial use PSRs are found in positions as waiters, cooks, and janitors. Percys also undertake jobs that may be too hazardous for a person, but which are not too complex for the Percy's limited programming. The Percy can operate for up to 72 hours before its fuel cells will require refueling.



**Combat Statistics**

Str 10, Dex 12, Wis 0, plnt 8, pCha 10, Edu 6, Soc 0

Initiative: +0      Agility: 0      AC: 10      AR: 0      SI: 12

Off-road: 7.5kph, Very Slow: 1kph, Slow: 2.5kph, Cruising: 5kph, Fast: 7.5kph, Maximum: 10kph

**TL12 Design Specifications**

<i>Installed Components</i>	<i>Size</i>	<i>Cost</i>	<i>EP</i>	<i>CPU/SP</i>	<i>Range</i>
100vl Chassis	+100	100	-	-	
Drive Train, Legged (2)	-2.814	301.5	-0.067	-	
Adv. Fuel Cell	-9	600	+6	-	
Fuel	-21.6	-	-	-	72 hours
Holovideo Visual	-1.5	2000	-0.1	-	
Auditory Sensors	-0.2	200	-0.04	-	50m
Olfactory Sensor	-0.5	1500	-0.05	-	1km
Sensors, Normal Touch	-4	12,000	-0.6	-	
Voder	-0.5	1200	-0.03	-	
Appendage (Str 10, Dex 10)	-5	10,000	-1		
Appendage (Str 10, Dex 10)	-5	10,000	-1		
Model/M1 Robot Brain (Int 8)	-24.435	119,600	-1.08	-	
<b>Totals</b>	<b>+25.451</b>	<b>Cr157,501.5</b>			

<i>Software Installed</i>	<i>PP</i>	<i>Cost</i>	<i>Notes</i>
Personality Interface (Cha 10)	5*	50,000	Cha 10
Library Data Inter.	1*	3000	Edu +4
Valet	2	2000	
Cooking	2	2000	P/Cooking-2
Driving	2	2000	Driving-2 (Ground Car)
Cleaning	2	2000	P/Janitorial-2
<b>* Must constantly be running</b>			
<b>Totals</b>	-	<b>218,501.5 (Cr174,801.2 with 20% standard design discount)</b>	

**BATTLE DRESS***Large Augmented Armor*

TL13, Cr95,135, 300vl. Battle Dress is a suit of personal armor similar in construction to Combat Armor. What sets Battle Dress apart is the fact that it is fully powered, in effect being a personal vehicle that is worn rather than driven.

Battle Dress consists of an armored frame, servo-assisted limbs, a sensor package and (sometimes) built-in weaponry. The armor is available in various configurations, from light, fast recon suits to heavy assault configurations capable of stopping almost any weapon on the battlefield. However, even the heaviest Battle Dress does not turn the wearer into an invulnerable tank. Battle Dress-equipped troops still function as infantry (albeit infantry who can shrug off smallarms fire and even some support weapons); they can thus go where tanks cannot, make use of low cover etc. Battle Dress requires special training to use and is not available to civilians.

The statistics given here are for standard TL 13 medium Battle Dress.



## BATTLE DRESS

**Class:** Augmented Armor    **EP Output:** 12 (6.825 excess)  
**Cost:** Cr95,135    **Agility:** 5 (+5 EP)  
**Tech Level:** 13    **Initiative:** +5 (+5 agility)  
**Size:** Large (300vl)    **AC:** 24 (+10 armor, +5 agility, -1 Size)  
**Streamlining:** Standard    **AR:** 10  
**Pressurized?** Yes    **SI:** 25  
**Climate Control?** Yes    **Visual:** Holovideo (1km), Infrared (1km), Light Intensification (1km)  
**Drive Train:** Legged (2)  
**Crew:** 1  
**Passengers:** 0    **Sensors:** Auditory (50m), Tactile  
**Cargo Space:** 14vl  
**Fuel:** 43.2vl  
**Range:** 72 hours    **Comm.:** 2-way Radio (5km)  
**Speeds:**  
Acceleration = 1kph  
Offroad = 7.5kph    Very Slow = 1kph    Slow = 2.5kph  
Cruising = 5kph    Fast = 7.5kph    Maximum = 10kph  
**Other Equipment:** 2 appendages (STR 20/+5, DEX 10/+0).



### TAS Form 3.1v (Condensed)

### Vehicle Data (Commercial)

#### TL13 Design Specifications

Installed Components	Size	Cost	EP
300vl Chassis	+300	300	-
Control Systems	-110	275	-
TL13 Armor (AR10)	-66	3594	-
Pressurized Interior	-15	375	-0.375
Drive Train, Legged (2)	-8.4	900	-0.2
Adv. Fuel Cell	-18	1200	+12
Fuel	-43.2	-	-
Appendage (Str 20, Dex 10)	-10	51,000	-2
Tactile Sensor	-1	3000	-0.2
Appendage (Str 20, Dex 10)	-10	51,000	-2
Tactile Sensor	-1	3000	-0.2
Holovideo Visual	-1.5	2000	-0.1
LI Video	-0.2	500	-0.01
IR Video	-1	1500	-0.03
Auditory Sensors	-0.2	200	-0.04
Radio, 2-way	-0.5	75	-0.02
<b>Totals</b>	<b>+14</b>	<b>Cr118,919 (Cr95,135 with 20% standard design discount)</b>	



## GROUND VEHICLES

## JEEP

## Large Ground Vehicle

TL5, Cr2580, 1000vl. A self-powered wheeled vehicle based on the ground car (see below) concept, but designed for off-road and rugged terrain use. Typically, a jeep has a cruising range of 600km at a speed of 60 kph, and has a maximum speed of 120 kph. Off-road performance is better than the standard ground car, though jeeps (other than specialist luxury models) lack creature comforts to the point where some are truly excruciating to drive. Fuel for a jeep depends on local tech level and fuel sources; it is usually chemical fuel (hydrocarbons or hydrogen), or an electric battery. A jeep can carry a driver and up to three additional passengers plus luggage (214vl). Luxury models (which are as comfortable as any ground car on the market) may be available at higher prices. The basic jeep is unpressurized, and may indeed be open-topped. Jeeps are designed to be somewhat tolerant of atmospheric and environmental conditions; they will not usually malfunction when transferred to another world, so long as it is reasonably similar to their world of origin.

## JEEP

<b>Class:</b> Ground Vehicle	<b>EP Output:</b> 20 (7 excess)
<b>Cost:</b> Cr2580	<b>Agility:</b> 1 (+1 EP)
<b>Tech Level:</b> 5	<b>Initiative:</b> +1 (+1 agility)
<b>Size:</b> Large (1000vl)	<b>AC:</b> 10 (+1 agility, -1 size)
<b>Streamlining:</b> Standard	<b>AR:</b> 0
<b>Pressurized?</b> No	<b>SI:</b> 50
<b>Climate Control?</b> No	<b>Visual:</b> Headlights (Beam 12m), Brakelights (Area 1.5m)
<b>Drive Train:</b> Wheeled (4)	
<b>Crew:</b> 1	
<b>Passengers:</b> 3	<b>Sensors:</b>
<b>Cargo Space:</b> 214vl	
<b>Fuel:</b> 100vl	
<b>Range:</b> 600km	<b>Comm.:</b>
<b>Speeds:</b>	
Acceleration = 12kph	
Offroad = 20kph	Very Slow = 12kph      Slow = 30kph
Cruising = 60kph	Fast = 90kph      Maximum = 120kph
<b>Other Equipment:</b>	

## TAS Form 3.1v (Condensed)

## Vehicle Data (Commercial)

## TL5 Design Specifications

Installed Components	Size	Cost	EP
1000vl Chassis	+1000	1000	-
Controls	-110	275	-
Drive Train, Wheeled (4)	-144	600	-12
Int. Combustion Power Plant	-100	1000	+20
Fuel	-100	-	-
Passengers Seating (3)	-330	300	-
2 Headlights, Beam (12m)	-1.6	40	-0.08
2 Brakelights, Illumination	-0.4	10	-0.02
Cargo/Luggage	-214	-	-
<b>Totals</b>	<b>0</b>	<i>Cr3225 (Cr2580 with 20% standard design discount)</i>	

## GROUND CAR

### Large Ground Vehicle

TL5, Cr5440, 2000vl. An ordinary self-powered wheeled vehicle suitable for local use in civilized areas or on roads. Typically, a ground car has a cruising range of 1050 km at a speed of 75 kph, and has a maximum speed of 150 kph. If capable of off-road travel at all, speed is generally limited to 15 kph. Fuel for a ground car depends on local tech level and fuel sources; it is usually chemical fuel (hydrocarbons or hydrogen), or an electric battery. Most ground cars require a driver, although at higher tech levels the some luxury models may be equipped to steer themselves (and on highly civilized worlds, driving under human control is illegal in cities). A car can carry five additional passengers plus luggage (268vl). Other models (convertibles, sports models, limousines, trucks, motorcycles, unicycles, vans, etc.) may be available at varying prices. The basic ground car is unpressurized. Ground cars are mass production items manufactured for a specific world; they will tend to malfunction when transferred to a world not similar to their world of origin.

At TL7, an optional Climate Control system becomes available for a cost of Cr800. It requires 20vl of space and 0.2EP of power.

## GROUND CAR

<b>Class:</b> Ground Vehicle	<b>EP Output:</b> 35 (4 excess)
<b>Cost:</b> Cr5440	<b>Agility:</b> 0
<b>Tech Level:</b> 5	<b>Initiative:</b> +0
<b>Size:</b> Large-Huge (2000vl)	<b>AC:</b> 9 (-1 agility)
<b>Streamlining:</b> Standard	<b>AR:</b> 0
<b>Pressurized?</b> No	<b>SI:</b> 53
<b>Climate Control?</b> TL7 Option	<b>Visual:</b> Headlights (Beam 12m), Brakelights (Area 1.5m)
<b>Drive Train:</b> Wheeled (4)	
<b>Crew:</b> 1	
<b>Passengers:</b> 5	<b>Sensors:</b>
<b>Cargo Space:</b> 268vl	
<b>Fuel:</b> 245vl	
<b>Range:</b> 1050km	<b>Comm.:</b>
<b>Speeds:</b>	
Acceleration = 15kph	
Offroad = 25kph	Very Slow = 15kph    Slow = 37kph
Cruising = 75kph	Fast = 112kph    Maximum = 150kph
<b>Other Equipment:</b>	

### TAS Form 3.1v (Condensed)

### Vehicle Data (Commercial)

#### TL5 Design Specifications

Installed Components	Size	Cost	EP
2000vl Chassis	+2000	2000	-
Controls	-400	1000	-
Drive Train, Wheeled (4)	-360	1500	-30
Int. Combustion Power Plant	-175	1750	+35
Fuel	-245	-	-
Passengers Seating (5)	-550	500	-
2 Headlights, Beam (12m)	-1.6	40	-0.08
2 Brakelights, Illumination	-0.4	10	-0.02
Cargo/Luggage	-268	-	-
<b>Totals</b>	<b>+0</b>	<b>Cr6800 (Cr5440 with 20% standard design discount)</b>	

**SMALL CARGO TRUCK***Huge Ground Vehicle*

TL5, Cr12,320, 5000vl. A typical, no-frills commercial delivery/cargo truck with a 2500kg cargo capacity. The truck only has room for one passenger other than the driver. These cargo trucks have an average speed of 60kph and are capable of top speeds reaching 120kph. At cruising speed, a cargo truck has a range of 480km.

At TL7, an optional Climate Control system becomes available for a cost of Cr2000. It requires 50vl of space and 0.5EP of power.

**SMALL CARGO TRUCK**

<b>Class:</b> Ground Vehicle	<b>EP Output:</b> 65 (4 excess)
<b>Cost:</b> Cr12,320	<b>Agility:</b> 0
<b>Tech Level:</b> 5	<b>Initiative:</b> +0
<b>Size:</b> Huge (5000vl)	<b>AC:</b> 8 (-2 size)
<b>Streamlining:</b> Standard	<b>AR:</b> 0
<b>Pressurized?</b> No	<b>SI:</b> 60
<b>Climate Control?</b> TL7 Option	<b>Visual:</b> Headlights (Beam 12m), Brakelights (Area 1.5m)
<b>Drive Train:</b> Wheeled (6)	
<b>Crew:</b> 1	
<b>Passengers:</b> 1	<b>Sensors:</b>
<b>Cargo Space:</b> 2523vl	
<b>Fuel:</b> 260vl	
<b>Range:</b> 480km	<b>Comm.:</b>
<b>Speeds:</b>	
Acceleration = 12kph	
Offroad = 12kph	Very Slow = 12kph    Slow = 40kph
Cruising = 60kph	Fast = 80kph    Maximum = 120kph
<b>Other Equipment:</b>	

Vehicle Data (Commercial)

**TAS Form 3.1v (Condensed)****TL5 Design Specifications**

<i>Installed Components</i>	<i>Size</i>	<i>Cost</i>	<i>EP</i>
5000vl Chassis	+5000	5000	-
Controls	-1000	2500	-
Drive Train, Wheeled (6)	-780	4500	-60
Int. Combustion Power Plant	-325	3250	+65
Fuel	-260	-	-
Passengers Seating (1)	-110	100	-
2 Headlights, Beam (12m)	-1.6	40	-0.08
2 Brakelights, Illumination	-0.4	10	-0.02
Cargo/Luggage	-2525	-	-
<b>Totals</b>	<b>+0</b>	<b>Cr15,400 (Cr12,320 with 20% standard design discount)</b>	



**WHEELED ALL TERRAIN VEHICLE***Huge Ground Vehicle*

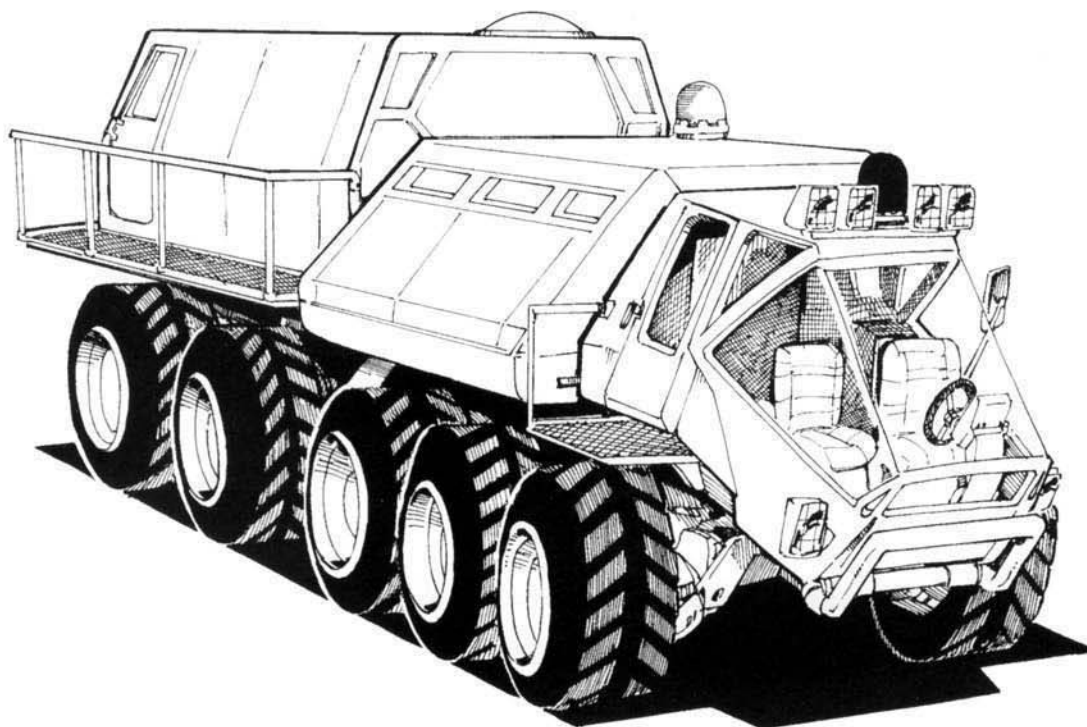
TL12, Cr52,880, 10,000vl. An 8-wheeled vehicle intended for world surface exploration, or for transport across undeveloped areas. An all terrain vehicle (abbreviated ATV) has a range of 5000 km, cruises on roads at 50 kph, and can achieve a maximum speed of 100 kph. Off roads, speed depends on terrain; on open plain, it will approach normal road performance while in difficult terrain average speed will be 25 kph or less. An ATV may be powered by a battery recharged from a ship's power plant, or it may contain a small fusion pack requiring hydrogen or water for fuel. The ATV is designed to serve on many different worlds under widely varying conditions, including vacuum and insidious atmospheres, and high or low gravity. An ATV requires one driver and may carry up to 16 passengers. The interior of the vehicle is fully pressurized and contains complete (though cramped) eating, sleeping, and travel facilities for eight. The wheeled ATV typically has 8 large, gel-filled tires. These are self-sealing and provide sufficient buoyancy to allow the ATV to float in reasonably calm water. Slow headway can be made using water jet propulsion.

**WHEELED ALL TERRAIN VEHICLE (ATV)**

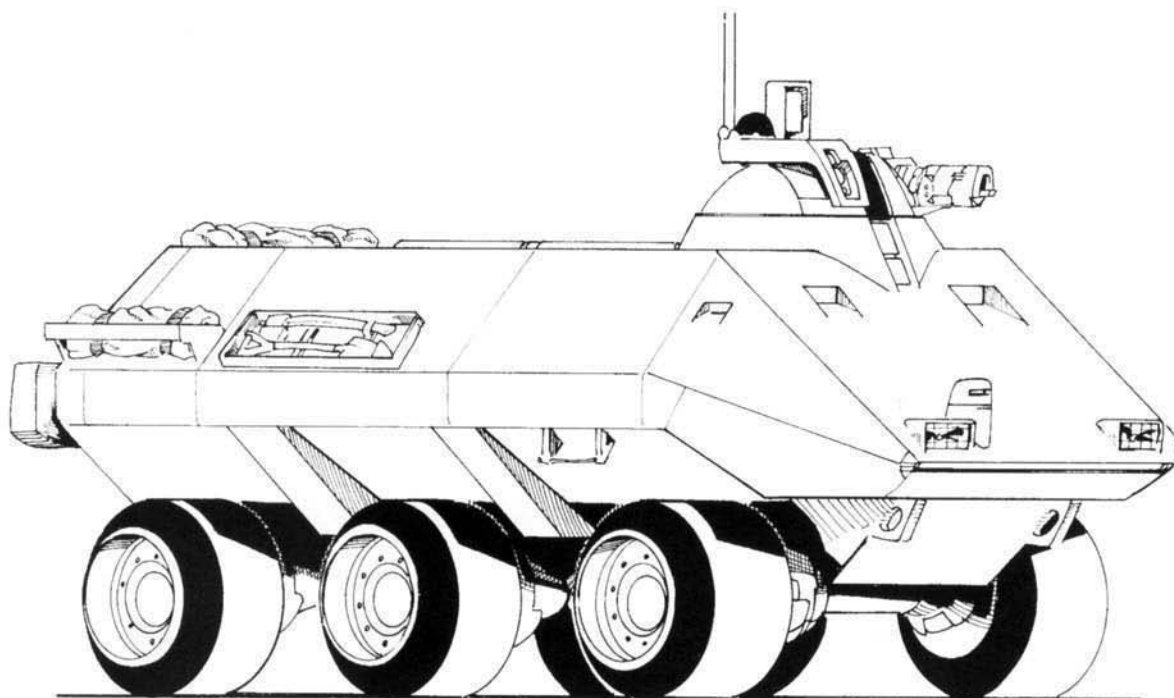
<b>Class:</b> Ground Vehicle	<b>EP Output:</b> 120 (6.4 excess)
<b>Cost:</b> Cr52,880	<b>Agility:</b> 0
<b>Tech Level:</b> 12	<b>Initiative:</b> +0
<b>Size:</b> Huge (10,000vl)	<b>AC:</b> 8 (-2 size)
<b>Streamlining:</b> Standard	<b>AR:</b> 0
<b>Pressurized?</b> Yes	<b>SI:</b> 75
<b>Climate Control?</b> Yes	<b>Visual:</b> Headlights (Beam 12m), Brakelights (Area 1.5m)
<b>Drive Train:</b> Wheeled (8)	
<b>Crew:</b> 1	
<b>Passengers:</b> 8 (16)	<b>Sensors:</b>
<b>Cargo Space:</b> 938vl	
<b>Fuel:</b> 600vl	
<b>Range:</b> 5000km	<b>Comm.:</b>
<b>Speeds:</b>	
Acceleration = 10kph	
Offroad = 25kph	Very Slow = 10kph      Slow = 25kph
Cruising = 50kph	Fast = 75kph      Maximum = 100kph
<b>Other Equipment:</b> Galley facilities for 8, fresher.	

**TAS Form 3.1v (Condensed)****Vehicle Data (Commercial)****TL12 Design Specifications**

<i>Installed Components</i>	<i>Size</i>	<i>Cost</i>	<i>EP</i>
10,000vl Chassis	+10,000	10,000	-
Pressurized Interior	-500	12,500	-12.5
Climate Control	-100	5,000	-1
Drive Train, Wheeled (8)	-1400	10,000	-100
Advance Fuel Cell	-180	12,000	+120
Fuel	-600	-	-
Controls	-2000	5000	-
Passengers Seating (8)	-880	800	-
Passengers Bunks (8)	-1600	2000	-
Galley Facilities (8)	-1600	8000	-
Fresher Facilities (1)	-200	750	-
2 Headlights, Beam (12m)	-1.6	40	-0.08
2 Brakelights, Illumination	-0.4	10	-0.02
Cargo/Luggage	-938	-	-
Totals	+0	Cr66,100 (Cr52,880 with 20% standard design discount)	



Wheeled All Terrain Vehicle, page 290



Wheeled Armored Fighting Vehicle, page 293

## TRACKED ALL TERRAIN VEHICLE

### Huge Ground Vehicle

TL12, Cr51,280, 10,000vl. The tracked ATV is a somewhat slower version of the wheeled ATV, but with better off-road speed and handling. An all terrain vehicle (abbreviated ATV) has a range of 5000 km, cruises on roads at 40 kph, and can achieve a maximum speed of 80 kph. Off roads, speed depends on terrain; on open plain, it will approach normal road performance, while in difficult terrain, average speed will be 25 kph or less. An ATV may be powered by a battery recharged from a ship's power plant, or it may contain a small fusion pack, requiring hydrogen or water for fuel. The ATV is designed to serve on many different worlds under widely varying conditions, including vacuum and insidious atmospheres, and high or low gravity. A tracked ATV requires one driver, and may carry up to 8 passengers. The interior of the vehicle is fully pressurized and contains complete (though cramped) eating, sleeping, and travel facilities for eight. Harsh terrain performance is better than for the wheeled variant, but a tracked ATV cannot float.

### TRACKED ALL TERRAIN VEHICLE (ATV)

<b>Class:</b> Ground Vehicle	<b>EP Output:</b> 180 (6.4 excess)
<b>Cost:</b> Cr51,280	<b>Agility:</b> 0
<b>Tech Level:</b> 12	<b>Initiative:</b> +0
<b>Size:</b> Huge (10,000vl)	<b>AC:</b> 8 (-2 size)
<b>Streamlining:</b> Standard	<b>AR:</b> 0
<b>Pressurized?</b> Yes	<b>SI:</b> 75
<b>Climate Control?</b> Yes	<b>Visual:</b> Headlights (Beam 12m), Brakelights (Area 1.5m)
<b>Drive Train:</b> Tracked (2)	
<b>Crew:</b> 1	
<b>Passengers:</b> 8 (16)	<b>Sensors:</b>
<b>Cargo Space:</b> 508vl	
<b>Fuel:</b> 900vl	
<b>Range:</b> 5000km	<b>Comm.:</b>
<b>Speeds:</b>	
Acceleration = 8kph	
Offroad = 25kph	Very Slow = 8kph    Slow = 20kph
Cruising = 40kph	Fast = 60kph    Maximum = 80kph
<b>Other Equipment:</b> Galley facilities for 8, fresher.	

Vehicle Data (Commercial)

### TAS Form 3.1v (Condensed)

#### TL12 Design Specifications

Installed Components	Size	Cost	EP
Chassis	+10,000	10,000	-
Pressurized Interior	-500	12,500	-12.5
Climate Control	-100	5,000	-1
Drive Train, Tracked (2)	-1440	2,000	-160
Advance Fuel Cell	-270	18,000	+180
Fuel	-900	-	-
Controls	-2000	5000	-
Passengers Seating (8)	-880	800	-
Passengers Bunks (8)	-1600	2000	-
Galley Facilities (8)	-1600	8000	-
Fresher Facilities (1)	-200	750	-
2 Headlights, Beam (12m)	-1.6	40	-0.08
2 Brakelights, Illumination	-0.4	10	-0.02
Cargo/Luggage	-508	-	-
<b>Totals</b>	<b>+0</b>	<b>Cr64,100 (Cr51,280 with 20% standard design discount)</b>	



**WHEELED ARMORED FIGHTING VEHICLE***Huge Ground Vehicle*

TL12, Cr71,080, 10,000vl. Many designs of armored fighting vehicle (abbreviated AFV) exist, at a range of tech levels and capabilities. This representative design is similar to the wheeled ATV, and can be used as an exploration vehicle. It has a range of 5000 km, cruises on roads at 50 kph, and can achieve a maximum speed of 100 kph. Off roads, speed depends on terrain; on open plain, it will approach normal road performance, while in difficult terrain, average speed will be 13 kph or less. An AFV may be powered by a battery recharged from a ship's power plant, or it may contain a small fusion pack, requiring hydrogen or water for fuel. Mid-tech AFVs are local to a single world; higher-tech versions are usually designed to be tolerant of varying conditions and can thus serve on many worlds and under widely varying conditions, including vacuum and insidious atmospheres, and high or low gravity. An AFV requires one driver, may carry one additional crewmember that operates the weapon system, and is capable of transporting up to 22 soldiers. The interior of the vehicle is fully pressurized. Like its ATV cousin, the Wheeled AFV can float and make headway in calm water.

**WHEELED ARMORED FIGHTING VEHICLE (AFV)**

<b>Class:</b> Ground Vehicle	<b>EP Output:</b> 120 (2.8 excess)
<b>Cost:</b> Cr71,080	<b>Agility:</b> 0
<b>Tech Level:</b> 12	<b>Initiative:</b> +0
<b>Size:</b> Huge (10,000vl)	<b>AC:</b> 14 (+6 armor, -2 size)
<b>Streamlining:</b> Standard	<b>AR:</b> 6
<b>Pressurized?</b> Yes	<b>SI:</b> 75
<b>Climate Control?</b> Yes	<b>Visual:</b> Headlights (Beam 12m), Brakelights (Area 1.5m)
<b>Drive Train:</b> Wheeled (8)	
<b>Crew:</b> 1	
<b>Passengers:</b> 22	<b>Sensors:</b>
<b>Cargo Space:</b> 498vl	
<b>Fuel:</b> 600vl	
<b>Range:</b> 5000km	<b>Comm.:</b>
<b>Speeds:</b>	
Acceleration = 10kph	
Offroad = 25kph	Very Slow = 10kph    Slow = 25kph
Cruising = 50kph	Fast = 75kph    Maximum = 100kph
<b>Other Equipment:</b>	

**Heavy Manned Turret:**  
Medium Lasers (x3),  
Attack Bonus +0,  
Damage 5d10.

**TAS Form 3.1v (Condensed)****Vehicle Data (Commercial)****TL12 Design Specifications**

<i>Installed Components</i>	<i>Size</i>	<i>Cost</i>	<i>EP</i>
Chassis	+10,000	10,000	-
TL12 Armor (AR6)	-1400	15,600	-
Pressurized Interior	-500	12,500	-12.5
Climate Control	-100	5,000	-1
Drive Train, Wheeled (8)	-1400	10,000	-100
Advance Fuel Cell	-180	12,000	+120
Fuel	-600	-	-
Controls	-2000	5000	-
Passengers Seating (22)	-2420	2200	-
2 Headlights, Beam (12m)	-1.6	40	-0.08
2 Brakelights, Illumination	-0.4	10	-0.02
Heavy Manned Turret	-600	6000	-0.6
Medium Lasers (3)	(-300)	10,500	-3
Cargo/Luggage	-498	-	-
<b>Totals</b>	<b>+0</b>	<b>Cr88,850 (Cr71,080 with 20% standard design discount)</b>	

## TRACKED ARMORED FIGHTING VEHICLE

### Huge Ground Vehicle

TL12, Cr69,480, 10,000vl. The tracked AFV is a somewhat slower version of the wheeled AFV, but with better off-road speed and handling. It has a range of 5000 km, cruises on roads at 40 kph, and can achieve a maximum speed of 80 kph. Off roads, speed depends on terrain; on open plain, it will approach normal road performance, while in difficult terrain, average speed will be 20 kph or less. An AFV may be powered by a battery recharged from a ship's power plant, or it may contain a small fusion pack, requiring hydrogen or water for fuel. The AFV is designed to serve on many different worlds under widely varying conditions, including vacuum and insidious atmospheres, and high or low gravity. An AFV requires one driver, may carry one additional crewmember that operates the weapon system, and is capable of transporting up to 22 soldiers. The interior of the vehicle is fully pressurized but has no eating, sleeping, etc facilities for four. Tracked AFVs do not float.

## TRACKED ARMORED FIGHTING VEHICLE (AFV)

<b>Class:</b> Ground Vehicle	<b>EP Output:</b> 180 (2.8 excess)
<b>Cost:</b> Cr69,480	<b>Agility:</b> 0
<b>Tech Level:</b> 12	<b>Initiative:</b> +0
<b>Size:</b> Huge (10,000vl)	<b>AC:</b> 14 (+6 armor, -2 size)
<b>Streamlining:</b> Standard	<b>AR:</b> 6
<b>Pressurized?</b> Yes	<b>SI:</b> 75
<b>Climate Control?</b> Yes	<b>Visual:</b> Headlights (Beam 12m), Brakelights (Area 1.5m)
<b>Drive Train:</b> Tracked (2)	
<b>Crew:</b> 1	
<b>Passengers:</b> 22	<b>Sensors:</b>
<b>Cargo Space:</b> 368vl	
<b>Fuel:</b> 900vl	
<b>Range:</b> 5000km	<b>Comm.:</b>
<b>Speeds:</b>	
Acceleration = 8kph	
Offroad = 25kph	Very Slow = 8kph      Slow = 20kph
Cruising = 40kph	Fast = 60kph      Maximum = 80kph
<b>Other Equipment:</b>	

### Heavy Manned Turret:

Medium Lasers (x3),  
Attack Bonus +0,  
Damage 5d10.

## TAS Form 3.1v (Condensed)

## Vehicle Data (Commercial)

### TL12 Design Specifications

Installed Components	Size	Cost	EP
Chassis	+10,000	10,000	-
TL12 Armor (AR6)	-1400	15,600	-
Pressurized Interior	-500	12,500	-12.5
Climate Control	-100	5,000	-1
Drive Train, Tracked (2)	-1440	2,000	-160
Advance Fuel Cell	-270	18,000	+180
Fuel	-900	-	-
Controls	-2000	5000	-
Passengers Seating (22)	-2420	2200	-
2 Headlights, Beam (12m)	-1.6	40	-0.08
2 Brakelights, Illumination	-0.4	10	-0.02
Heavy Manned Turret	-600	6000	-0.6
Medium Lasers (3)	(-300)	10,500	-3
Cargo/Luggage	-368	-	-
<b>Totals</b>	<b>+0</b>	<b>86,850 (69,480 with 20% standard design discount)</b>	

**AIR CUSHION VEHICLES****HOVERCRAFT***Huge Air Cushion Vehicle*

TL7, Cr348,640, 8000vl. Hovercraft are supported on a cushion of air (at about 1 to 3 meters altitude). Usable only on worlds with an atmosphere of 4 or greater, a hovercraft is capable of cruise speeds of 75kph, with bursts of speed up to 150kph. Distance between refuelings is 375km. Hovercraft may move over both land and water with equal ease, but encounter difficulty with broken ground, precipices, or storms. A crew of one is sufficient to operate the vehicle; hovercraft can carry up to 15 passengers plus the operator. Cargo capacity is 2905kg. No armor or weaponry is generally provided.

**HOVERCRAFT**

<b>Class:</b> Air Cushion Vehicle	<b>EP Output:</b> 400 (98.8 excess)
<b>Cost:</b> Cr348,640	<b>Agility:</b> 3
<b>Tech Level:</b> 7	<b>Initiative:</b> +3 (+3 agility)
<b>Size:</b> Huge (8000vl)	<b>AC:</b> 11 (-2 size)
<b>Streamlining:</b> Standard	<b>AR:</b> 0
<b>Pressurized?</b> No	<b>SI:</b> 68
<b>Climate Control?</b> Yes	<b>Visual:</b> Spotlight (Beam 120m)
<b>Drive Train:</b> Air Cushion	
<b>Crew:</b> 1	
<b>Passengers:</b> 15	<b>Sensors:</b> Radar (5km)
<b>Cargo Space:</b> 2905vl	
<b>Fuel:</b> 500vl	
<b>Range:</b> 375km	<b>Comm.:</b> 2-way Radio (500km)
<b>Speeds:</b>	
Acceleration = 15kph	
Offroad = 47kph	Very Slow = 15kph      Slow = 37kph
Cruising = 75kph	Fast = 112kph      Maximum = 150kph
<b>Other Equipment:</b>	

**TAS Form 3.1v (Condensed)****Vehicle Data (Commercial)****TL7 Design Specifications**

<i>Installed Components</i>	<i>Size</i>	<i>Cost</i>	<i>EP</i>
8000vl Chassis	+8000	8000	-
Climate Control	-80	4000	-0.8
Drive Train, Air Cushion	-450	126,000	-300
Turbine Power Plant	-800	40,000	+400
Fuel	-500	-	-
Controls	-1600	4000	-
Passengers Seating (15)	-1650	1500	-
Spotlight, Beam (120m)	-8	2000	-0.4
Radar	-5	250,000	-0.25
2-way Radio (500km)	-2	300	-0.08
Cargo/Luggage	-2905	-	-
<b>Totals</b>	<b>+0</b>	<b>Cr435,800 (Cr348,640 with 20% standard design discount)</b>	



**AIRCRAFT****PRIMITIVE BIPLANE***Large Aircraft*

TL5, Cr11,840, 1000vl. A very small early model aircraft. It can achieve a cruise speed of 100kph, with bursts up to a maximum of 200kph; range is 300km or roughly 3 hours flying time at cruising speed. The biplane's engine depends on chemical fuel. The plane carries two; the pilot and a passenger, and can also carry up to 549kg of cargo.

**PRIMITIVE BIPLANE**

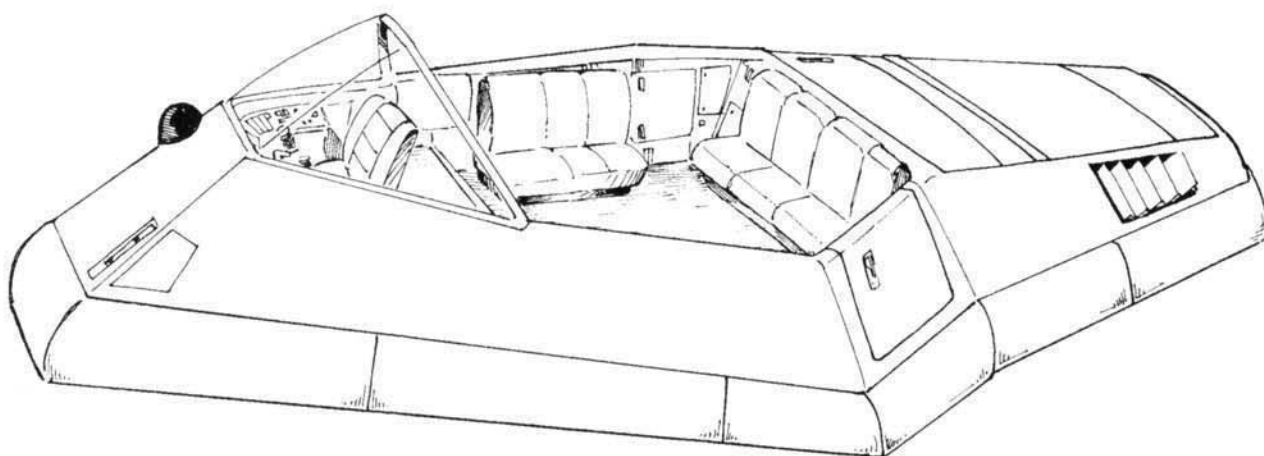
<b>Class:</b> Aircraft	<b>EP Output:</b> 14 (4 excess)
<b>Cost:</b>	<b>Agility:</b> 1
<b>Tech Level:</b> 5	<b>Initiative:</b> +1 (+1 agility)
<b>Size:</b> Large (1000vl)	<b>AC:</b> 10 (+1 agility, -1 size)
<b>Streamlining:</b> Standard	<b>AR:</b> 0
<b>Pressurized?</b> No	<b>SI:</b> 50
<b>Climate Control?</b> No	<b>Visual:</b>
<b>Drive Train:</b> Propeller	
<b>Crew:</b> 1	
<b>Passengers:</b> 1	<b>Sensors:</b>
<b>Cargo Space:</b> 549vl	
<b>Fuel:</b> 21vl	
<b>Range:</b> 300km	<b>Comm.:</b>
<b>Speeds:</b>	
Acceleration = 20kph	
Offroad = n/a	Stall = 20kph      Slow = 50kph
Cruising = 100kph	Fast = 150kph      Maximum = 200kph
<b>Other Equipment:</b>	

Vehicle Data (Commercial)

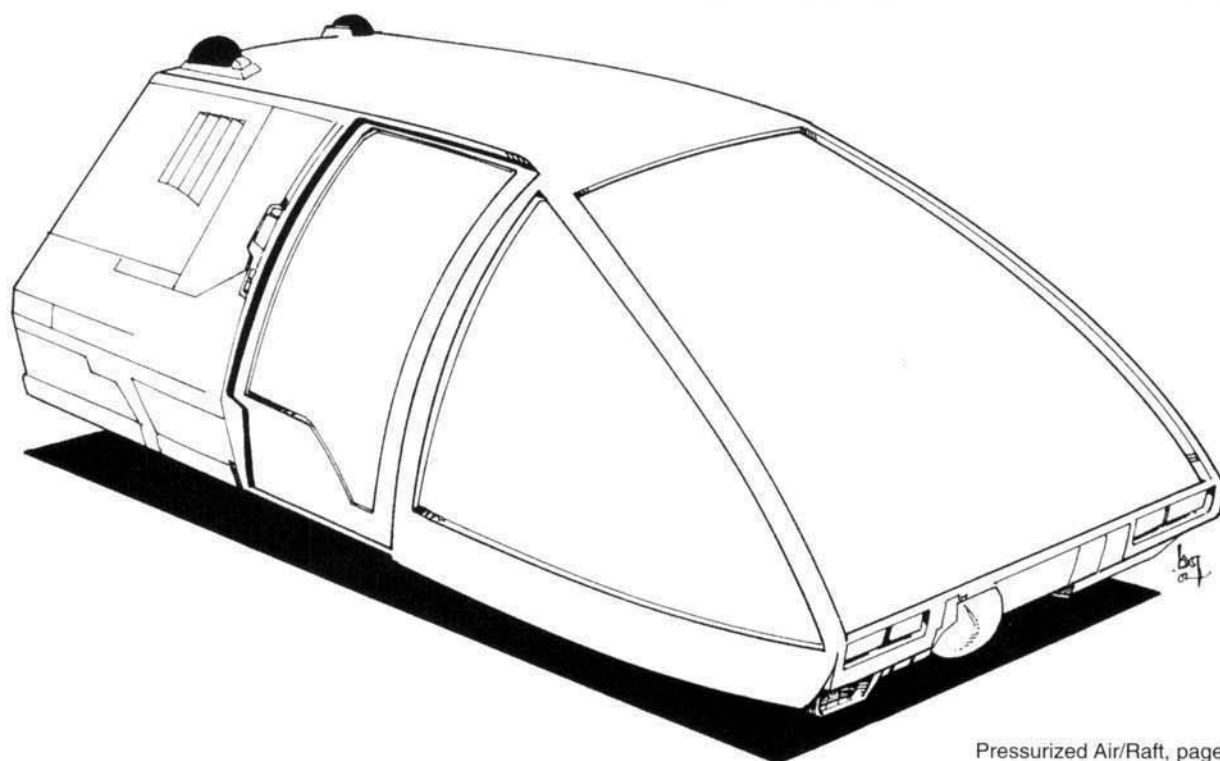
TAS Form 3.1v (Condensed)

**TL5 Design Specifications**

<i>Installed Components</i>	<i>Size</i>	<i>Cost</i>	<i>EP</i>
1000vl Chassis	+1000	1000	-
Drive Train, Propeller	-50	12,500	-10
Int. Combustion Power Plant	-70	700	+14
Fuel	-21	-	-
Controls	-200	500	-
Passengers Seats (1)	-110	100	-
Cargo/Luggage	-549	-	-
<b>Totals</b>	<b>+0</b>	<b>Cr14,800 (Cr11,840 with 20% standard design discount)</b>	



Hovercraft, page 295



Pressurized Air/Raft, page 302

**CARGO PLANE***Huge Aircraft*

TL5, Cr364,000, 10,000vl. A twin propeller monowing aircraft intended for cargo transport. The plane cruises at 300kph (maximum speed is 600kph) with a range of 3600km. Fuel is standard chemical fuel. The craft requires a crew of two (only one of whom needs pilot skill and the appropriate vehicle feat) and carry six passengers and roughly 2 metric tons of cargo.

**CARGO PLANE**

<b>Class:</b> Aircraft	<b>EP Output:</b> 330 (30 excess)
<b>Cost:</b> Cr364,000	<b>Agility:</b> 0
<b>Tech Level:</b> 5	<b>Initiative:</b> +0
<b>Size:</b> Huge (10,000vl)	<b>AC:</b> 8 (-2 size)
<b>Streamlining:</b> Partial	<b>AR:</b> 0
<b>Pressurized?</b> No	<b>SI:</b> 75
<b>Climate Control?</b> No	<b>Visual:</b>
<b>Drive Train:</b> Propeller (2)	
<b>Crew:</b> 2	
<b>Passengers:</b> 6	<b>Sensors:</b>
<b>Cargo Space:</b> 1948vl	
<b>Fuel:</b> 1980vl	
<b>Range:</b> 3600km	<b>Comm.:</b> 2-way Radio (500km)
<b>Speeds:</b>	
Acceleration = 60kph	
Offroad = n/a	Stall = 60kph    Slow = 150kph
Cruising = 300kph	Fast = 450kph    Maximum = 600kph
<b>Other Equipment:</b>	

**TAS Form 3.1v (Condensed)****Vehicle Data (Commercial)****TL5 Design Specifications**

<i>Installed Components</i>	<i>Size</i>	<i>Cost</i>	<i>EP</i>
10,000vl Chassis	+10,000	10,000	-
Partial Streamlining	-	10,000	-
Drive Train, Propeller (2)	-1650	412,500	-300
Int Combustion Power Plant	-1650	16,500	+330
Fuel	-1980	-	-
Controls	-2000	5000	-
Passengers Seats (7)	-770	700	-
2-way Radio (500km)	-2	300	-0.08
Cargo/Luggage	-1948	-	-
<b>Totals</b>	<b>+0</b>	<b>Cr455,000 (Cr364,000 with 20% standard design discount)</b>	



**CARGO JET***Huge Aircraft*

TL7, MCr1.794, 12,000vl. A twin jet monowing aircraft intended for cargo transport. The plane cruises at 660kph, has a maximum safe speed of 1100kph (technically 1320 but limited by the airframe configuration) with a range of 3960km. Fuel is standard chemical jet fuel. The craft requires a crew of two, only one of whom needs pilot skill and the appropriate vehicle feat, carries up to six passengers and roughly 5 metric tons of cargo.

**CARGO JET**

<b>Class:</b> Aircraft	<b>EP Output:</b> 230 (14.67 excess)
<b>Cost:</b> Cr1,794,400	<b>Agility:</b> 0
<b>Tech Level:</b> 6	<b>Initiative:</b> +0
<b>Size:</b> Huge (12,000vl)	<b>AC:</b> 8 (-2 size)
<b>Streamlining:</b> Airframe	<b>AR:</b> 0
<b>Pressurized?</b> Yes	<b>SI:</b> 75
<b>Climate Control?</b> No	<b>Visual:</b>
<b>Drive Train:</b> Jet (2)	
<b>Crew:</b> 2	
<b>Passengers:</b> 6	<b>Sensors:</b> Radar (5km)
<b>Cargo Space:</b> 5218vl	
<b>Fuel:</b> 345vl	
<b>Range:</b> 3960km	<b>Comm.:</b> 2-way Radio (500km)
<b>Speeds:</b>	
Acceleration = 132kph	
Offroad = n/a	Stall = 132kph      Slow = 330kph
Cruising = 660kph	Fast = 990kph      Maximum = 1100kph
<b>Other Equipment:</b>	

Vehicle Data (Commercial)

**TAS Form 3.1v (Condensed)****TL6 Design Specifications**

<i>Installed Components</i>	<i>Size</i>	<i>Cost</i>	<i>EP</i>
10,000vl Chassis	+12,000	12,000	-
Airframe	-	36,000	-
Pressurized Interior	-600	15,000	-15
Drive Train, Jet (2)	-2200	MCr1.9	-200
Turbine Power Plant	-460	23,000	+230
Fuel	-345	-	-
Controls	-2400	6000	-
Passengers Seats (7)	-770	700	-
Radar	-5	250,000	-0.25
2-way Radio (500km)	-2	300	-0.08
Cargo/Luggage	-5218	-	-
<b>Totals</b>	<b>+0</b>	<b>Cr2,243,000 (Cr1,794,400 with 20% standard design discount)</b>	

## HELICOPTER

### Huge Aircraft

TL5, Cr82,760, 5,000vl. Single engine rotary wing aircraft capable of vertical take-off and landing, as well as maneuvering in tight places. The helicopter can cruise at 125kph with a top speed of 250kph; range is 750km at cruising speed or roughly 6 hours. The vehicle requires a crew of 1 (the pilot) and can carry 7 passengers and up to roughly additional 1 metric ton of cargo.

## HELICOPTER

<b>Class:</b> Aircraft	<b>EP Output:</b> 225 (15 excess)
<b>Cost:</b> Cr82,760	<b>Agility:</b> 0
<b>Tech Level:</b> 5	<b>Initiative:</b> +0
<b>Size:</b> Huge (5000vl)	<b>AC:</b> 8 (-2 size)
<b>Streamlining:</b> Standard	<b>AR:</b> 0
<b>Pressurized?</b> No	<b>SI:</b> 60
<b>Climate Control?</b> No	<b>Visual:</b>
<b>Drive Train:</b> Rotary Wing	
<b>Crew:</b> 1	
<b>Passengers:</b> 7	<b>Sensors:</b>
<b>Cargo Space:</b> 905vl	
<b>Fuel:</b> 675vl	
<b>Range:</b> 750km	<b>Comm.:</b>
<b>Speeds:</b>	
Acceleration = 25kph	
Offroad = n/a	Very Slow = 25kph      Slow = 62kph
Cruising = 125kph	Fast = 187kph      Maximum = 250kph
<b>Other Equipment:</b>	

Vehicle Data (Commercial)

TAS Form 3.1v (Condensed)

### TL5 Design Specifications

Installed Components	Size	Cost	EP
5000vl Chassis	+5,000	5,000	-
Drive Train, Rotary Wing	-525	84,000	-210
Int Combustion Power Plant	-1125	11,250	+225
Fuel	-675	-	-
Controls	-1000	2500	-
Passengers Seats (7)	-770	700	-
Cargo/Luggage	-905	-	-
<b>Totals</b>	<b>+0</b>	<b>Cr103,450 (Cr82,760 with 20% standard design discount)</b>	

**GRAV VEHICLES****AIR/RAFT***Huge Grav Vehicle*

TL8, Cr273,200, 6000vl. A light anti-gravity ("grav") vehicle which uses null-grav modules (often known as "lifters") to counteract gravity for lift and propulsion. An air/raft can cruise at 60kph (but is extremely subject to wind effects), with some capable of higher speed to about 120kph. An air/raft can reach orbit in several hours (number of hours equal to planetary size digit in the UWP); passengers must wear vac suits for this journey. Interplanetary travel in an air/raft is not possible. Range on a world is effectively unlimited, requiring refueling once per week. An air/raft can carry the pilot and up to 3 passengers plus roughly 4 metric tons of cargo. They are usually unpressurized and open-topped.

**AIR/RAFT**

<b>Class:</b> Grav Vehicle	<b>EP Output:</b> 10 (2.8 excess)
<b>Cost:</b> Cr273,200	<b>Agility:</b> 0
<b>Tech Level:</b> 8	<b>Initiative:</b> +0
<b>Size:</b> Huge (6000vl)	<b>AC:</b> 8 (-2 size)
<b>Streamlining:</b> Standard	<b>AR:</b> 0
<b>Pressurized?</b> No	<b>SI:</b> 63
<b>Climate Control?</b> No	<b>Visual:</b>
<b>Drive Train:</b> Grav	
<b>Crew:</b> 1	
<b>Passengers:</b> 3	<b>Sensors:</b>
<b>Cargo Space:</b> 4001.2vl	
<b>Fuel:</b> 420vl	
<b>Range:</b> 1 week	<b>Comm.:</b>
<b>Speeds:</b>	
Acceleration = 12kph	
Offroad = n/a	Very Slow = 12kph    Slow = 30kph
Cruising = 60kph	Fast = 90kph    Maximum = 120kph
<b>Other Equipment:</b>	

Vehicle Data (Commercial)

**TAS Form 3.1v (Condensed)****TL8 Design Specifications**

<i>Installed Components</i>	<i>Size</i>	<i>Cost</i>	<i>EP</i>
6000vl Chassis	+6000	6000	-
Drive Train, Grav	-28.8	331,200	-7.2
Turbine Power Plant	-20	1000	+10
Fuel	-420	-	-
Controls	-1200	3000	-
Passengers Seats (3)	-330	300	-
Cargo/Luggage	-4001.2	-	-
<b>Totals</b>	<b>+0</b>	<b>Cr341,500 (Cr273,200 with 20% standard design discount)</b>	



**PRESSURIZED AIR/RAFT***Huge Grav Vehicle*

TL8, Cr376,000, 8000vl. A slightly larger, enclosed and pressurized version of the basic air/raft. Performance, cargo and passenger capacities are roughly the same as the basic air/raft.

**PRESSURIZED AIR/RAFT**

**Class:** Grav Vehicle      **EP Output:** 21 (0.6 excess)  
**Cost:** Cr376,000      **Agility:** 0  
**Tech Level:** 8      **Initiative:** +0  
**Size:** Huge (8000vl)      **AC:** 8 (-2 size)  
**Streamlining:** Standard      **AR:** 0  
**Pressurized?** Yes      **SI:** 68  
**Climate Control?** Yes      **Visual:**  
**Drive Train:** Grav  
**Crew:** 1  
**Passengers:** 3      **Sensors:**  
**Cargo Space:** 4655.6  
**Fuel:** 882vl  
**Range:** 1 week      **Comm.:**  
**Speeds:**  
Acceleration = 12kph  
Offroad = n/a      Very Slow = 12kph      Slow = 30kph  
Cruising = 60kph      Fast = 90kph      Maximum = 120kph  
**Other Equipment:**

**TAS Form 3.1v (Condensed)****Vehicle Data (Commercial)****TL8 Design Specifications**

<i>Installed Components</i>	<i>Size</i>	<i>Cost</i>	<i>EP</i>
8000vl Chassis	+8000	8000	-
Pressurized Interior	-400	10,000	-10
Climate Control	-80	4,000	-0.8
Drive Train, Grav	-38.4	441,600	-9.6
Turbine Power Plant	-44	2100	+21
Fuel	-882	-	-
Controls	-1600	4000	-
Passengers Seats (3)	-330	300	-
Cargo/Luggage	-4655.6	-	-
<b>Totals</b>	<b>+0</b>	<b>Cr470,000 (376,000 with 20% standard design discount)</b>	

**GCARRIER***Huge Grav Vehicle*

TL8, Cr506,880, 10,000vl. An enclosed military or quasi-military grav vehicle. The GCarrier is an armored air/raft type vehicle intended originally for troop carrier duties. Performance is similar to that of the air/raft, but the vehicle generally has a gun mount and is armored. It requires a crew of one (with pilot skill and the Vessel/grav feat), plus a gunner for the craft's weapon, if any. It can carry 14 persons (including the driver and gunner), plus roughly 1.1 metric tons of cargo.

**GCARRIER**

<b>Class:</b> Grav Vehicle	<b>EP Output:</b> 30 (0.9 excess)
<b>Cost:</b> Cr506,880	<b>Agility:</b> 0
<b>Tech Level:</b> 8	<b>Initiative:</b> +0
<b>Size:</b> Huge (10,000vl)	<b>AC:</b> 14 (+6 armor, -2 size)
<b>Streamlining:</b> Standard	<b>AR:</b> 6
<b>Pressurized?</b> Yes	<b>SI:</b> 75
<b>Climate Control?</b> Yes	<b>Visual:</b>
<b>Drive Train:</b> Grav	
<b>Crew:</b> 2	
<b>Passengers:</b> 12	<b>Sensors:</b>
<b>Cargo Space:</b> 1092vl	
<b>Fuel:</b> 1260vl	
<b>Range:</b> 1 week	<b>Comm.:</b>
<b>Speeds:</b>	
Acceleration = 12kph	
Offroad = n/a	Very Slow = 12kph      Slow = 30kph
Cruising = 60kph	Fast = 90kph      Maximum = 120kph
<b>Other Equipment:</b>	

**Heavy Manned Turret:**

Medium Lasers (x3),  
Attack Bonus +0,  
Damage 5d10.

**TAS Form 3.1v (Condensed)****Vehicle Data (Commercial)****TL8 Design Specifications**

<i>Installed Components</i>	<i>Size</i>	<i>Cost</i>	<i>EP</i>
10,000vl Chassis	+10,000	10,000	-
TL8 Armor (AC6)	-2800	28,200	-
Pressurized Interior	-500	12,500	-12.5
Climate Control	-100	5,000	-1
Drive Train, Grav	-48	552,000	-12
Turbine Power Plant	-60	3000	+30
Fuel	-1260	-	-
Controls	-2000	5000	-
Passengers Seats (14)	-1540	1400	-
Heavy Manned Turret	-600	6000	-0.6
Medium Lasers (3)	(-300)	10,500	-3
Cargo/Luggage	-1092	-	-
<b>Totals</b>	<b>+0</b>	<b>Cr633,600 (Cr506,880 with 20% standard design discount)</b>	

## SPEEDER

### Huge Grav Vehicle

TL8, MCr3.947, 8000vl. A streamlined grav-powered craft intended for high-speed transport between points on a world's surface. Similar in principle to the air/raft and the GCarrier, the speeder is streamlined and optimized for speed. It is capable of 720 kph cruise speed, with a top speed of 1320kph (though maximum safe speed is only 1100kph), and has a virtually unlimited range. Refueling is required only once per week. The speeder carries a pilot (who requires the pilot skill and the Vessel/grav feat), a single passenger, and 238kg of cargo. The speeder is capable of reaching orbit within an hour.

## SPEEDER

<b>Class:</b> Grav Vehicle	<b>EP Output:</b> 117 (0.2 excess)
<b>Cost:</b> Cr3,950,960	<b>Agility:</b> 0
<b>Tech Level:</b> 8	<b>Initiative:</b> +0
<b>Size:</b> Huge (8000vl)	<b>AC:</b> 8 (-2 size)
<b>Streamlining:</b> Airframe	<b>AR:</b> 0
<b>Pressurized?</b> Yes	<b>SI:</b> 68
<b>Climate Control?</b> Yes	<b>Visual:</b>
<b>Drive Train:</b> Grav	
<b>Crew:</b> 1	
<b>Passengers:</b> 1	<b>Sensors:</b>
<b>Cargo Space:</b> 238vl	
<b>Fuel:</b> 4872vl	
<b>Range:</b> 1 week	<b>Comm.:</b>
<b>Speeds:</b>	
Acceleration = 144kph	
Offroad = n/a	Very Slow = 144kph    Slow = 360kph
Cruising = 720kph	Fast = 1080kph    Maximum = 1100kph
<b>Other Equipment:</b>	

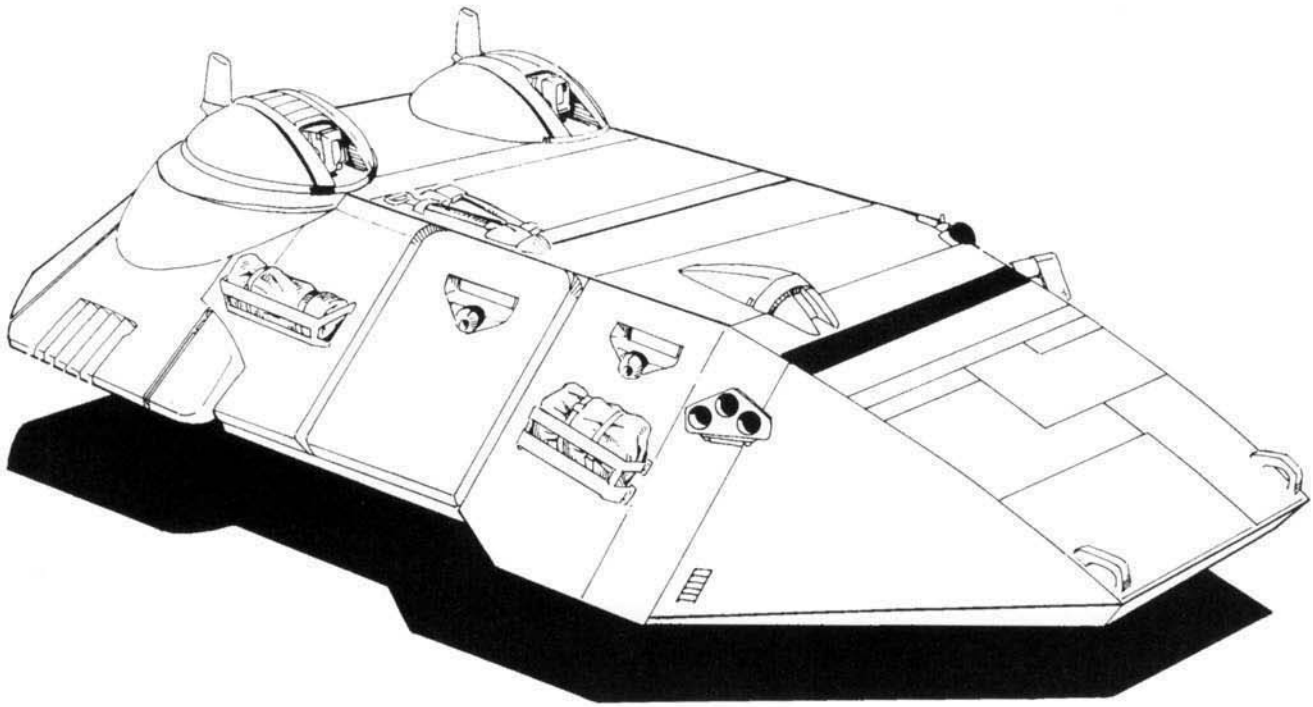
## TAS Form 3.1v (Condensed)

## Vehicle Data (Commercial)

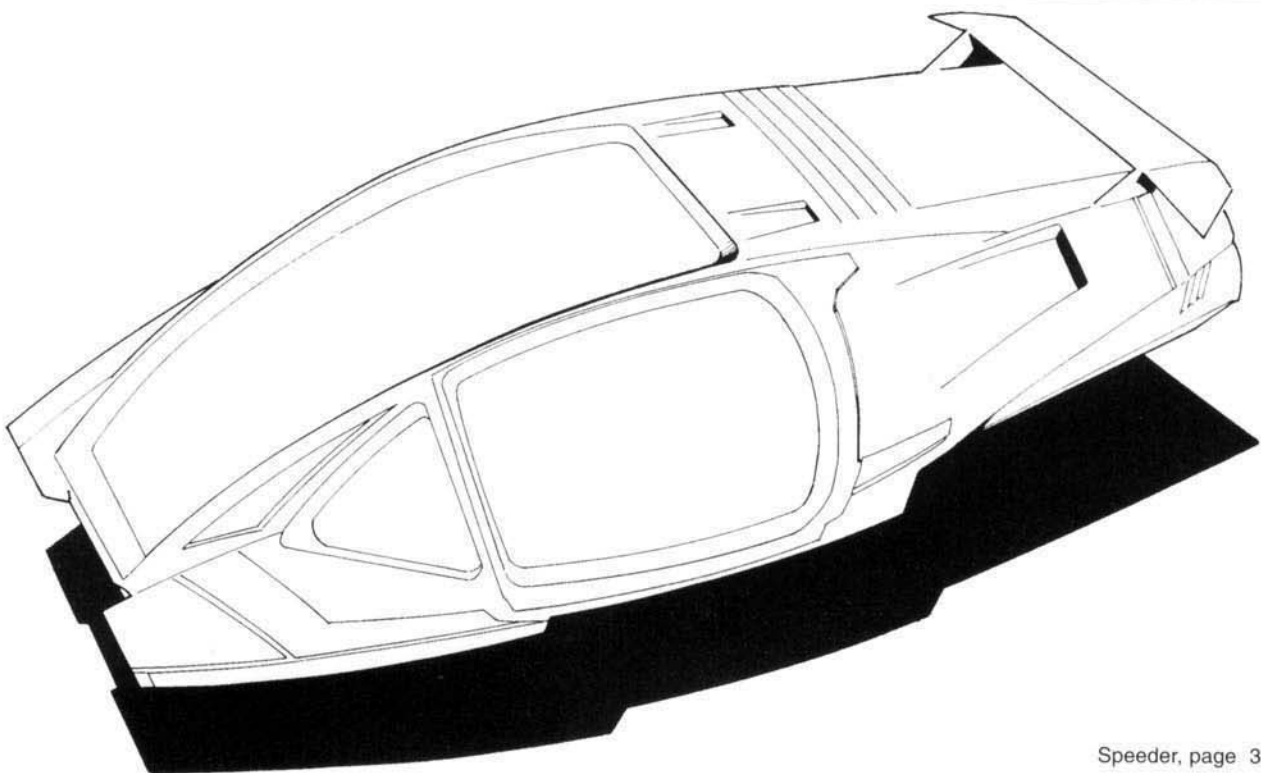
### TL8 Design Specifications

Installed Components	Size	Cost	EP
8000vl Chassis	+8000	8000	-
Airframe	-	24,000	-
Pressurized Interior	-400	10,000	-10
Climate Control	-80	4,000	-0.8
Drive Train, Grav	-424	MCr4.876	-106
Turbine Power Plant	-234	11,700	+117
Fuel	-4914	-	-
Controls	-1600	4000	-
Passengers Seats (1)	-110	100	-
Cargo/Luggage	-238	-	-
<b>Totals</b>	<b>+0</b>	<b>Cr4,938,700 (Cr3,950,960 with 20% standard design discount)</b>	





GCarrier, page 303



Speeder, page 304

## GRAV BELT

Medium Grav Vehicle

TL12, Cr9232, 200vl. Personal anti-gravity transportation using a single null-gravity module and a personal harness. Performance is similar in speed to the air/raft, but with a four-week operational range.

## GRAV BELT

<b>Class:</b> Grav Vehicle	<b>EP Output:</b> 1 (0.76 excess)
<b>Cost:</b> Cr9232	<b>Agility:</b> 0
<b>Tech Level:</b> 12	<b>Initiative:</b> +0
<b>Size:</b> Medium (200vl)	<b>AC:</b> 10
<b>Streamlining:</b> Standard	<b>AR:</b> 0
<b>Pressurized?</b> No	<b>SI:</b> 5
<b>Climate Control?</b> No	<b>Visual:</b>
<b>Drive Train:</b> Grav	
<b>Crew:</b> 1	
<b>Passengers:</b> 0	<b>Sensors:</b>
<b>Cargo Space:</b> 33.94vl	
<b>Fuel:</b> 33.6	
<b>Range:</b> 4 weeks	<b>Comm.:</b>
<b>Speeds:</b>	
Acceleration = 12kph	
Offroad = n/a	Very Slow = 12kph      Slow = 30kph
Cruising = 60kph	Fast = 90kph      Maximum = 120kph
<b>Other Equipment:</b>	

Vehicle Data (Commercial)

TAS Form 3.1v (Condensed)

## TL12 Design Specifications

Installed Components	Size	Cost	EP
200vl Chassis	+200	200	-
Drive Train, Grav	-0.96	11,040	-0.24
Adv Fuel Cell Power Plant	-1.5	100	+1
Fuel	-33.6	-	-
Controls	-20	100	-
Operator	-110	100	-
Cargo/Luggage	-33.94	-	-
<b>Totals</b>	<b>+0</b>	<b>Cr11,540 (Cr9232 with 20% standard design discount)</b>	

**WATERCRAFT****SMALL STEAMSHIP***Colossal Watercraft*

TL4, Cr337,800, 150,000vl. Vessels of this type vary widely; most are capable of 30 kph for up to a week of travel, and a maximum speed of 60kph. Fuel is some form of basic combustible. The ship can carry a crew of five, ten passengers, and approximately 61 metric tons of cargo.

**SMALL STEAMSHIP**

<b>Class:</b> Watercraft	<b>EP Output:</b> 460 (10 excess)
<b>Cost:</b> Cr337,800	<b>Agility:</b> 0
<b>Tech Level:</b> 4	<b>Initiative:</b> +0
<b>Size:</b> Colossal (150,000vl)	<b>AC:</b> 2 (-8 size)
<b>Streamlining:</b> Standard	<b>AR:</b> 0
<b>Pressurized?</b> No	<b>SI:</b> 103
<b>Climate Control?</b> No	<b>Visual:</b>
<b>Drive Train:</b> Surface Water	
<b>Crew:</b> 5	
<b>Passengers:</b> 10	<b>Sensors:</b>
<b>Cargo Space:</b> 60,930vl	
<b>Fuel:</b> 19,320vl	
<b>Range:</b> 1 week	<b>Comm.:</b>
<b>Speeds:</b>	
Acceleration = 6kph	
Offroad = n/a	Very Slow = 6kph    Slow = 15kph
Cruising = 30kph	Fast = 45kph    Maximum = 60kph
<b>Other Equipment:</b>	

TAS Form 3.1v (Condensed)

Vehicle Data (Commercial)

**TL4 Design Specifications**

<i>Installed Components</i>	<i>Size</i>	<i>Cost</i>	<i>EP</i>
150,000vl Chassis	+150,000	150,000	-
Drive Train, Surface Water	-11,250	56,250	-450
Steam Power Plant	-11,500	11,500	+460
Fuel	-19,320	-	-
Controls	-30,000	75,000	-
Passenger Small Cabins (15)	-15,000	120,000	-
Galley Facilities (8)	-1600	8000	-
Fresher Facilities (2)	-400	1500	-
Cargo/Luggage	-60,930	-	-
<b>Totals</b>	<b>+0</b>	<b>Cr422,250 (Cr337,800 with 20% standard design discount)</b>	



## HYDROFOIL

### Gargantuan Watercraft

TL7, Cr197,200, 60,000vl. The hydrofoil can cruise at 50kph, with bursts of speed to 100kph. The ship's engines depend on local fuel sources, such as hydrocarbons or electric batteries; with a full tank of fuel, a hydrofoil can operate for a week at cruising speed. A crew of three operates the craft, which carries eight passengers and nearly 16 metric tons of cargo.

## HYDROFOIL

**Class:** Watercraft **EP Output:** 310 (10 excess)  
**Cost:** Cr197,200 **Agility:** 0  
**Tech Level:** 7 **Initiative:** +0  
**Size:** Gargantuan (60,000vl) **AC:** 6 (-4 size)  
**Streamlining:** Standard **AR:** 0  
**Pressurized?** No **SI:** 88  
**Climate Control?** No **Visual:**  
**Drive Train:** Surface Water  
**Crew:** 3  
**Passengers:** 8 **Sensors:**  
**Cargo Space:** 15,860vl  
**Fuel:** 13,020vl  
**Range:** 1 week **Comm.:**  
**Speeds:**  
Acceleration = 10kph  
Offroad = n/a Very Slow = 10kph Slow = 25kph  
Cruising = 50kph Fast = 75kph Maximum = 100kph  
**Other Equipment:**

Vehicle Data (Commercial)

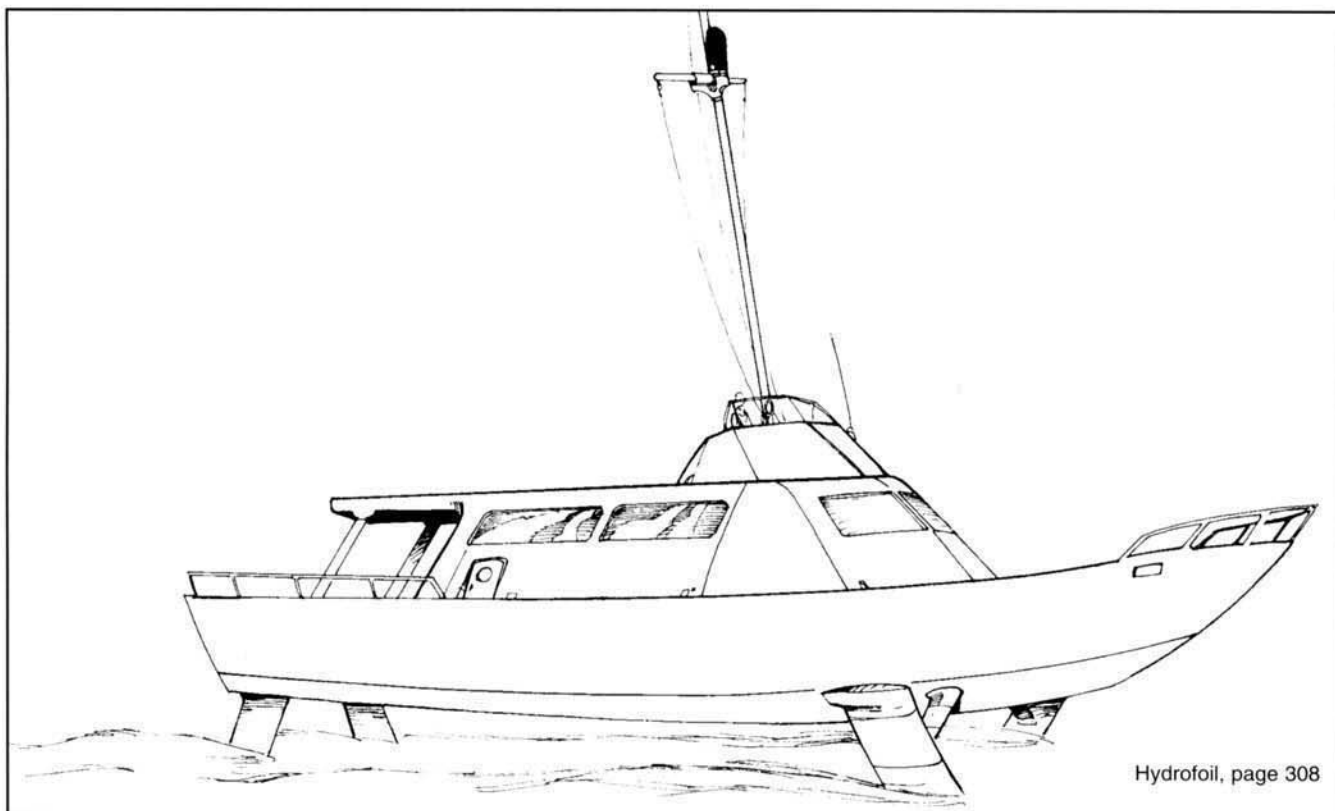
TAS Form 3.1v (Condensed)

### TL7 Design Specifications

Installed Components	Size	Cost	EP
60,000vl Chassis	+60,000	60,000	-
Drive Train, Surface Water	-7500	37,500	-300
Turbines	-620	31,000	+310
Fuel	-13,020	-	-
Controls	-12,000	30,000	-
Passenger Small Cabins (11)	-11,000	88,000	-
Cargo/Luggage	-15,860	-	-
Totals	+0	Cr246,500 (Cr197,200 with 20% standard design discount)	



Grav Belt, page 306



Hydrofoil, page 308

**SUBMERSIBLE***Colossal Watercraft*

TL6, MCr1.875, 500,000vl. Underwater vessels intended to avoid surface weather conditions for safety and convenience. On worlds with large water percentages (especially level A) submersibles ply the routes between underwater domed cities. The submersible is capable of a maximum speed of 40kph on the surface in good weather, and about half that underwater. It has an average 9-day endurance (72 hours submerged), and depends on local energy sources for refueling or recharging. It has a crew of five and facilities for ten passengers and approximately 40 metric tons of cargo.

**SUBMERSIBLE**

<b>Class:</b> Watercraft	<b>EP Output:</b> 2650 (25 excess) / 1650 (25 excess)
<b>Cost:</b>	<b>Agility:</b> 0
<b>Tech Level:</b> 6	<b>Initiative:</b> +0
<b>Size:</b> Colossal (500,000vl)	<b>AC:</b> 2 (-8 size)
<b>Streamlining:</b> No	<b>AR:</b> 0
<b>Pressurized?</b> Yes	<b>SI:</b> 160
<b>Climate Control?</b> No	<b>Visual:</b>
<b>Drive Train:</b> Water Surface/Subsurface	
<b>Crew:</b> 5	
<b>Passengers:</b> 10	<b>Sensors:</b>
<b>Cargo Space:</b> 40,430vl	
<b>Fuel:</b> 99,000vl	
<b>Range:</b> 216 hours / 72 hours	<b>Comm.:</b>
<b>Speeds:</b>	
Acceleration = 4kph	
Underwater = 20kph    Very Slow = 4kph    Slow = 10kph	
Cruising = 20kph    Fast = 30kph    Maximum = 40kph	
<b>Other Equipment:</b>	

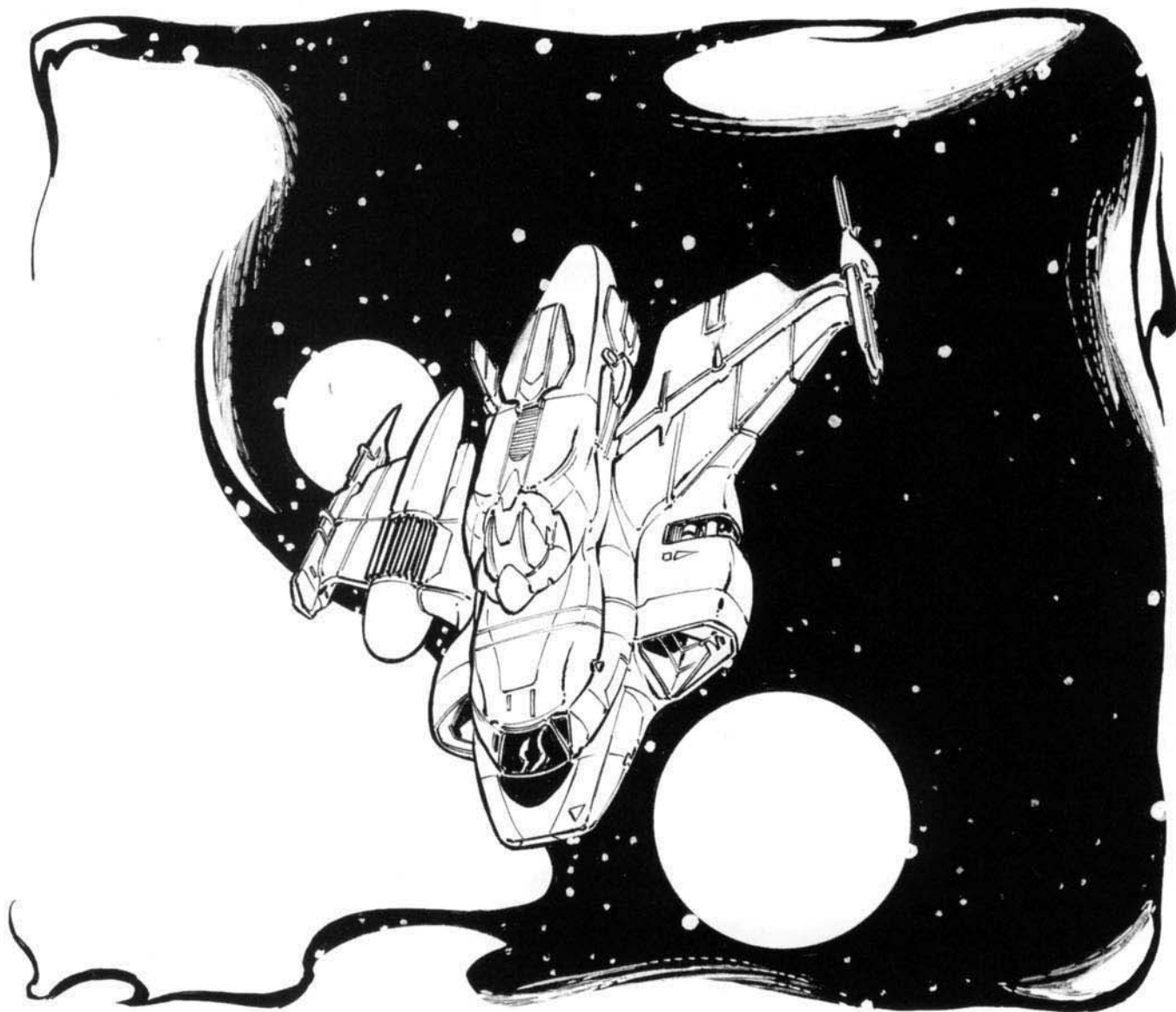
TAS Form 3.1v (Condensed)

Vehicle Data (Commercial)

**TL6 Design Specifications**

<i>Installed Components</i>	<i>Size</i>	<i>Cost</i>	<i>EP</i>
500,000vl Chassis	+500,000	500,000	-
Pressurized Interior	-25,000	625,000	-625
Drive Train, Surface Water	-25,000	125,000	-1000
Drive Train, Subsurface Water	-20,000	250,000	-2000
Int Combustion Power Plant	-8250	82,500	+1650
Crude Batteries	-76,320	381,600	+2650
Fuel	-99,000	-	-
Controls	-189,000	250,000	-
Passengers Small Cabins (15)	-15,000	120,000	-
Galley Facilities (8)	-1600	8000	-
Fresher Facilities (2)	-400	1500	-
Cargo/Luggage	-40,430	-	-
<b>Totals</b>	<b>+0</b>	<b>Cr2,343,600 (Cr1,874,880 with 20% standard design discount)</b>	





## SMALLCRAFT DESIGNS

## SMALLCRAFT

Type	TL	Cost	Size	Acceleration	SI	AC
Launch (lifeboat)	9	MCr9.842	20 tons	1-G	77	11
Ship's Boat	9	MCr30.362	30 tons	6-G	80	11
Slow Boat	9	MCr25.682	30 tons	3-G	80	10
Pinnace	10	MCr45.522	40 tons	5-G	82	10
Slow Pinnace	9	MCr33.402	40 tons	2-G	82	10
Modular Cutter	10	MCr51.422	80 tons	4-G	85	10
	ATV Module	-	MCr1.8	30 tons	-	- -
	Fuel Module	-	MCr1	30 tons	-	- -
	Open Module	-	MCr2	30 tons	-	- -
Shuttle	10	MCr54.42	95 tons	3-G	96	10
Fighter	15	MCr27.3	15 tons	6-G	76	14

## LAUNCH (LIFEBOAT)

### Small Spacecraft

TL9, MCr9.842, 20 tons. The Launch is a small, slow vessel capable of fulfilling a wide range of roles from cargo and passenger transfer to lifeboat, search-and-rescue or starport utility work. Attempts to use a Launch as weapons platform is generally unsuccessful due to a lack of maneuverability. Typically a launch will be capable of 1G acceleration, has an operational duration of 4 weeks before needing to refuel, and can carry approximately 13 tons of cargo. It requires a crew of two, at least one of whom must have a Pilot skill rank of one or higher, and takes 5 months to build.

### LAUNCH

<b>Class:</b> Smallcraft	<b>EP Output:</b> 0.4 (0.2 excess)
<b>Tech Level:</b> 9	<b>Agility:</b> 1 (+1 EP)
<b>Size:</b> Small (20 tons)	<b>Initiative:</b> +1 (+1 agility)
<b>Streamlining:</b> Streamlined	<b>AC:</b> 12 (+1 agility, +1 size)
<b>Jump Range:</b> None	<b>Repulsors:</b> None
<b>Acceleration:</b> 1-G	<b>Nuclear Dampers:</b> None
<b>Fuel:</b> 0.4 tons	<b>Meson Screens:</b> None
<b>Duration:</b> 4 weeks	<b>Black Globes:</b> None
<b>Crew:</b> 2	<b>AR:</b> 0
<b>Staterooms:</b> 0	<b>SI:</b> 77
<b>Small Cabins:</b> 1	<b>Main Computer:</b> Model/2
<b>Bunks:</b> 0	<b>Sensor Range:</b> Short (Model/2)
<b>Couches:</b> 2	<b>Comm. Range:</b> Short (Model/2)
<b>Low Berths:</b> 0	
<b>Cargo Space:</b> 9.5 tons	<b>Cost:</b> MCr9.842 (new)
Atmospheric Speeds:	NoE = 275kph
Cruising = 200kph	Maximum = 375kph
<b>Other Equipment:</b> Fresher, missile magazine	

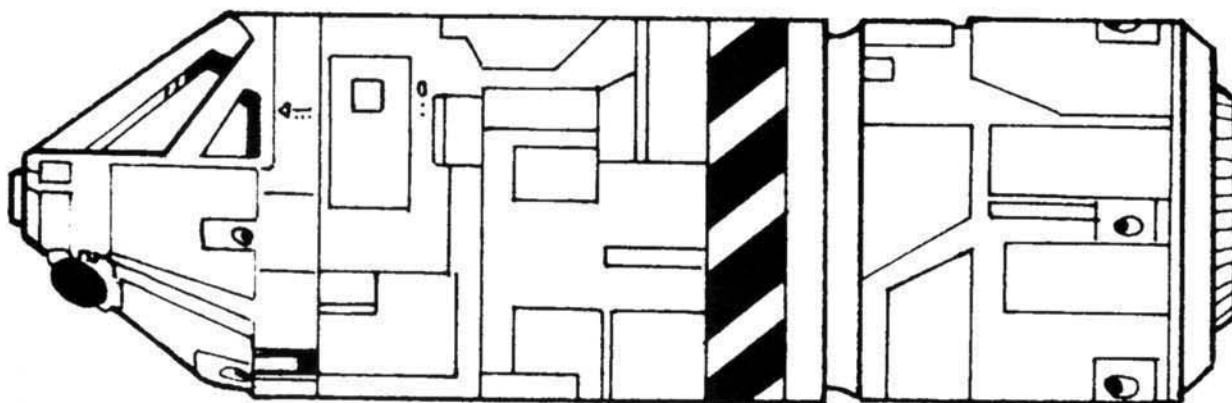
Triple Turret: empty

### TAS Form 3.1 (Condensed)

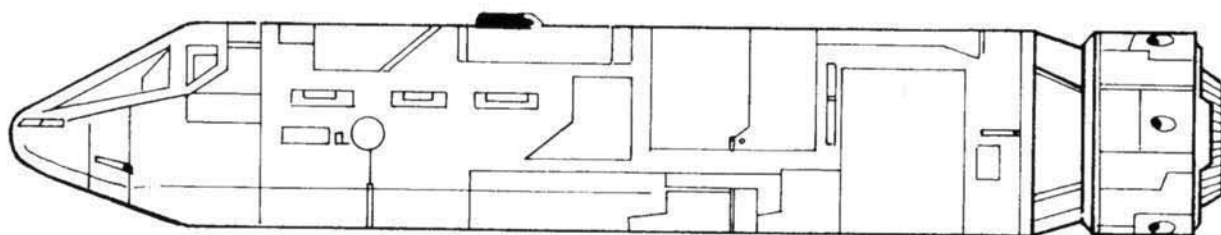
### Ship's Data (Commercial)

### TL9 Design Specifications

	Size	Cost	EP
20-ton streamlined cylinder hull		+20	MCr2.1
Bridge Controls	-4	MCr0.1	-
Model/2 Computer	-0.2	MCr6.2	-
Flight Avionics	-0.4	(MCr0.9)	-
Short Range Sensors	-0.6	(MCr1.2)	-
Short Range Communications	-0.4	(MCr1)	-
1-G Acceleration	-0.4	MCr0.6	-0.2 EP
TL9 Fusion Power Plant	-0.6	MCr1.8	+0.4 EP
Fuel		-0.4	-
2 Small Craft Couches	-1	MCr0.05	-
1 Small Cabin	-2	MCr0.25	-
Fresher	-0.5	MCr0.002	-
1 Hardpoint	-	MCr0.1	-
Triple Turret	-	MCr1	-
Missile Magazine	-	MCr0.1	-
Cargo	-9.5	-	-
<b>Totals</b>	<b>+0</b>	<b>MCr12.302 (MCr9.842 with 20% standard design discount)</b>	



Launch (Lifeboat), page 312



Ship's Boat, page 314



## SHIP'S BOAT

### Small Spacecraft

TL9, MCr30.362, 30 tons. Larger and much faster than the Launch, the Ship's Boat has little room for cargo and is highly expensive. They are mainly used as "prestige" passenger shuttles, for military personnel transfers between vessels, and as rescue craft. The vessel requires a crew of two, at least one of whom must have at least a Pilot skill rank of one or higher, and requires 5 months to build.

## SHIP'S BOAT

<b>Class:</b> Smallcraft	<b>EP Output:</b> 4 (1.2 excess)
<b>Tech Level:</b> 9	<b>Agility:</b> 4 (+4 EP)
<b>Size:</b> Small (30 tons)	<b>Initiative:</b> +4 (+4 agility)
<b>Streamlining:</b> Streamlined	<b>AC:</b> 15 (+4 agility, +1 size)
<b>Jump Range:</b> None	<b>Repulsors:</b> None
<b>Acceleration:</b> 6-G	<b>Nuclear Dampers:</b> None
<b>Fuel:</b> 4 tons	<b>Meson Screens:</b> None
<b>Duration:</b> 4 weeks	<b>Black Globes:</b> None
<b>Crew:</b> 2	<b>AR:</b> 0
<b>Staterooms:</b> 0	<b>SI:</b> 80
<b>Small Cabins:</b> 1	<b>Main Computer:</b> Model/3
<b>Bunks:</b> 0	<b>Sensor Range:</b> Medium (Model/3)
<b>Couches:</b> 2	<b>Comm. Range:</b> Medium (Model/3)
<b>Low Berths:</b> 0	
<b>Cargo Space:</b> 3.2 tons	<b>Cost:</b> MCr30.362 (new)
<b>Atmospheric Speeds:</b>	NoE = 275kph
Cruising = 200kph	Maximum = 375kph
<b>Other Equipment:</b> Fresher, missile magazine	

Triple Turret: empty

### TAS Form 3.1 (Condensed)

### Ship's Data (Commercial)

#### TL9 Design Specifications

	Size	Cost	EP
30-ton streamlined cylinder hull	+30	MCr3.15	-
Bridge Controls	-6	MCr0.15	-
Model/3 Computer	-0.3	MCr12.6	-1 EP
Flight Avionics	-0.4	(MCr0.9)	-
Medium Range Sensors	-0.9	(MCr1.8)	-
Medium Range Communications	-0.6	(MCr1.5)	-
6-G Acceleration	-5.1	MCr2.55	-1.8 EP
TL9 Fusion Power Plant	-6	MCr18	+4 EP
Fuel		-4	- -
2 Small Craft Couches	-1	MCr0.05	-
1 Small Cabin	-2	MCr0.25	-
Fresher	-0.5	MCr0.002	-
1 Hardpoint	-	MCr0.1	-
Triple Turret	-	MCr1	-
Missile Magazine	-	MCr0.1	-
Cargo	-3.2	-	
<b>Totals</b>	<b>+0</b>	<b>MCr37.952</b>	<b>(MCr30.362 with 20% standard design discount)</b>

**SLOW BOAT***Small Spacecraft*

TL9, MCr25.682, 30 tons. The Slow Boat is more affordable than its faster cousin, and cargo space is better. These craft are often used by larger merchant ships. The vessel requires a crew of two, at least one of whom must have at least a Pilot skill rank of one or higher, and requires 5 months to build.

**SLOW BOAT**

<b>Class:</b> Smallcraft	<b>EP Output:</b> 3 (1.1 excess)
<b>Tech Level:</b> 9	<b>Agility:</b> 3 (+3 EP)
<b>Size:</b> Small (30 tons)	<b>Initiative:</b> +3 (+3 agility)
<b>Streamlining:</b> Streamlined	<b>AC:</b> 14 (+3 agility, +1 size)
<b>Jump Range:</b> None	<b>Repulsors:</b> None
<b>Acceleration:</b> 3-G	<b>Nuclear Dampers:</b> None
<b>Fuel:</b> 3 tons	<b>Meson Screens:</b> None
<b>Duration:</b> 4 weeks	<b>Black Globes:</b> None
<b>Crew:</b> 2	<b>AR:</b> 0
<b>Staterooms:</b> 0	<b>SI:</b> 80
<b>Small Cabins:</b> 1	<b>Main Computer:</b> Model/3
<b>Bunks:</b> 0	<b>Sensor Range:</b> Medium (Model/3)
<b>Couches:</b> 2	<b>Comm. Range:</b> Medium (Model/3)
<b>Low Berths:</b> 0	
<b>Cargo Space:</b> 8.4 tons	<b>Cost:</b> MCr25.682 (new)
Atmospheric Speeds	NoE = 275kph
Cruising = 200kph	Maximum = 375kph
<b>Other Equipment:</b> Fresher, missile magazine	

Triple Turret: empty

**TAS Form 3.1 (Condensed)****Ship's Data (Commercial)****TL9 Design Specifications**

	<i>Size</i>	<i>Cost</i>	<i>EP</i>
30-ton streamlined cylinder hull	+30	MCr3.15	-
Bridge Controls	-6	MCr0.15	-
Model/3 Computer	-0.3	MCr12.6	-1 EP
Flight Avionics	-0.4	(MCr0.9)	-
Medium Range Sensors	-0.9	(MCr1.8)	-
Medium Range Communications	-0.6	(MCr1.5)	-
3-G Acceleration	-2.4	MCr1.2	-0.9 EP
TL9 Fusion Power Plant	-4.5	MCr13.5	+3 EP
Fuel		-3	-
2 Small Craft Couches	-1	MCr0.05	-
1 Small Cabin	-2	MCr0.25	-
Fresher	0.5	MCr0.002	-
1 Hardpoint	-	MCr0.1	-
Triple Turret	-	MCr1	-
Missile Magazine	-	MCr0.1	-
Cargo	8.4	-	-
<b>Totals</b>	<b>+0</b>	<b>MCr 32.102</b>	

(MCr 25.682 with 20% standard design discount)

## PINNACE

### Small Spacecraft

TL10, MCr45.522, 40 tons. A larger craft designed for high performance in atmosphere or in space, the Pinnacle is fairly uncommon among small craft due to its high cost. Requires a crew of two.

## PINNACE

<b>Class:</b> Smallcraft	<b>EP Output:</b> 4 (1.2 excess)
<b>Tech Level:</b> 10	<b>Agility:</b> 4 (+4 EP)
<b>Size:</b> Small (40 tons)	<b>Initiative:</b> +4 (+4 agility)
<b>Streamlining:</b> Streamlined	<b>AC:</b> 15 (+4 agility, +1 size)
<b>Jump Range:</b> None	<b>Repulsors:</b> None
<b>Acceleration:</b> 5-G	<b>Nuclear Dampers:</b> None
<b>Fuel:</b> 6 tons	<b>Meson Screens:</b> None
<b>Duration:</b> 4 weeks	<b>Black Globes:</b> None
<b>Crew:</b> 2	<b>AR:</b> 0
<b>Staterooms:</b> 0	<b>SI:</b> 82
<b>Small Cabins:</b> 1	<b>Main Computer:</b> Model/4
<b>Bunks:</b> 0	<b>Sensor Range:</b> Long (Model/4)
<b>Couches:</b> 2	<b>Comm. Range:</b> Long (Model/4)
<b>Low Berths:</b> 0	
<b>Cargo Space:</b> 5.1 tons	<b>Cost:</b> MCr45.522 (new)
Atmospheric Speeds:	NoE = 275kph
Cruising = 200kph	Maximum = 375kph
<b>Other Equipment:</b> Fresher, missile magazine	

Triple Turret: empty

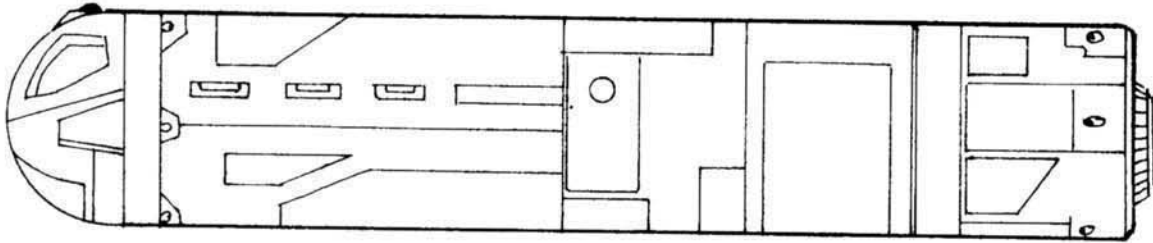
## TAS Form 3.1 (Condensed)

## Ship's Data (Commercial)

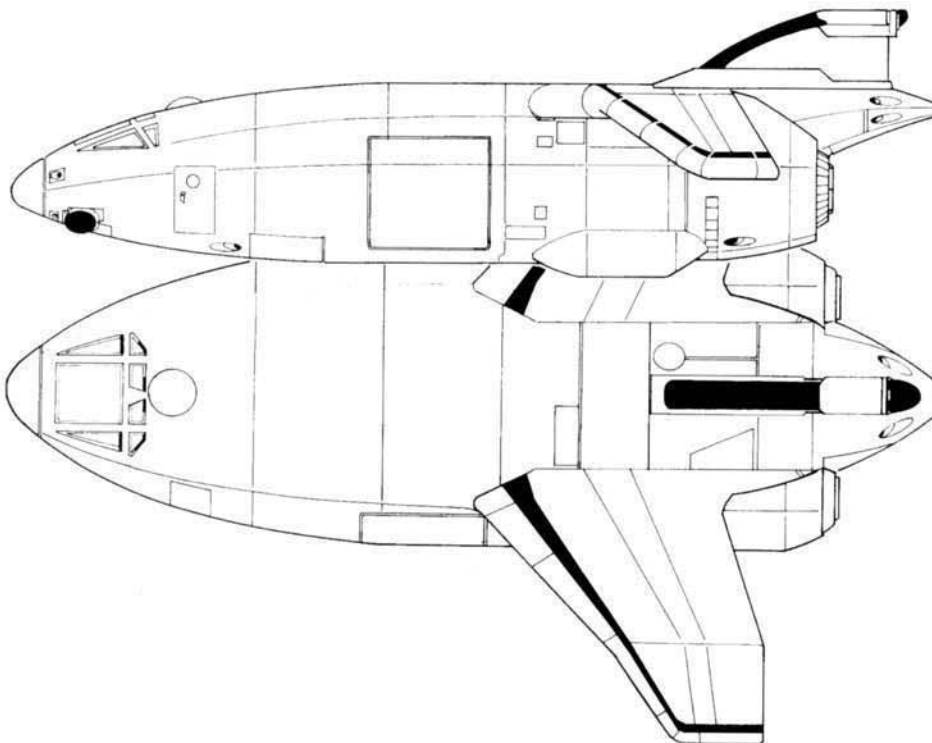
### TL10 Design Specifications

	Size	Cost	EP
40-ton streamlined cylinder hull	+40	MCr4.2	-
Bridge Controls	-8	MCr0.2	-
Model/4 Computer	-0.4	MCr21.2	-2 EP
Flight Avionics	-0.4	(MCr0.9)	-
Long Range Sensors	-1.2	(MCr2.4)	-
Medium Range Communications	-0.8	(MCr2)	-
5-G Acceleration	-5.6	MCr2.8	-2 EP
TL9 Fusion Power Plant	-9	MCr27	+6 EP
Fuel		-6	- -
2 Small Craft Couches	-1	MCr0.05	-
1 Small Cabin	-2	MCr0.25	-
Fresher	-0.5	MCr0.002	-
1 Hardpoint	-	MCr0.1	-
Triple Turret	-	MCr1	-
Missile Magazine	-	MCr0.1	-
Cargo	5.1	-	-
<b>Totals</b>	<b>+0</b>	<b>MCr 56.902 (MCr 45.522 with 20% standard design discount)</b>	





Slow Boat, page 315



Pinnacle, page 316

## SLOW PINNACE

### Small Spacecraft

TL9, MCr26.722, 40 tons. The Slow Pinnacle carries far more cargo than its faster cousin, and at a lower price. Performance in atmosphere is still good, and with the extra cargo capacity of a Slow Boat in a hull only 10 tons larger, the Slow Pinnacle sees some use as a cargo lighter for merchant ships that cannot enter atmosphere. Requires a crew of two.

## SLOW PINNACE

<b>Class:</b> Smallcraft	<b>EP Output:</b> 3 (1.2 excess)
<b>Tech Level:</b> 9	<b>Agility:</b> 3 (+3 EP)
<b>Size:</b> Small (40 tons)	<b>Initiative:</b> +3 (+3 agility)
<b>Streamlining:</b> Streamlined	<b>AC:</b> 14 (+3 agility, +1 size)
<b>Jump Range:</b> None	<b>Repulsors:</b> None
<b>Acceleration:</b> 2-G	<b>Nuclear Dampers:</b> None
<b>Fuel:</b> 3 tons	<b>Meson Screens:</b> None
<b>Duration:</b> 4 weeks	<b>Black Globes:</b> None
<b>Crew:</b> 2	<b>AR:</b> 0
<b>Staterooms:</b> 0	<b>SI:</b> 82
<b>Small Cabins:</b> 1	<b>Main Computer:</b> Model/3
<b>Bunks:</b> 0	<b>Sensor Range:</b> Medium (Model/3)
<b>Couches:</b> 2	<b>Comm. Range:</b> Medium (Model/3)
<b>Low Berths:</b> 0	
<b>Cargo Space:</b> 16.8 tons	<b>Cost:</b> MCr30.362 (new)
<b>Atmospheric Speeds:</b>	NoE = 275kph
<b>Cruising = 200kph</b>	Maximum = 375kph
<b>Other Equipment:</b> Fresher, missile magazine	

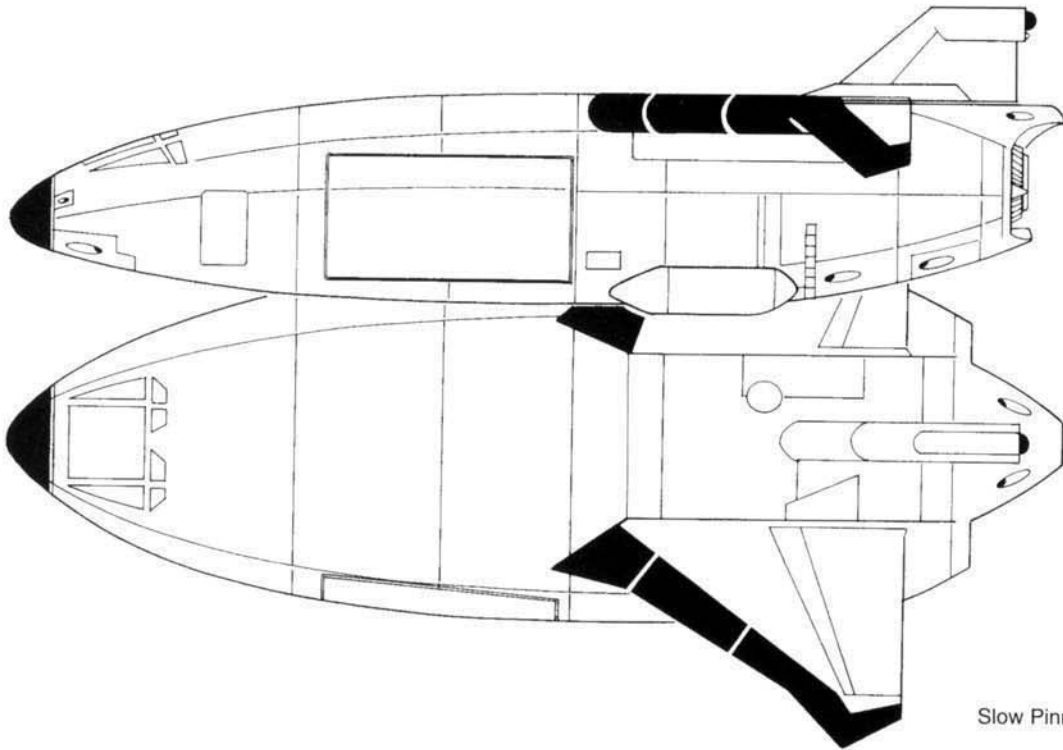
Triple Turret: empty

## TAS Form 3.1 (Condensed)

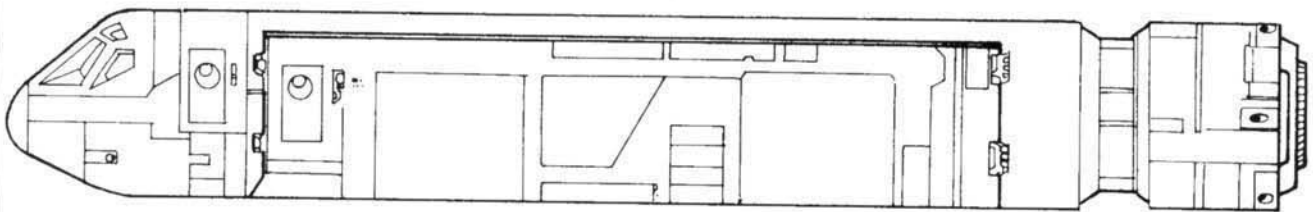
## Ship's Data (Commercial)

### TL9 Design Specifications

	Cost	Size	EP
40-ton streamlined cylinder hull	+40	MCr4.2	-
Bridge Controls	-8	MCr0.2	-
Model/3 Computer	-0.3	MCr12.6	-1 EP
Flight Avionics	-0.4	(MCr0.9)	-
Medium Range Sensors	-0.9	(MCr1.8)	-
Medium Range Communications	-0.6	(MCr1.5)	-
2-G Acceleration	-2	MCr1.4	-0.8 EP
TL9 Fusion Power Plant	-4.5	MCr13.5	+3 EP
Fuel		-3	--
2 Small Craft Couches	-1	MCr0.05	-
1 Small Cabin	-2	MCr0.25	-
Fresher	-0.5	MCr0.002	-
1 Hardpoint	-	MCr0.1	-
Triple Turret	-	MCr1	-
Missile Magazine	-	MCr0.1	-
Cargo	16.8	-	-
<b>Totals</b>		+0	MCr 33.402 (MCr 26.722 with 20% standard design discount)



Slow Pinnace, page 318



Modular Cutter, page 320



## MODULAR CUTTER

### Small Spacecraft

TL10, MCr12.14, 50 tons. The Modular Cutter is a highly versatile design used in many Port Authority, mercantile and military applications. The 30-ton module bay can carry a range of standard and custom modules (purchased separately) for cargo transfer, passenger or more specialist applications. Requires a crew of two, but has space for a third crewmember or passenger.

## MODULAR CUTTER

<b>Class:</b> Smallcraft	<b>EP Output:</b> 1 (no excess)
<b>Tech Level:</b> 10	<b>Agility:</b> 0
<b>Size:</b> Small (50 tons)	<b>Initiative:</b> +0
<b>Streamlining:</b> Streamlined	<b>AC:</b> 11 (+1 size)
<b>Jump Range:</b> None	<b>Repulsors:</b> None
<b>Acceleration:</b> 2-G	<b>Nuclear Dampers:</b> None
<b>Fuel:</b> 1 tons	<b>Meson Screens:</b> None
<b>Duration:</b> 4 weeks	<b>Black Globes:</b> None
<b>Crew:</b> 2	<b>AR:</b> 0
<b>Staterooms:</b> 0	<b>SI:</b> 92
<b>Small Cabins:</b> 1	<b>Main Computer:</b> Model/1
<b>Bunks:</b> 0	<b>Sensor Range:</b> Close (Model/1)
<b>Couches:</b> 3	<b>Comm. Range:</b> Close (Model/1)
<b>Low Berths:</b> 0	
<b>Cargo Space:</b> 0.4 tons	<b>Cost:</b> MCr12.14 (new)
Atmospheric Speeds:	NoE = 275kph
Cruising = 200kph	Maximum = 375kph
<b>Other Equipment:</b>	

Triple Turret: empty

### TAS Form 3.1 (Condensed)

### Ship's Data (Commercial)

### TL10 Design Specifications

	Size	Cost	EP
50-ton streamlined cylinder hull	+50	MCr5.25	-
Bridge Controls	-10	MCr0.25	-
Model/1 Computer	-0.1	MCr2	-
Flight Avionics	-0.4	(MCr0.9)	-
Close Range Sensors	-0.3	(MCr0.6)	-
Close Range Communications	-0.2	(MCr0.5)	-
2-G Acceleration	-2.5	MCr1.75	-1 EP
TL9 Fusion Power Plant	-1.5	MCr4.5	+1 EP
Fuel		-1	-
3 Small Craft Couches	-1.5	MCr0.075	-
1 Small Cabin	-2	MCr0.25	-
1 Hardpoint	-	MCr0.1	-
Triple Turret	-	MCr1	-
Cargo	0.4	-	-
Module Options			
30 ton ATV Module (w/ATV)	-30	MCr1.8	-
30 ton Fuel Module	-30	MCr1	-
30 ton Open Module	-30	MCr2	-
<b>Totals</b>	<b>+0</b>	<b>MCR 15.175 (MCr 12.14 with 20% standard design discount)</b>	

**SHUTTLE***Small Spacecraft*

TL10, MCr54.42, 95 tons. The Shuttle is a bulk cargo or passenger transfer craft. Reasonably fast, shuttles can undertake almost any task required of them and can be customized to meet an even wider range of needs. Requires a crew of two. Takes 7 months to build.

**SHUTTLE**

<b>Class:</b> Smallcraft	<b>EP Output:</b> 7 (2.15 excess)
<b>Tech Level:</b> 9	<b>Agility:</b> 2 (+2 EP)
<b>Size:</b> Small (95 tons)	<b>Initiative:</b> +2 (+2 agility)
<b>Streamlining:</b> Streamlined	<b>AC:</b> 13 (+2 agility, +1 size)
<b>Jump Range:</b> None	<b>Repulsors:</b> None
<b>Acceleration:</b> 3-G	<b>Nuclear Dampers:</b> None
<b>Fuel:</b> 7 tons	<b>Meson Screens:</b> None
<b>Duration:</b> 4 weeks	<b>Black Globes:</b> None
<b>Crew:</b> 2	<b>AR:</b> 0
<b>Staterooms:</b> 0	<b>SI:</b> 96
<b>Small Cabins:</b> 1	<b>Main Computer:</b> Model/4
<b>Bunks:</b> 0	<b>Sensor Range:</b> Long (Model/4)
<b>Couches:</b> 2	<b>Comm. Range:</b> Long (Model/4)
<b>Low Berths:</b> 0	
<b>Cargo Space:</b> 44.6 tons	<b>Cost:</b> MCr54.42 (new)
<b>Atmospheric Speeds:</b>	NoE = 275kph
Cruising = 200kph	Maximum = 375kph
<b>Other Equipment:</b> Fresher, missile magazine	

Triple Turret: empty

**TAS Form 3.1 (Condensed)****Ship's Data (Commercial)****TL10 Design Specifications**

	<i>Size</i>	<i>Cost</i>	<i>EP</i>
95-ton streamlined wedge hull	+95	MCr9.5475	-
Bridge Controls	-19	MCr0.475	-
Model/4 Computer	-0.4	MCr21.2	-2 EP
Flight Avionics	-0.4	(MCr0.9)	-
Long Range Sensors	-1.2	(MCr2.4)	-
Medium Range Communications	-0.8	(MCr2)	-
3-G Acceleration	-7.6	MCr3.8	-2.85 EP
TL9 Fusion Power Plant	-10.5	MCr31.5	+7 EP
Fuel		-7	- -
2 Small Craft Couches	-1	MCr0.05	-
1 Small Cabin	-2	MCr0.25	-
Fresher	-0.5	MCr0.002	-
1 Hardpoint	-	MCr0.1	-
Triple Turret	-	MCr1	-
Missile Magazine	-	MCr0.1	-
Cargo	-44.6	-	-
<b>Totals</b>	<b>+0</b>	<b>MCr 68.025 (MCr 54.42 with 20% standard design discount)</b>	

## FIGHTER

### Small Spacecraft

TL10, MCr27.3, 15 tons. Fighters come in a range of sizes, from 15 or 20-ton light models up to 50-ton strike fighters. The 15-ton light fighter is the commonest design in use. Extremely fast and maneuverable, fighters are however very fragile and are primarily useful for screening and patrol work, and for policing merchant traffic. Even en masse, fighters are little threat to a major warship, but to an unruly Free Trader or a small commerce raider they may be an effective deterrent.

## FIGHTER

<b>Class:</b> Smallcraft	<b>EP Output:</b> 1.9 (1 excess)
<b>Tech Level:</b> 9	<b>Agility:</b> 6 (+6 EP)
<b>Size:</b> Small (15 tons)	<b>Initiative:</b> +6 (+6 agility)
<b>Streamlining:</b> Streamlined	<b>AC:</b> 17 (+6 agility, +1 size)
<b>Jump Range:</b> None	<b>Repulsors:</b> None
<b>Acceleration:</b> 6-G	<b>Nuclear Dampers:</b> None
<b>Fuel:</b> 1.9 tons	<b>Meson Screens:</b> None
<b>Duration:</b> 4 weeks	<b>Black Globes:</b> None
<b>Crew:</b> 1	<b>AR:</b> 0
<b>Staterooms:</b> 0	<b>SI:</b> 77
<b>Small Cabins:</b> 0	<b>Main Computer:</b> Model/1
<b>Bunks:</b> 0	<b>Sensor Range:</b> Close (Model/1)
<b>Couches:</b> 1	<b>Comm. Range:</b> Close (Model/1)
<b>Low Berths:</b> 0	
<b>Cargo Space:</b> 2.2 tons	<b>Cost:</b> MCr27.3 (new)
Atmospheric Speeds:	NoE = 275kph
Cruising = 200kph	Maximum = 375kph
<b>Other Equipment:</b> None	

Triple Turret: empty

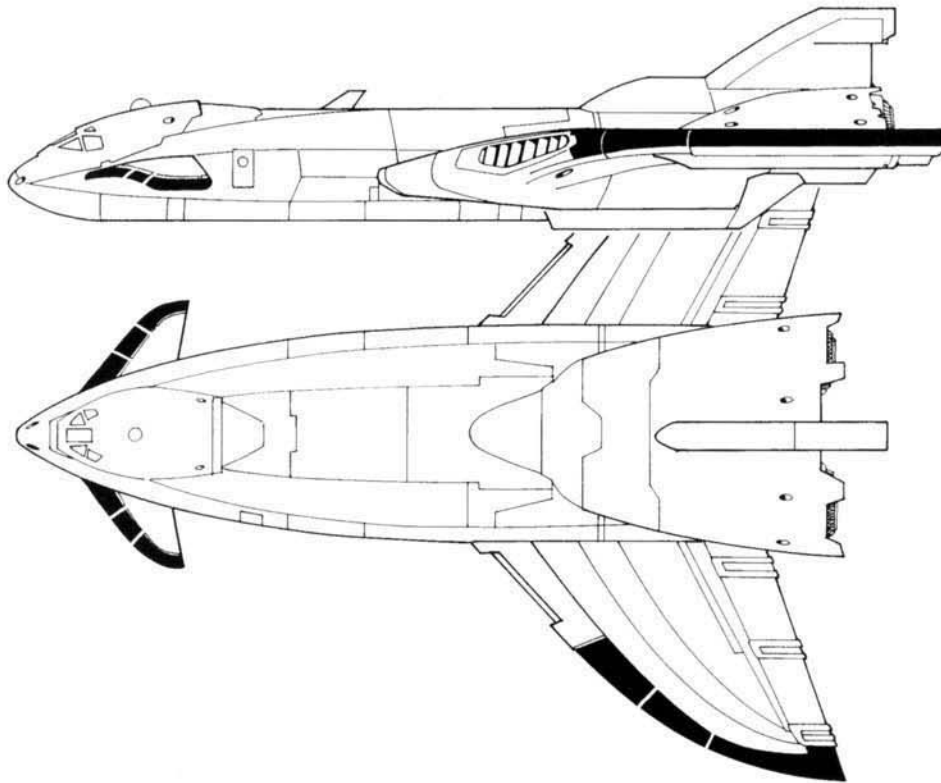
### TAS Form 3.1 (Condensed)

### Ship's Data (Commercial)

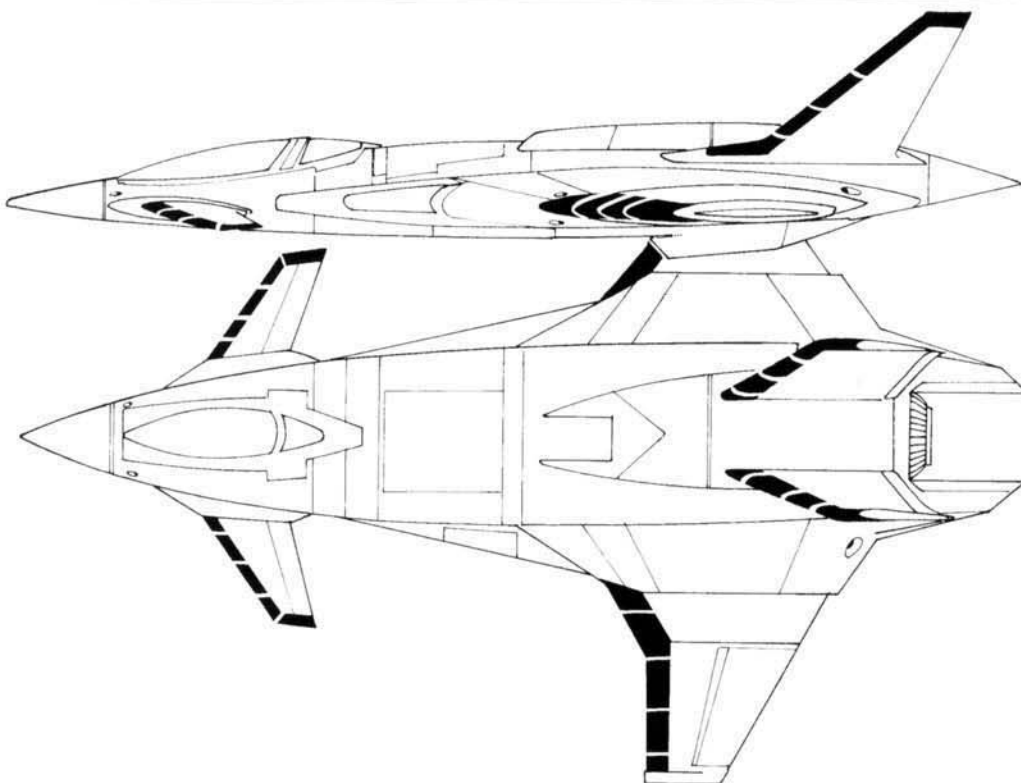
### TL9 Design Specifications

	Size	Cost	EP
15-ton streamlined wedge hull	+15	MCr1.875	-
Bridge Controls	-4	MCr0.1	-
Model/1 Computer	-0.1	MCr21.2	-
Flight Avionics	-0.4	(MCr0.9)	-
Close Range Sensors	-0.3	(MCr0.6)	-
Close Range Communications	-0.2	(MCr0.5)	-
6-G Acceleration	-2.55	MCr1.275	-0.9 EP
TL9 Fusion Power Plant	-2.85	MCr8.55	+1.9 EP
Fuel		-1.9	-
1 Small Craft Couches	-0.5	MCr0.025	-
1 Hardpoint	-	MCr0.1	-
Triple Turret	-	MCr1	-
Cargo	-2.2	-	-
<b>Totals</b>	<b>+0</b>	<b>MCr 34.125 (MCr 27.3 with 20% standard design discount)</b>	





Shuttle, page 321



Fighter, page 322



## STARSHIP DESIGNS

The following are all starship designs common in Charted Space. Crew requirements are minimal, and for maximum efficiency extra crew should be carried. Typically these personnel include extra engineers, a backup pilot (or a dedicated pilot to avoid the strain and distraction of having to pilot and astrogate a starship). Larger ships may have specialist command personnel, small craft pilots, technicians, cargo handlers, additional stewards etc, and any vessel mounting weapons will need gunners to operate them.

### COMMON STARSHIPS AND SPACECRAFT

Ship	TL	Cost	Size	Acceleration	Jump	Cargo
Scout/Courier	11	MCr42.258	100 tons	2-G	2	20
Seeker	11	*	100 tons	1-G	2	35
Far Trader	11	MCr67.384	200 tons	2-G	2	66
Free Trader	9	MCr50.64	200 tons	1-G	1	96
Safari Ship	11	MCr73.532	200 tons	1-G	2	50
System Defense Boat	14	MCr202.36	200 tons	6-G	-	18.6
Yacht	9	MCr74.306	200 tons	1-G	1	47
Corsair	11	*	400 tons	3-G	2	163.9
Laboratory Ship	11	MCr203.038	400 tons	1-G	2	32.4
Patrol Cruiser	12	MCr226.24	400 tons	4-G	3	25.8
Subsidized Merchant	9	MCr96.874	400 tons	1-G	1	236.5
Subsidized Liner	12	MCr234.674	600 tons	1-G	3	202.8
Mercenary Cruiser	12	MCr409.395	800 tons	3-G	3	205.2

**SCOUT/COURIER (TYPE S)***Medium-Size Starship*

The Type S Scout/Courier is the most commonly seen ship in Charted Space. Small, cheap, and reasonably economical to operate, these ships have become a workhorse for both the government and military fleets; some are encountered in commercial use. Most Scout/Couriers are actually former Scout Service vessels either purchased as surplus from the government or are assigned for the private use of former Scouts currently on Detached Duty. In return for use of the ship the Scouts (and the ship itself) are subject to recall at any time for temporary or indefinite duty, as the Scout service requires.

The ship itself is built using the smallest available hull for a starship, 100-tons. The vessel carries a Maneuver drive capable of up to 2-G acceleration and a Jump-2 drive. The power plant provides just enough energy to power the maneuver drives or the Jump drive. If laser or energy weapons are installed, a larger power plant will be needed. Most ex-Scout vessels have had their powerful computer and sensor arrays removed and replaced with a standard Model/1bis computer. 4 staterooms are available for crew and passengers. Small cargoes may also be carried in the ship's compact 25-ton cargo hold. The vessel also carries a small vehicle bay, usually containing an air/raft.

The Scout/Courier requires a crew of one to operate; the pilot who must assume the duties of pilot and astrogator, and also oversees the highly automated drive section. A second crewmember is desirable. The Type S costs MCr42.258 new, and takes 5 months to build.

**SCOUT/COURIER**

<b>Class:</b> Starship, type S	<b>EP Output:</b> 4 (2 excess)
<b>Tech Level:</b> 11	<b>Agility:</b> 2 (+2 EP)
<b>Size:</b> Medium (100 tons)	<b>Initiative:</b> +2 (+2 agility)
<b>Streamlining:</b> Streamlined	<b>AC:</b> 12 (+2 agility)
<b>Jump Range:</b> 1 x Jump-2	<b>Repulsors:</b> 0
<b>Acceleration:</b> 2-G	<b>Nuclear Dampers:</b> 0
<b>Fuel:</b> 24 tons	<b>Meson Screens:</b> 0
<b>Duration:</b> 4 weeks	<b>Black Globes:</b> 0
<b>Crew:</b> 1	<b>AR:</b> 0
<b>Staterooms:</b> 4	<b>SI:</b> 100
<b>Small Cabins:</b> 0	<b>Main Computer:</b> Model/1 (5 CPU)
<b>Bunks:</b> 0	<b>Sensor Range:</b> Close (Model/1)
<b>Couches:</b> 0	<b>Comm. Range:</b> Close (Model/1)
<b>Low Berths:</b> 0	
<b>Cargo Space:</b> 20 tons	<b>Cost:</b> MCr42.258 (new)
<b>Atmospheric Speeds:</b>	NoE = 275kph
Cruising = 825kph	Maximum = 1100kph
<b>Other Equipment:</b> Air/raft, fuel scoops.	

Double Turret: empty

**TAS Form 3.1 (Condensed)****Ship's Data (Commercial)****Design Specifications**

<i>Installed Components</i>	<i>Tonnage</i>	<i>Cost</i>	<i>EP</i>
100-ton Hull	+100	MCr12	-
Bridge	-20	MCr0.1	-
Computer	-0.1	MCr4	-
Flight Avionics	-0.4	(MCr0.9)	-
Sensors	-0.3	(MCr0.6)	-
Communications	-0.2	(MCr0.5)	-
Jump Drive 2	-3	MCr12	-2
Jump Fuel	-20	-	-
Maneuver Drive 2	-5	MCr3.5	-2
TL9 Power Plant	-6	MCr18	+4
Power Plant Fuel	-4	-	-
Fuel Scoops	-	MCr0.1	-
1 Hard Point	-	MCr0.1	-
Double Turret	-	MCr0.75	-
Air/Raft	-5	MCr0.273	-
Staterooms (4)	-16	MCr2	-
Cargo	-20	-	-
<b>Totals</b>	<b>+0</b>	<b>MCr52.823 (MCr42.258 with 20% standard design discount)</b>	



## SEEKER (TYPE J)

### Medium-Size Starship

The Type J Seeker is adapted from the standard Scout/Courier design to create a vessel suitable for lone prospectors or small teams. Ore sampling equipment is fitted, and the air-raft is usually replaced with a pressurized buggy for ground expeditions. The Seeker requires a crew of one to operate, the pilot who may assume the duties of both pilot and Astrogator. If built new, the ship would cost MCr34.178 and takes 9 months to build, but most are highly modified Scout/Couriers. Seekers do not fetch very high sale prices; around MCr20 depending on the state of the craft.

### SEEKER

<b>Class:</b> Starship, type J	<b>EP Output:</b> 2
<b>Tech Level:</b> 11	<b>Agility:</b> 0
<b>Size:</b> Medium (100 tons)	<b>Initiative:</b> +0
<b>Streamlining:</b> Streamlined	<b>AC:</b> 10
<b>Jump Range:</b> 1 x Jump-2	<b>Repulsors:</b> None
<b>Acceleration:</b> 1-G	<b>Nuclear Dampers:</b> None
<b>Fuel:</b> 22 tons	<b>Meson Screens:</b> None
<b>Duration:</b> 4 weeks	<b>Black Globes:</b> None
<b>Crew:</b> 1	<b>AR:</b> 0
<b>Staterooms:</b> 2	<b>SI:</b> 100
<b>Small Cabins:</b> 0	<b>Main Computer:</b> Model/1bis (5 CPU)
<b>Bunks:</b> 0	<b>Sensor Range:</b> Close (Model/1)
<b>Couches:</b> 0	<b>Comm. Range:</b> Close (Model/1)
<b>Low Berths:</b> 0	
<b>Cargo Space:</b> 35 tons	<b>Cost:</b> see description
<b>Atmospheric Speeds:</b>	NoE = 275kph
Cruising = 825kph	Maximum = 1100kph
<b>Other Equipment:</b> Air/raft.	

**Double Turret:** Single Mining Laser; Attack Bonus +1 (+1 USP), Damage: 1d6, Range Increment: 15,000km.

### TAS Form 3.1 (Condensed)

### Ship's Data (Commercial)

### Design Specifications

Installed Components	Tonnage	Cost	EP
100-ton Hull	+100	MCr12	-
Bridge	-20	MCr0.1	-
Computer	-0.1	MCr4	-
Flight Avionics	-0.4	(MCr0.9)	-
Sensors	-0.3	(MCr0.6)	-
Communications	-0.2	(MCr0.5)	-
Jump Drive 2	-3	MCr12	-2
Jump Fuel	-20	-	-
Maneuver Drive 1	-2	MCr3	-1
TL9 Power Plant	-3	MCr9	+2
Power Plant Fuel	-2	-	-
1 Hard Point	-	MCr0.1	-
Double Turret	-	MCr0.75	-
Mining Laser	-1	MCr0.5	-0.5
Air/Raft	-5	MCr0.273	-
Staterooms (2)	-8	MCr1	-
Cargo	-35	-	-
<b>Totals</b>	<b>+0</b>	<b>MCr42.723 (MCr34.178 with 20% standard design discount)</b>	

**FAR TRADER (TYPE A2)***Medium-Size Starship*

The Jump-2 Far Trader sacrifices some cargo space for engines and fuel, meaning that it cannot really compete on a main. However, A2s can be encountered almost anywhere. They are particularly common in backwater regions where larger vessels are uneconomical. On the frontier, many Far Traders are armed. The Far Trader requires a crew of four: the pilot, astrogator and engineer to operate the ship along with a medic/steward to attend to the passengers. The ship cost MCr67.384 new, and takes 9 months to build.

**FAR TRADER**

<b>Class:</b> Starship, type A2	<b>EP Output:</b> 4
<b>Tech Level:</b> 11	<b>Agility:</b> 0
<b>Size:</b> Medium (200 tons)	<b>Initiative:</b> +0
<b>Streamlining:</b> Streamlined	<b>AC:</b> 10
<b>Jump Range:</b> 1 x Jump-2	<b>Repulsors:</b> None
<b>Acceleration:</b> 2-G	<b>Nuclear Dampers:</b> None
<b>Fuel:</b> 44 tons	<b>Meson Screens:</b> None
<b>Duration:</b> 4 weeks	<b>Black Globes:</b> None
<b>Crew:</b> 4	<b>AR:</b> 0
<b>Staterooms:</b> 10	<b>SI:</b> 115
<b>Small Cabins:</b> 0	<b>Main Computer:</b> Model/1bis (5 CPU)
<b>Bunks:</b> 0	<b>Sensor Range:</b> Close (Model/1)
<b>Couches:</b> 0	<b>Comm. Range:</b> Close (Model/1)
<b>Low Berths:</b> 4	
<b>Cargo Space:</b> 66 tons	<b>Cost:</b> MCr67.384 (new)
<b>Atmospheric Speeds:</b>	NoE = 275kph
Cruising = 825kph	Maximum = 1100kph
<b>Other Equipment:</b> Air/raft	

Double Turret: Empty.  
Double Turret: Empty.

**TAS Form 3.1 (Condensed)****Ship's Data (Commercial)****Design Specifications**

<i>Installed Components</i>	<i>Tonnage</i>	<i>Cost</i>	<i>EP</i>
200-ton Hull	+200	MCr24	-
Bridge	-20	MCr0.5	-
Computer	-0.1	MCr4	-
Flight Avionics	-0.4	(MCr0.9)	-
Sensors	-0.3	(MCr0.6)	-
Communications	-0.2	(MCr0.5)	-
Jump Drive 2	-6	MCr24	-4
Jump Fuel	-40	-	-
Maneuver Drive 2	-10	MCr7	-4
TL9 Power Plant	-6	MCr18	+4
Power Plant Fuel	-4	-	-
2 Hard Points	-	MCr0.2	-
2 Double Turrets	-	MCr1.5	-
Staterooms (10)	-40	MCr5	-
Low Berths (4)	-2	MCr0.2	-
Air/Raft	-5	MCr0.273	-
Cargo	-66	-	-
<b>Totals</b>	<b>+0</b>	<b>MCr84.673 (67.384)</b>	

## FREE TRADER (TYPE A)

### Medium-Size Starship

Jump-1 Free Traders, of Type A and other designs, are very common starships. They ply the Jump-1 mains making a living from speculative trade and picking up the odd small shipment after the Corporate freighters have passed through. Many Free Traders are heavily modified as a result of their advancing age and non-standard refits. On the frontier, most vessels will be armed with at least a single laser. The Free Trader requires a crew of four: pilot, astrogator and engineer to operate the ship along with a medic/steward to attend to the passengers. The ship cost MCr50.64 new, and takes 9 months to build.

### FREE TRADER

<b>Class:</b> Starship, type A	<b>EP Output:</b> 2
<b>Tech Level:</b> 9	<b>Agility:</b> 0
<b>Size:</b> Medium (200 tons)	<b>Initiative:</b> +0
<b>Streamlining:</b> Streamlined	<b>AC:</b> 10
<b>Jump Range:</b> 1 x Jump-1	<b>Repulsors:</b> None
<b>Acceleration:</b> 1-G	<b>Nuclear Dampers:</b> None
<b>Fuel:</b> 22 tons	<b>Meson Screens:</b> None
<b>Duration:</b> 4 weeks	<b>Black Globes:</b> None
<b>Crew:</b> 4	<b>AR:</b> 0
<b>Staterooms:</b> 10	<b>SI:</b> 115
<b>Small Cabins:</b> 0	<b>Main Computer:</b> Model/1 (5 CPU)
<b>Bunks:</b> 0	<b>Sensor Range:</b> Close (Model/1)
<b>Couches:</b> 0	<b>Comm. Range:</b> Close (Model/1)
<b>Low Berths:</b> 20	
<b>Cargo Space:</b> 96 tons	<b>Cost:</b> MCr50.64 (new)
<b>Atmospheric Speeds:</b>	NoE = 275kph
Cruising = 825kph	Maximum = 1100kph
<b>Other Equipment:</b> None.	

No turrets or weapons installed.

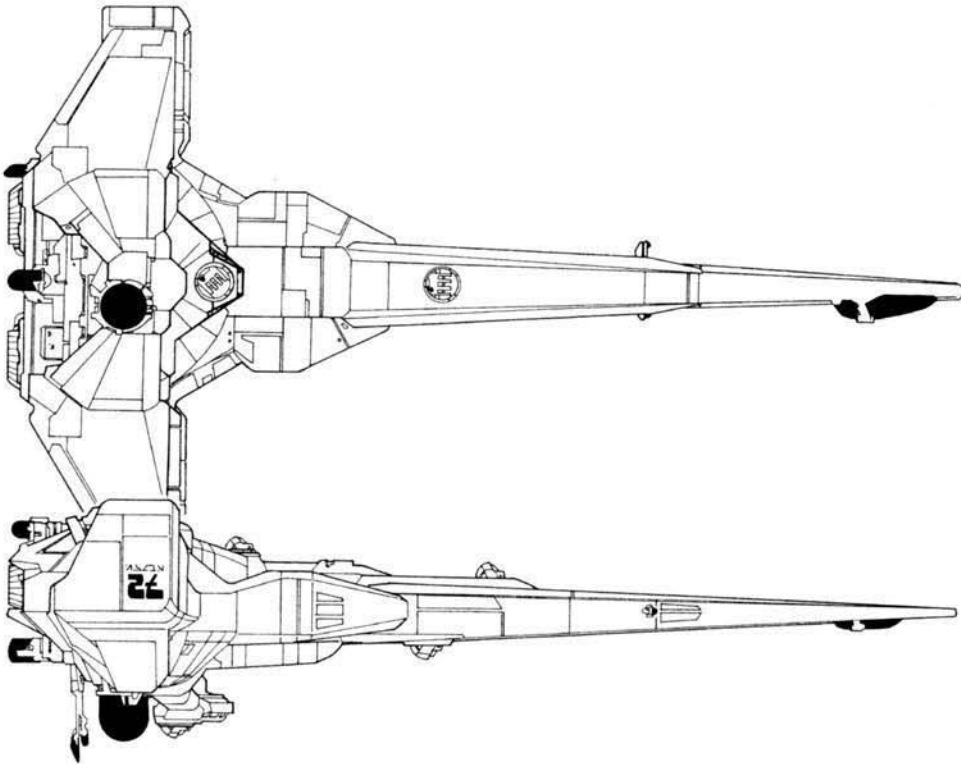
### TAS Form 3.1 (Condensed)

### Ship's Data (Commercial)

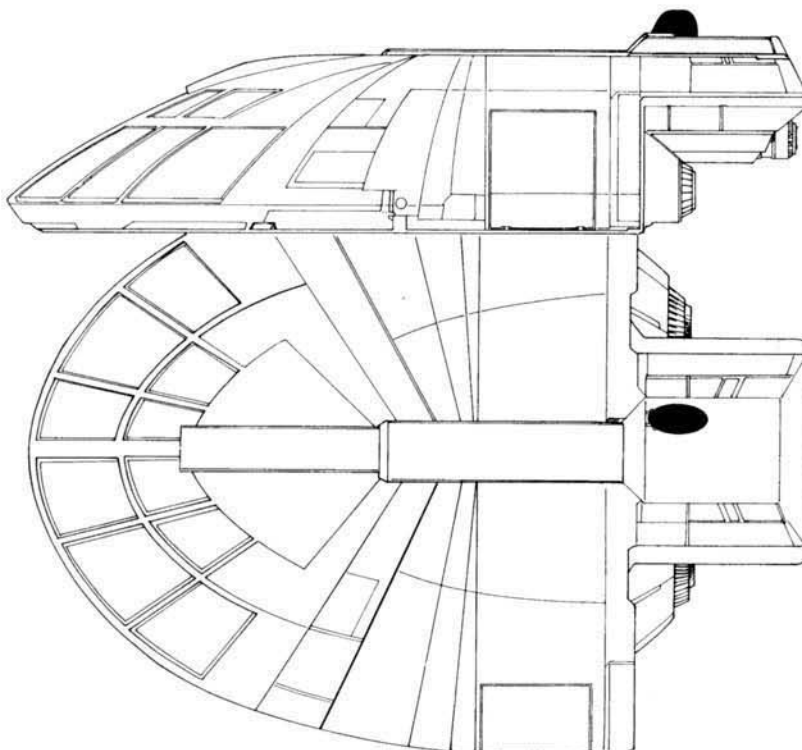
#### Design Specifications

Installed Components	Tonnage	Cost	EP
200-ton Hull	+200	MCr24	-
Bridge	-20	MCr0.1	-
Computer	-0.1	MCr2	-
Flight Avionics	-0.4	(MCr0.9)	-
Sensors	-0.3	(MCr0.6)	-
Communications	-0.2	(MCr0.5)	-
Jump Drive 1	-4	MCr16	-2
Jump Fuel	-20	-	-
Maneuver Drive 1	-4	MCr6	-2
TL9 Power Plant	-3	MCr9	+2
Power Plant Fuel	-2	-	-
2 Hard Points	-	MCr0.2	-
Staterooms (10)	-40	MCr5	-
Low Berths (20)	-10	MCr1	-
Cargo	-96	-	-
<b>Totals</b>	<b>+0</b>	<b>MCr63.3 (MCr50.64 with 20% standard design discount)</b>	





Patrol Cruiser, page 336



Safari Ship, page 330

## SAFARI SHIP (TYPE K)

### Medium-Size Starship

The Safari Ship is somewhat less common than other small vessels. Its most common function is as a "poor person's yacht"; a small personal transport with a modest cargo capacity. However, this is not its designed function. Safari ships are intended to be used as a mobile base from which to conduct private exploration, surveying, hunting (of a photographic or lethal sort) and safari missions. Accommodation is fairly luxurious, reflecting the fact that many owners hire themselves and their ship to parties of wealthy people seeking a nice, safe adventure in the wilds. Cargo space can be configured to include pens for captured wildlife, and separate climate control exists for the cargo bay to keep catches alive. The Safari Ship requires a crew of three: pilot/astrogator and engineer to operate the ship along with a medic/steward to attend to the passengers. The ship costs MCr73.532 when new and takes 9 months to build.

### SAFARI SHIP

<b>Class:</b> Starship, type K	<b>EP Output:</b> 4 (+2 excess)
<b>Tech Level:</b> 11	<b>Agility:</b> +1 (+1 EP)
<b>Size:</b> Medium (200 tons)	<b>Initiative:</b> +1 (+1 agility)
<b>Streamlining:</b> Streamlined	<b>AC:</b> 11 (+1 agility)
<b>Jump Range:</b> 1 x Jump-2	<b>Repulsors:</b> None
<b>Acceleration:</b> 1-G	<b>Nuclear Dampers:</b> None
<b>Fuel:</b> 44 tons	<b>Meson Screens:</b> None
<b>Duration:</b> 4 weeks	<b>Black Globes:</b> None
<b>Crew:</b> 3	<b>AR:</b> 0
<b>Staterooms:</b> 11	<b>SI:</b> 115
<b>Small Cabins:</b> 0	<b>Main Computer:</b> Model/1bis (5 CPU)
<b>Bunks:</b> 0	<b>Sensor Range:</b> Close (Model/1)
<b>Couches:</b> 0	<b>Comm. Range:</b> Close (Model/1)
<b>Low Berths:</b> 0	
<b>Cargo Space:</b> 50 tons	<b>Cost:</b> MCr73.532 (new)
<b>Atmospheric Speeds:</b>	NoE = 275kph
Cruising = 825kph	Maximum = 1100kph
<b>Other Equipment:</b> Air/raft, 20-ton launch	

No turrets or weapons installed.

### TAS Form 3.1 (Condensed)

### Ship's Data (Commercial)

#### Design Specifications

Installed Components	Tonnage	Cost	EP
200-ton Hull	+200	MCr24	-
Bridge	-20	MCr0.1	-
Computer	-0.1	MCr4	-
Flight Avionics	-0.4	(MCr0.9)	-
Sensors	-0.3	(MCr0.6)	-
Communications	-0.2	(MCr0.5)	-
Jump Drive 2	-6	MCr24	-4
Jump Fuel	-40	-	-
Maneuver Drive 1	-4	MCr6	-2
TL9 Power Plant	-6	MCr18	+4
Power Plant Fuel	-4	-	-
2 Hard Points	-	MCr0.2	-
Staterooms (11)	-44	MCr5.5	-
Air/Raft	-5	MCr0.273	-
20-ton Launch	-20	MCr9.842	-
Cargo	-50	-	-
<b>Totals</b>	<b>+0</b>	<b>MCr91.915 (MCr73.532 with 20% standard design discount)</b>	

**SYSTEM DEFENSE BOAT (TYPE SDB)***Medium-Size Spaceship*

A system defense boat, or SDB, is a ship that is used exclusively for planetary and star system defense, trading off the lack of jump drives for heavy armor, faster acceleration, and heavier weaponry in its place. There is no real 'standard' design for SDBs, as they are often of local manufacture or may be former starships pressed into local defense forces after having their jump drives removed. Most such conversions have additional armament and upgrades installed. Most SDBs are streamlined allowing them to also be used for orbital and air support for local ground troops.

If the need arises to move an SDB to another star system, it will usually be loaded onto a bulk freighter and shipped as large cargo, but this is very slow and inefficient and is not wise if the SDB is expected to go into action immediately upon arrival. In cases where rapid deployment at the destination is needed, Jump Pods can be built and strapped to the SDB, providing it with temporary jump capability. Upon arrival, the pods can be quickly and easily jettisoned, allowing the ship to move into action immediately. The pod would contain Jump drives large enough to Jump both the SDB and the pod itself, along with the requisite fuel needed to make the Jump.

A generic TL14 SDB like the one detailed here would cost MCr202.36 new, and take 11 months to build. It requires a crew of 6: Captain, Pilot, Engineer, 2 gunners and a missile technician who doubles as medic.

**SYSTEM DEFENSE BOAT**

<b>Class:</b> Spacecraft, type SDB	<b>EP Output:</b> 36 (12 excess)
<b>Tech Level:</b> 14	<b>Agility:</b> 6 (+6 EP)
<b>Size:</b> Medium (200 tons)	<b>Initiative:</b> +6 (+6 agility)
<b>Streamlining:</b> Airframe	<b>AC:</b> 30 (+6 agility, +14 armor)
<b>Jump Range:</b> None	<b>Repulsors:</b> None
<b>Acceleration:</b> 6-G	<b>Nuclear Dampers:</b> None
<b>Fuel:</b> 36 tons	<b>Meson Screens:</b> None
<b>Duration:</b> 4 weeks	<b>Black Globes:</b> None
<b>Crew:</b> 6	<b>AR:</b> 14
<b>Staterooms:</b> 4	<b>SI:</b> 115
<b>Small Cabins:</b> 0	<b>Main Computer:</b> Model/8 (2080 CPU)
<b>Bunks:</b> 0	<b>Sensor Range:</b> System-wide (Mod/8)
<b>Couches:</b> 0	<b>Comm. Range:</b> System-wide (Mod/8)
<b>Low Berths:</b> 0	
<b>Cargo Space:</b> 18.6 tons	<b>Cost:</b> MCr202.36 (new)
<b>Atmospheric Speeds:</b>	NoE = 1475kph
Cruising = 4425kph	Maximum = 5900kph
<b>Other Equipment:</b> Missile Magazines (x3), 60 Missiles.	

**Triple Turret:** Missile  
Racks (x3), Attack  
Bonus +2 (+2 USP),  
Damage 2d6.  
**Triple Turret:** Beam  
Lasers (x3), Attack  
Bonus +3 (+3 USP),  
Damage 3d8.

**TAS Form 3.1 (Condensed)**  
**Ship's Data (Commercial)**
**Design Specifications**

<i>Installed Components</i>	<i>Tonnage</i>	<i>Cost</i>	<i>EP</i>
200-ton Hull	+200	MCr24	-
Airframe	-10	MCr2.4	-
Armor (AR14)	-15	MCr1.8	-
Bridge	-20	MCr0.1	-
Computer	-0.8	MCr89.6	-9
Flight Avionics	-1.2	(MCr2.7)	-
Sensors	-1.6	(MCr4)	-
Communications	-1.8	(MCr4.5)	-
Maneuver Drive 6	-34	MCr17	-12
TL13 Power Plant	-36	MCr108	+36
Power Plant Fuel	-36	-	-
2 Hard Points	-	MCr0.2	-
Triple Turret	-	MCr1	-
Missile Rack (x3)	-3	MCr2.25	-
Triple Turret	-	MCr1	-
Missile Magazine (x3)	-3	MCr0.3	-
60 Missiles	-	MCr0.3	-
Beam Laser (x3)	-3	MCr3	-3
Staterooms (4)	-16	MCr2	-
Cargo	-18.6	-	-
<b>Totals</b>	<b>+0</b>	<b>MCr252.95 (MCr202.36 with 20% standard design discount)</b>	



## YACHT (TYPE Y)

### Medium-Size Starship

A Yacht is not a commercially viable vessel. It serves as personal transport for a rich individual, and sometimes as their home. As status symbols, many yachts are finely decorated and contain expensive furnishings, paintings and so on. Many are armed. The Yacht requires a crew of three to operate, the pilot (who doubles as astrogator), an engineer and a medic/steward to attend to the passengers. The ship cost MCr74.306 new, and takes 11 months to build.

## YACHT

<b>Class:</b> Starship, type Y	<b>EP Output:</b> 2
<b>Tech Level:</b> 9	<b>Agility:</b> 0
<b>Size:</b> Medium (200 tons)	<b>Initiative:</b> +0
<b>Streamlining:</b> Streamlined	<b>AC:</b> 10
<b>Jump Range:</b> 1 x Jump-1	<b>Repulsors:</b> None
<b>Acceleration:</b> 1-G	<b>Nuclear Dampers:</b> None
<b>Fuel:</b> 22 tons	<b>Meson Screens:</b> None
<b>Duration:</b> 4 weeks	<b>Black Globes:</b> None
<b>Crew:</b> 3	<b>AR:</b> 0
<b>Staterooms:</b> 14	<b>SI:</b> 115
<b>Small Cabins:</b> 0	<b>Main Computer:</b> Model/1 (5 CPU)
<b>Bunks:</b> 0	<b>Sensor Range:</b> Close (Model/1)
<b>Couches:</b> 0	<b>Comm. Range:</b> Close (Model/1)
<b>Low Berths:</b> 0	
<b>Cargo Space:</b> 47 tons	<b>Cost:</b> MCr74.306 (new)
<b>Atmospheric Speeds:</b>	NoE = 275kph
Cruising = 825kph	Maximum = 1100kph
<b>Other Equipment:</b> Air/raft, tracked ATV, 30 ton ship's boat.	

No turrets or weapons installed.

## TAS Form 3.1 (Condensed)

## Ship's Data (Commercial)

### Design Specifications

Installed Components	Tonnage	Cost	EP
200-ton Hull	+200	MCr22	-
Bridge	-20	MCr0.1	-
Computer	-0.1	MCr2	-
Flight Avionics	-0.4	(MCr0.9)	-
Sensors	-0.3	(MCr0.6)	-
Communications	-0.2	(MCr0.5)	-
Jump Drive 1	-4	MCr16	-2
Jump Fuel	-20	-	-
Maneuver Drive 1	-4	MCr6	-2
TL9 Power Plant	-3	MCr9	+2
Power Plant Fuel	-2	-	-
1 Hard Points	-	MCr0.1	-
Staterooms (14)	-56	MCr7	-
30-ton Ship's Boat	-30	MCr30.362	-
ATV (Tracked)	-8	MCr0.047	-
Air/Raft	-5	MCr0.273	-
Cargo	-47	-	-
<b>Totals</b>	<b>+0</b>	<b>MCr92.882 (MCr74.306 with 20% standard design discount)</b>	

**CORSAIR (TYPE P)***Medium-Size Starship*

A corsair has one purpose - to attack merchant ships and take their cargo. Though the ship has good cargo capacity, it is not viable in normal commerce. Some Corsairs are constructed for use by mercenary units, as transport and support. Without a merc license it is almost impossible to find (legal) funding for a Corsair. The vessel is fast and well armed but not quite up to military standards - a warship of the same tonnage would defeat it in a straight fight. Of course, pirates never fight fair... The Corsair requires on a crew of six to operate, the pilot, an astrogator, 3 engineers and a medic. The ship cost MCr154.84 new, and takes 14 months to build.

**CORSAIR**

<b>Class:</b> Starship, type P	<b>EP Output:</b> 15
<b>Tech Level:</b> 11	<b>Agility:</b> 0
<b>Size:</b> Medium (400 tons)	<b>Initiative:</b> +0
<b>Streamlining:</b> Partial	<b>AC:</b> 10
<b>Jump Range:</b> 1 x Jump-2	<b>Repulsors:</b> None
<b>Acceleration:</b> 3-G	<b>Nuclear Dampers:</b> None
<b>Fuel:</b> 95 tons	<b>Meson Screens:</b> None
<b>Duration:</b> 4 weeks	<b>Black Globes:</b> None
<b>Crew:</b> 6	<b>AR:</b> 0
<b>Staterooms:</b> 10	<b>SI:</b> 145
<b>Small Cabins:</b> 0	<b>Main Computer:</b> Model/2 (20 CPU)
<b>Bunks:</b> 0	<b>Sensor Range:</b> Short (Model/2)
<b>Couches:</b> 0	<b>Comm. Range:</b> Short (Model/2)
<b>Low Berths:</b> 20	
<b>Cargo Space:</b> 163.9 tons	<b>Cost:</b> see description
<b>Atmospheric Speeds:</b>	NoE = 75kph
Cruising = 200kph	Maximum = 300kph
<b>Other Equipment:</b> Missile Magazine, 20 Missiles.	

**Triple Turret:** Beam Lasers (x1), Attack Bonus +1 (+1 USP), Damage 1d8.  
**Triple Turret:** Beam Lasers (x1), Attack Bonus +1 (+1 USP), Damage 1d8.  
**Triple Turret:** Beam Lasers (x1), Attack Bonus +1 (+1 USP), Damage 1d8.  
**Triple Turret:** Missile Racks (x3), Attack Bonus +2 (+2 USP), Damage 2d6.

**TAS Form 3.1 (Condensed)****Ship's Data (Commercial)****Design Specifications**

<i>Installed Components</i>	<i>Tonnage</i>	<i>Cost</i>	<i>EP</i>
400-ton Hull	+400	MCr40	-
Bridge	-20	MCr0.1	-
Computer	-0.2	MCr6.2	-
Flight Avionics	-0.4	(MCr0.9)	-
Sensors	-0.6	(MCr1.2)	-
Communications	-0.4	(MCr1)	-
Jump Drive 2	-12	MCr48	-8
Jump Fuel	-80	-	-
Maneuver Drive 3	-32	MCr16	-12
TL9 Power Plant	-22.5	MCr67.5	+15
Power Plant Fuel	-15	-	-
4 Hard Points	-	MCr0.4	-
4 Triple Turrets	-	MCr4	-
3 Missile Racks	-3	MCr2.25	-
1 Missile Magazine	-1	MCr0.1	-
20 Missiles	(-1)	MCr0.1	-
3 Beam Lasers	-3	MCr3	-3
Staterooms (10)	-40	MCr5	-
Low Berths (20)	-10	MCr1	-
Cargo	-159.9	-	-
<b>Totals</b>	<b>+0</b>	<b>MCr194.55 (MCr155.64 with 20% standard design discount)</b>	

## LABORATORY SHIP (TYPE L)

### Medium-Size Starship

Various types of laboratory ship exist; most are small, like the 400-ton design detailed here. The sole purpose of this vessel is scientific research; it cannot make its way in commerce, nor is it viable in combat. Lab ships are sometimes built to particular requirements, but are usually configurable to a user's immediate needs. The lab ship requires a crew of five; a pilot, astrogator, two engineers and a medic/steward to look after the research staff. There are 15 staterooms available for scientists, technicians and assistants, though some of these areas are usually turned into additional lab spaces. General lab equipment is assumed to be included with the ship's build cost, but very specialized equipment will have to be purchased separately.

The ship costs MCr 203,038 new, and takes 11 months to build.

## LABORATORY SHIP

<b>Class:</b> Starship, type L	<b>EP Output:</b> 8 (4 excess)
<b>Tech Level:</b> 11	<b>Agility:</b> 1 (+1 EP)
<b>Size:</b> Medium (400 tons)	<b>Initiative:</b> +1 (+1 agility)
<b>Streamlining:</b> Partial	<b>AC:</b> 11 (+1 agility)
<b>Jump Range:</b> 1 x Jump-2	<b>Repulsors:</b> None
<b>Acceleration:</b> 1-G	<b>Nuclear Dampers:</b> None
<b>Fuel:</b> 88 tons	<b>Meson Screens:</b> None
<b>Duration:</b> 4 weeks	<b>Black Globes:</b> None
<b>Crew:</b> 5	<b>AR:</b> 0
<b>Staterooms:</b> 20	<b>SI:</b> 145
<b>Small Cabins:</b> 0	<b>Main Computer:</b> Model/2 (20 CPU)
<b>Bunks:</b> 0	<b>Sensor Range:</b> Short (Model/2)
<b>Couches:</b> 0	<b>Comm. Range:</b> Short (Model/2)
<b>Low Berths:</b> 0	
<b>Cargo Space:</b> 32.4 tons	<b>Cost:</b> MCr203.038 (new)
<b>Atmospheric Speeds:</b>	NoE = 75kph
Cruising = 200kph	Maximum = 300kph
<b>Other Equipment:</b> Air/raft, 40 ton pinnacle, 12 laboratories.	

No turrets or weapons installed.

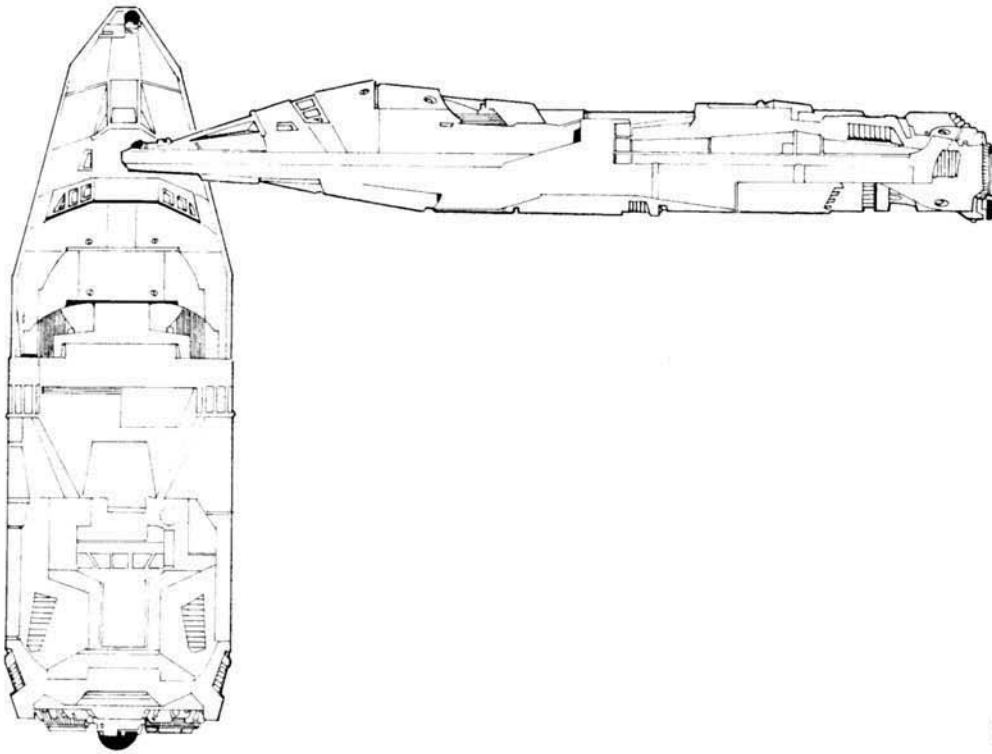
## TAS Form 3.1 (Condensed)

## Ship's Data (Commercial)

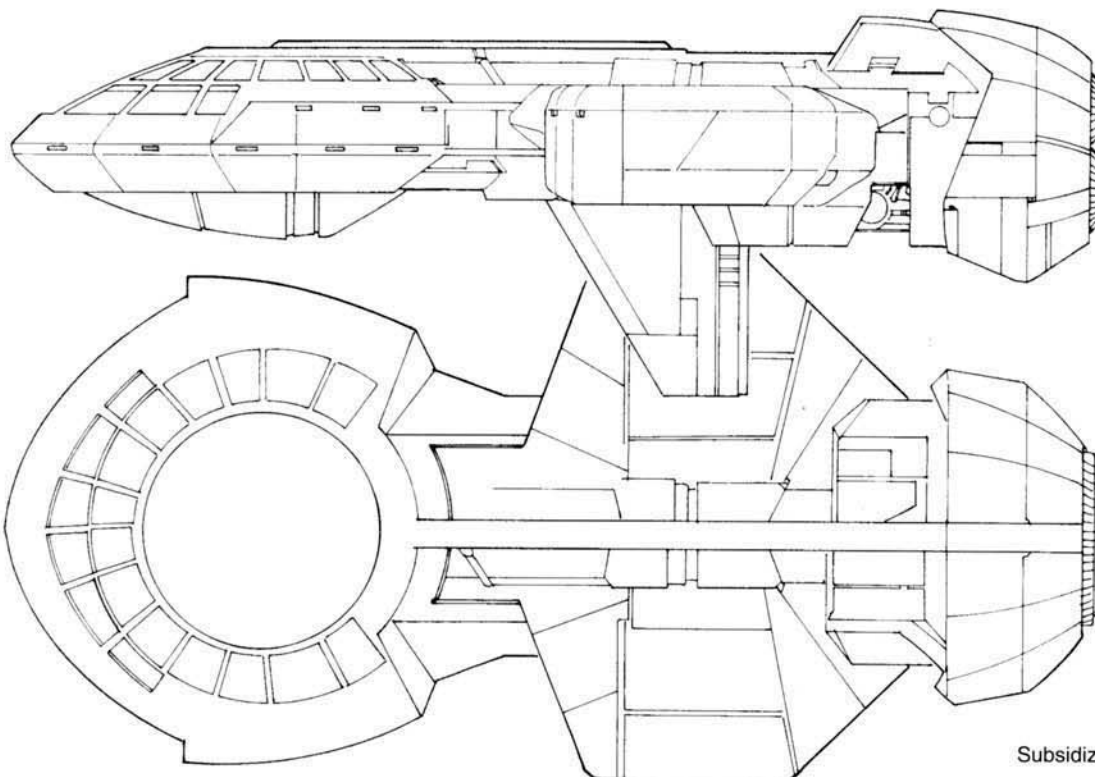
### Design Specifications

Installed Components	Tonnage	Cost	EP
400-ton Hull	+400	MCr40	-
Bridge	-20	MCr0.1	-
Computer	-0.2	MCr6.2	-
Flight Avionics	-0.4	(MCr0.9)	-
Sensors	-0.6	(MCr1.2)	-
Communications	-0.4	(MCr1)	-
Jump Drive 2	-12	MCr48	-8
Jump Fuel	-80	-	-
Maneuver Drive 1	-8	MCr12	-4
TL9 Power Plant	-12	MCr36	+8
Power Plant Fuel	-8	-	-
4 Hard Points	-	MCr0.4	-
Staterooms (20)	-80	MCr5	-
40-ton Pinnacle	-40	MCr45.552	-
Air/Raft	-10	MCr0.546	-
12 Laboratories	-96	MCr60	-
Cargo	-32.4	-	-
<b>Totals</b>	<b>+0</b>	<b>MCr253.798 (MCr203.038 with 20% standard design discount)</b>	





Lab Ship, page 334



Subsidized Liner, page 337

## PATROL CRUISER (TYPE T)

### Medium-Size Starship

The Patrol Cruiser is a very common escort and patrol ship encountered throughout Charted Space. Many are owned by mercenaries or private escort firms, but most are in Navy hands. The ship requires a crew of 12: Captain, pilot, astrogator, three engineers, four gunners, a medic and a missile technician. Eight troops are usually also carried for boarding and customs duty. Although there are 20 stateroom-equivalents aboard, only four are single-occupancy (these are used by the captain, astrogator, chief engineer and commander of troops. The rest of the crew share staterooms in pairs, with all the troops barracked in a triple-sized "sardine can" stateroom. The other 9 stateroom-equivalents are used as an armory, sickbay, wardroom and common areas for the overcrowded crew. The ship costs MCr226.24 new and takes 14 months to build.

### PATROL CRUISER

<b>Class:</b> Starship, type P	<b>EP Output:</b> 26 (4 excess)
<b>Tech Level:</b> 12	<b>Agility:</b> 1 (+1 EP)
<b>Size:</b> Medium (400 tons)	<b>Initiative:</b> +1 (+1 agility)
<b>Streamlining:</b> Partial	<b>AC:</b> 11 (+1 agility)
<b>Jump Range:</b> 1 x Jump-3	<b>Repulsors:</b> None
<b>Acceleration:</b> 4-G	<b>Nuclear Dampers:</b> None
<b>Fuel:</b> 140 tons	<b>Meson Screens:</b> None
<b>Duration:</b> 4 weeks	<b>Black Globes:</b> None
<b>Crew:</b>	<b>AR:</b> 0
<b>Staterooms:</b> 20	<b>SI:</b> 145
<b>Small Cabins:</b> 0	<b>Main Computer:</b> Model/3 (300 CPU)
<b>Bunks:</b> 0	<b>Sensor Range:</b> Medium (Model/3)
<b>Couches:</b> 0	<b>Comm. Range:</b> Medium (Model/3)
<b>Low Berths:</b> 20	
<b>Cargo Space:</b> 25.8 tons	<b>Cost:</b> MCr226.24 (new)
<b>Atmospheric Speeds:</b>	NoE = 75kph
Cruising = 200kph	Maximum = 300kph
<b>Other Equipment:</b> Missile Magazines (6), 120 Missiles.	

**Triple Turret:** Missile Rack (x3), Attack Bonus +2 (+2 USP), Damage 2d6.

**Triple Turret:** Missile Rack (x3), Attack Bonus +2 (+2 USP), Damage 2d6.

**Triple Turret:** Beam Laser (x3), Attack Bonus +3 (+3 USP), Damage 3d8.

**Triple Turret:** Beam Laser (x3), Attack Bonus +3 (+3 USP), Damage 3d8.

### TAS Form 3.1 (Condensed)

### Ship's Data (Commercial)

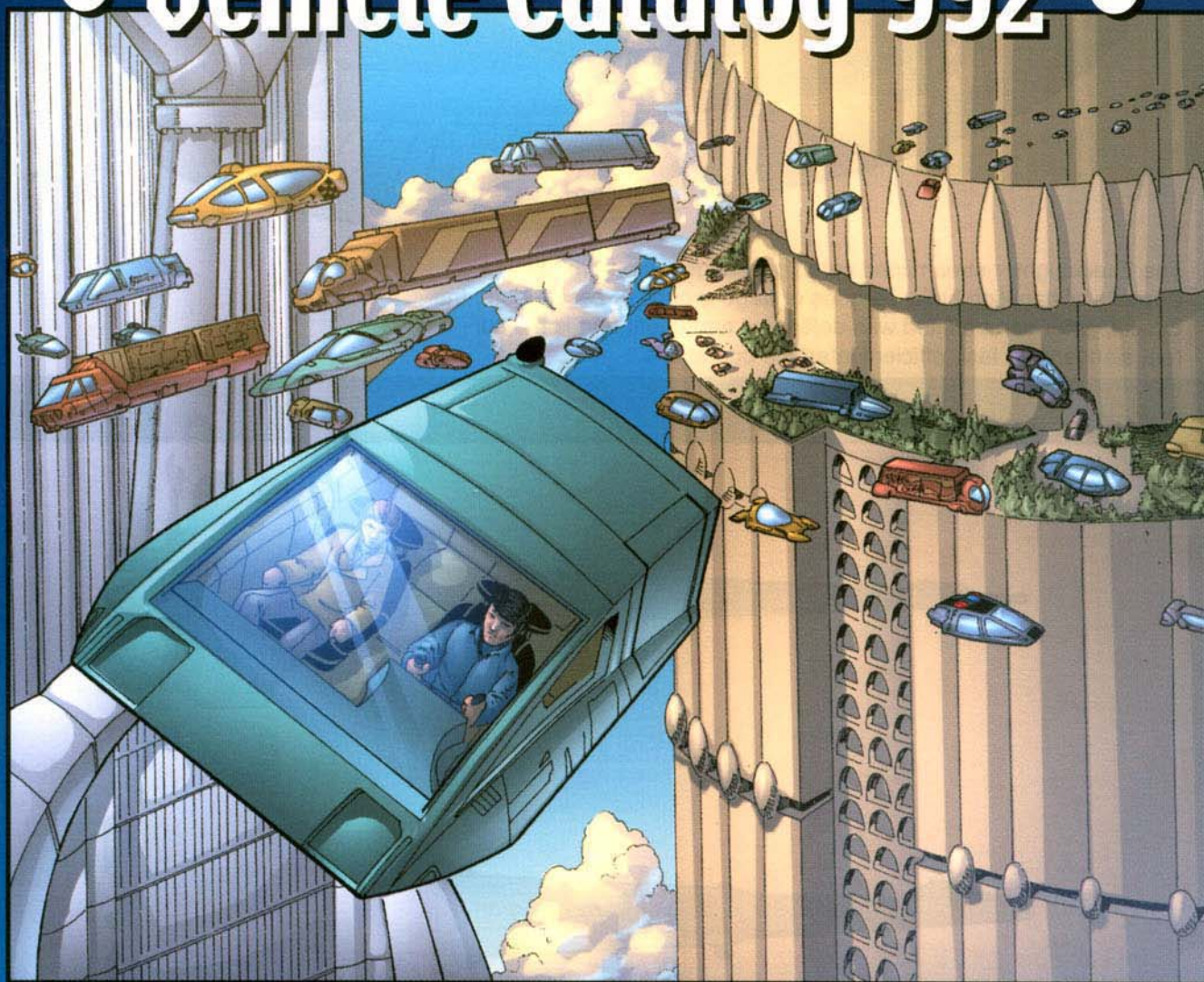
#### Design Specifications

Installed Components	Tonnage	Cost	EP	Notes
400-ton Hull	+400	MCr40	-	14 month build time, Cylinder configuration
Bridge	-20	MCr0.1	-	
Computer	-0.3	MCr12.6	-1	Model/3, -1 energy points
Flight Avionics	-0.4	(MCr0.9)	-	Model/1
Sensors	-0.9	(MCr1.8)	-	Model/3
Communications	-0.6	(MCr1.5)	-	Model/3
Jump Drive 3	-16	MCr64	-12	
Jump Fuel	-120	-	-	Enough fuel for a single jump-3
Maneuver Drive 4	-44	MCr22	-16	
TL9 Power Plant	-39	MCr117	+26	
Power Plant Fuel	-25	-	-	Permits 4 weeks of operation
4 Hard Points	-	MCr0.4		
4 Triple Turrets	-	MCr4		
6 Beam Lasers	-6	MCr6	-6	
6 Missile Racks	-6	MCr4.5	-	
6 Missile Magazines	-6	MCr0.6	-	Hold 20 missiles each
120 Missiles	(-6)	MCr0.6	-	
Staterooms (20)	-80	MCr10		
Low Berths (20)	-10	MCr1		
Cargo	-25.8	-		
<b>Totals</b>	<b>+0</b>	<b>MCr282.8 (MCr226.24 with 20% standard design discount)</b>		



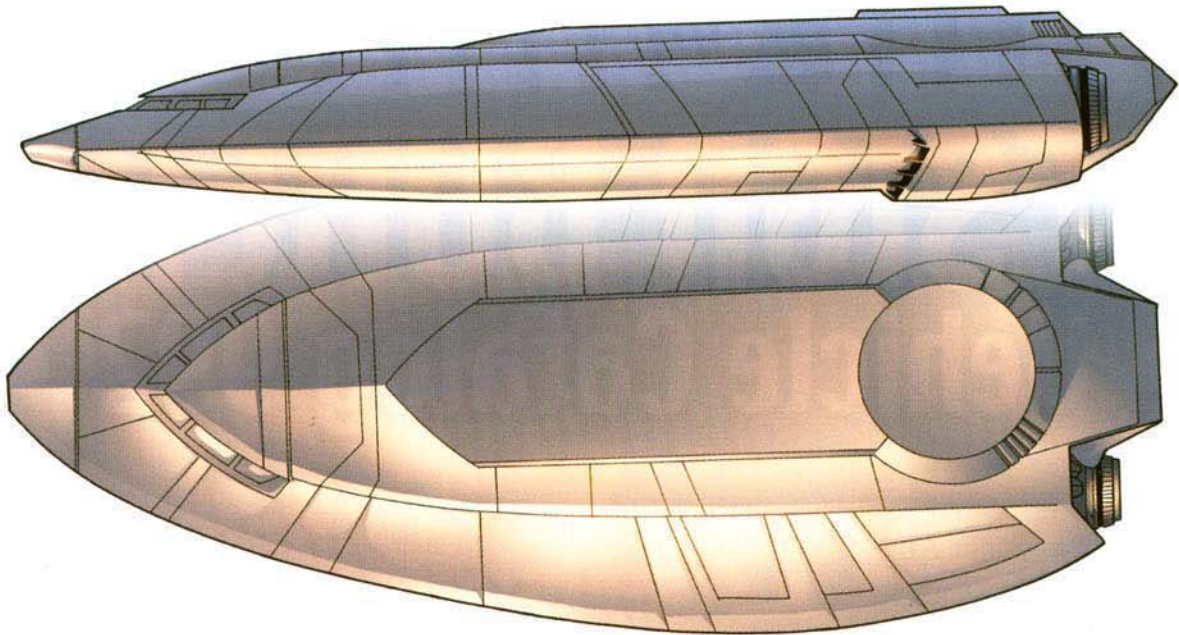
# YIAN CAARDEE DESIGN BUREAU

## • Vehicle Catalog 992 •

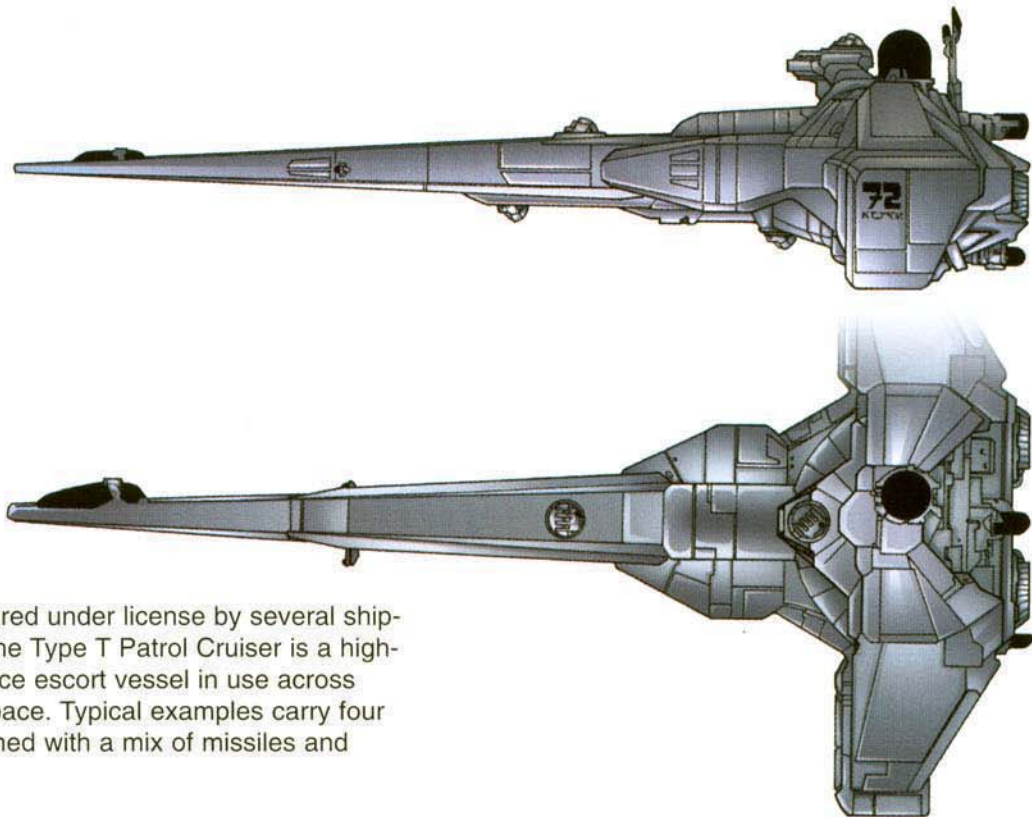


THIS YEAR'S EXECUTIVE offering from Ling Standard Products is the MX-2202. A fully enclosed, 2-seat pressurized air/raft, the MX-2202 can reach orbit unassisted and is significantly quicker on the urban transit cycle thanks to high acceleration and minimal-tolerance autopilot software. Set to be a firm favorite among young executives, the MX-2202 includes a pressurized luggage compartment and LSP's patented "Smart Upholstery" fit. That means the seats change shape to fit the user, and not the other way around!



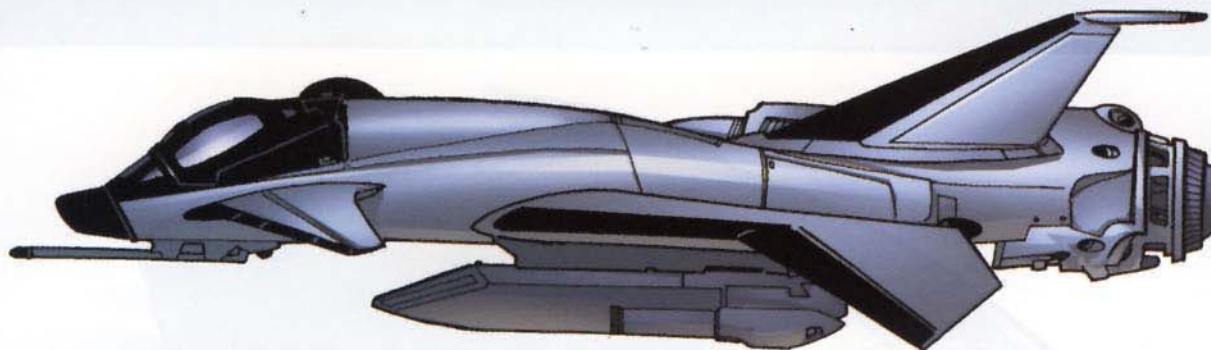


The ExecuLighter streamlined cargo/passenger ship from LSP. Capable of handling bulky cargoes or large groups of passengers, the ExecuLighter can be fitted with defensive armament and is the current standard for fast, efficient interface operations.

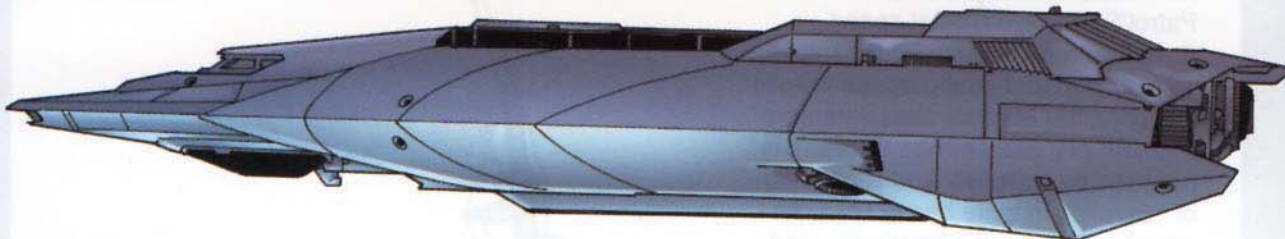


Manufactured under license by several ship-builders, the Type T Patrol Cruiser is a high-performance escort vessel in use across charted space. Typical examples carry four turrets armed with a mix of missiles and lasers.



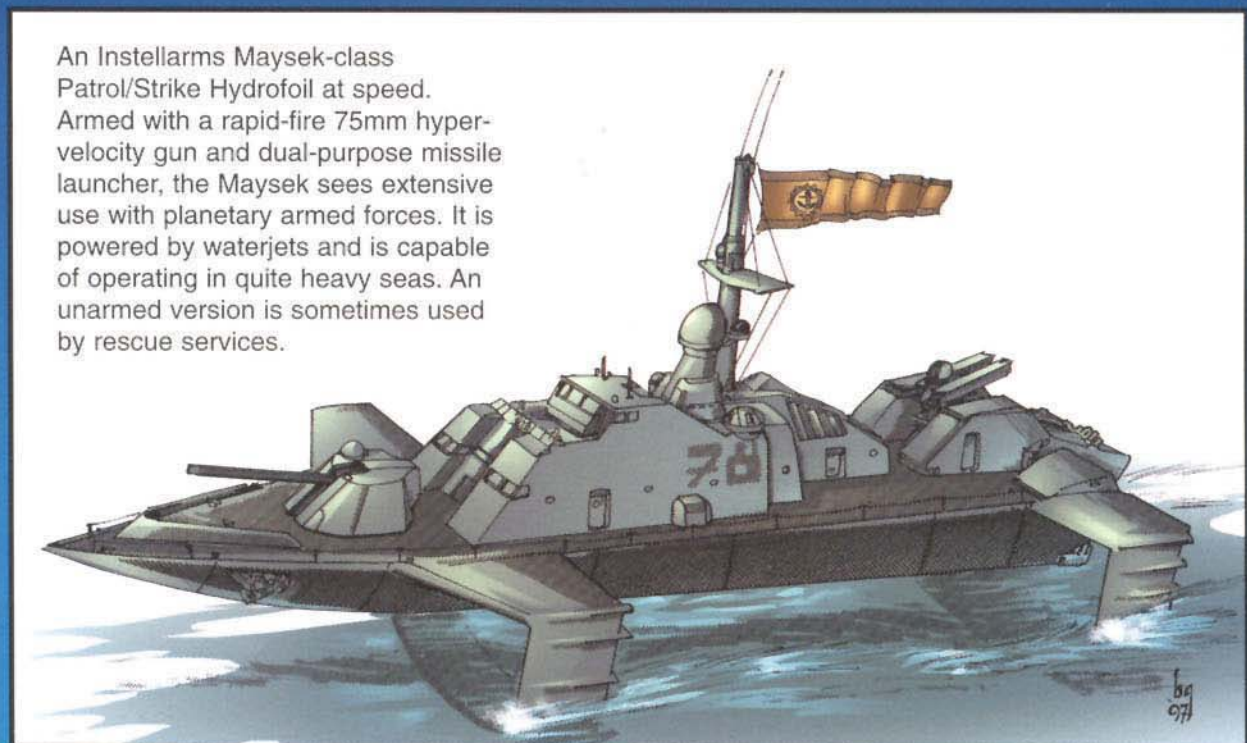
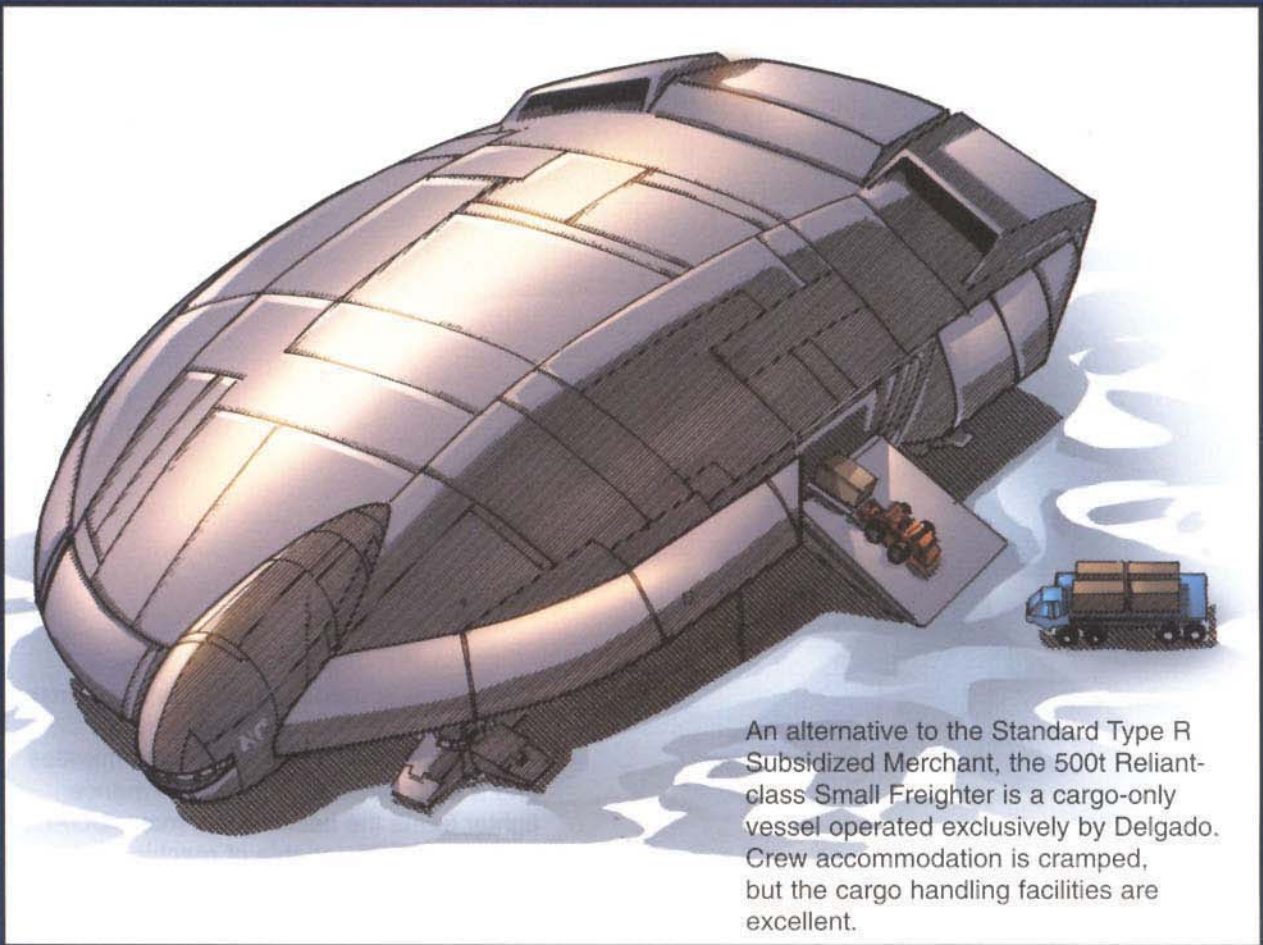


The Starraker aerospace interceptor is manufactured at TL 9 under license from Instellarms. Armed with aerospace missiles and a laser pack, this high-performance fighter forms the backbone of many COACC squadrons. It is capable of reaching low orbit, but is primarily an atmospheric combat vehicle.



The 400t Valiant Defender class System Defense Boat is a staple of many system defense squadrons. Capable of entering atmosphere, the Valiant Defender can hide underwater or in deep space before sweeping in to attack intruders with its heavy laser armament.







**SUBSIDIZED MERCHANT (TYPE R)***Medium-Size Starship*

The "Subbie" is built on the "cargo van" principle. Designed as little more than a cargo bay with engines, Subbies are very common on Jump-1 trade routes. Most ply a fixed route subsidized by the worlds on it, ensuring regular mail and freighting services. Many Subbies are armed and configured to carry mail. The Subsidized Merchant requires on a crew of five to operate; the pilot, engineer, and an astrogator along with a medic and steward to attend to the passengers. Since the vessel is larger and carries more passengers than the Type A or A2, the steward has a full-time job. The medic often assists or doubles as an assistant to relieve the load on the chief engineer. The ship cost MCr96.874 new, and takes 14 months to build.

**SUBSIDIZED MERCHANT**

<b>Class:</b> Starship, type R	<b>EP Output:</b> 4
<b>Tech Level:</b> 9	<b>Agility:</b> 0
<b>Size:</b> Medium (400 tons)	<b>Initiative:</b> +0
<b>Streamlining:</b> Partial	<b>AC:</b> 10
<b>Jump Range:</b> 1 x Jump-1	<b>Repulsors:</b> None
<b>Acceleration:</b> 1-G	<b>Nuclear Dampers:</b> None
<b>Fuel:</b> 44 tons	<b>Meson Screens:</b> None
<b>Duration:</b> 4 weeks	<b>Black Globes:</b> None
<b>Crew:</b> 5	<b>AR:</b> 0
<b>Staterooms:</b> 13	<b>SI:</b> 145
<b>Small Cabins:</b> 0	<b>Main Computer:</b> Model/1 (5 CPU)
<b>Bunks:</b> 0	<b>Sensor Range:</b> Close (Model/1)
<b>Couches:</b> 0	<b>Comm. Range:</b> Close (Model/1)
<b>Low Berths:</b> 9	
<b>Cargo Space:</b> 263.5 tons	<b>Cost:</b> MCr96.874 (new)
<b>Atmospheric Speeds:</b>	NoE = 75kph
Cruising = 200kph	Maximum = 300kph
<b>Other Equipment:</b> 20 ton launch.	

No turrets or weapons installed.

**TAS Form 3.1 (Condensed)****Ship's Data (Commercial)****Design Specifications**

<i>Installed Components</i>	<i>Tonnage</i>	<i>Cost</i>	<i>EP</i>
400-ton Hull	+400	MCr40	-
Bridge	-20	MCr0.1	-
Computer	-0.1	MCr2	-
Flight Avionics	-0.4	(MCr0.9)	-
Sensors	-0.3	(MCr0.6)	-
Communications	-0.2	(MCr0.5)	-
Jump Drive 1	-8	MCr32	-4
Jump Fuel	-40	-	-
Maneuver Drive 1	-8	MCr12	-4
TL9 Power Plant	-6	MCr18	+4
Power Plant Fuel	-4	-	-
2 Hard Points	-	MCr0.2	-
Staterooms (13)	-52	MCr6.5	-
Low Berths (9)	-4.5	MCr0.45	-
20-ton Launch	-20	MCr9.842	-
Cargo	-236.5	-	-
<b>Totals</b>	<b>+0</b>	<b>MCr121.092 (MCr96.874 with 20% standard design discount)</b>	

## SUBSIDIZED LINER (TYPE M)

### Medium-Size Starship

The Subsidized Liner is almost always tied to a fixed route. Liners carry cargo as well as passengers. Three hardpoints are fitted for turrets, but except out on the frontiers or in troubled regions, liners usually carry no armament. The Subsidized Liner requires a crew of eight: the pilot and astrogator along with 2 engineers, a medic, and 3 stewards to attend to the passengers. The ship cost MCr293.342 new, and takes 22 months to build.

### SUBSIDIZED LINER

<b>Class:</b> Starship, type M	<b>EP Output:</b> 18 (12 excess)
<b>Tech Level:</b> 12	<b>Agility:</b> 2 (+2 EP)
<b>Size:</b> Medium (600 tons)	<b>Initiative:</b> +2 (+2 agility)
<b>Streamlining:</b> Streamlined	<b>AC:</b> 12 (+2 agility)
<b>Jump Range:</b> 1 x Jump-3	<b>Repulsors:</b> None
<b>Acceleration:</b> 1-G	<b>Nuclear Dampers:</b> None
<b>Fuel:</b> 198 tons	<b>Meson Screens:</b> None
<b>Duration:</b> 4 weeks	<b>Black Globes:</b> None
<b>Crew:</b> 8	<b>AR:</b> 0
<b>Staterooms:</b> 21	<b>SI:</b> 175
<b>Small Cabins:</b> 0	<b>Main Computer:</b> Model/3 (300 CPU)
<b>Bunks:</b> 0	<b>Sensor Range:</b> Medium (Model/3)
<b>Couches:</b> 0	<b>Comm. Range:</b> Medium (Model/3)
<b>Low Berths:</b> 20	
<b>Cargo Space:</b> 202.8 tons	<b>Cost:</b> MCr234.674 (new)
<b>Atmospheric Speeds:</b>	NoE = 275kph
Cruising = 825kph	Maximum = 1100kph
<b>Other Equipment:</b> 20 ton launch.	

No turrets or weapons installed.

### TAS Form 3.1 (Condensed)

### Ship's Data (Commercial)

#### Design Specifications

Installed Components	Tonnage	Cost	EP
600-ton Hull	+600	MCr64	-
Bridge	-20	MCr0.1	-
Computer	-0.3	MCr12.6	-1
Flight Avionics	-0.4	(MCr0.9)	-
Sensors	-0.9	(MCr1.8)	-
Communications	-0.6	(MCr1.5)	-
Jump Drive 3	-24	MCr96	-18
Jump Fuel	-180	-	-
Maneuver Drive 1	-12	MCr18	-6
TL9 Power Plant	-27	MCr81	+18
Power Plant Fuel	-18	-	-
3 Hard Points	-	MCr0.3	-
Staterooms (21)	-84	MCr10.5	-
Low Berths (20)	-10	MCr1	-
20-ton Launch	-20	MCr9.842	-
Cargo	-202.8	-	-
<b>Totals</b>	<b>+0</b>	<b>MCr293.342 (234.674)</b>	

**MERCENARY CRUISER (TYPE MC)***Medium-Size Starship*

Designed to fit the needs of mobile merc units, the Mercenary Cruiser can carry a platoon of ground troops or act as an escort-vessel-for-hire. The ship has a good Jump range and high acceleration for a non-Naval vessel. Almost all Mercenary Cruisers carry at least one weapons turret (up to 8 can be shipped) and most will have boat pilots for the cutters. This will raise the crew requirement beyond the minimum listed here. The Mercenary Cruiser requires a crew of eight: the pilot, astrologator, 5 engineers and a medic. The ship cost MCr409.395 new, and takes 25 months to build.

**MERCENARY CRUISER**

<b>Class:</b> Starship, type MC	<b>EP Output:</b> 30
<b>Tech Level:</b> 12	<b>Agility:</b> 0
<b>Size:</b> Medium (800 tons)	<b>Initiative:</b> +0
<b>Streamlining:</b> Partial	<b>AC:</b> 10
<b>Jump Range:</b> 1 x Jump-3	<b>Repulsors:</b> None
<b>Acceleration:</b> 3-G	<b>Nuclear Dampers:</b> None
<b>Fuel:</b> 270 tons	<b>Meson Screens:</b> None
<b>Duration:</b> 4 weeks	<b>Black Globes:</b> None
<b>Crew:</b> 8	<b>AR:</b> 0
<b>Staterooms:</b> 25	<b>SI:</b> 205
<b>Small Cabins:</b> 0	<b>Main Computer:</b> Model/5 (1000 CPU)
<b>Bunks:</b> 0	<b>Sensor Range:</b> Very Long (Mod/5)
<b>Couches:</b> 0	<b>Comm. Range:</b> Very Long (Mod/5)
<b>Low Berths:</b> 0	
<b>Cargo Space:</b> 205.2 tons	<b>Cost:</b> MCr409.395 (new)
<b>Atmospheric Speeds:</b>	NoE = 75kph
Cruising = 200kph	Maximum = 300kph
<b>Other Equipment:</b> Modular Cutter (x2).	

Triple Turret: Empty.  
 Triple Turret: Empty.  
 Triple Turret: Empty.  
 Triple Turret: Empty.  
 Triple Turret: Empty.  
 Triple Turret: Empty.  
 Triple Turret: Empty.  
 Triple Turret: Empty.

**TAS Form 3.1 (Condensed)****Ship's Data (Commercial)****Design Specifications**

<i>Installed Components</i>	<i>Tonnage</i>	<i>Cost</i>	<i>EP</i>
800-ton Hull	+800	MCr56	-
Bridge	-20	MCr0.1	-
Computer	-0.5	MCr36.5	-3
Flight Avionics	-0.8	(MCr1.8)	-
Sensors	-1.5	(MCr3)	-
Communications	-1	(MCr2.5)	-
Jump Drive 3	-32	MCr128	-24
Jump Fuel	-240	-	-
Maneuver Drive 3	-64	MCr32	-24
TL9 Power Plant	-45	MCr135	+30
Power Plant Fuel	-30	-	-
8 Hard Points	-	MCr0.8	-
8 Triple Turrets	-	MCr8	-
Staterooms (25)	-100	MCr12.5	-
Modular Cutter (2)	-60	MCr102.844	-
Cargo	-205.2	-	-
<b>Totals</b>	<b>+0</b>	<b>MCr511.744 (MCr409.395 with 20% standard design discount)</b>	



Travellers travel. They move between worlds as well as on the surface. The distances such travel covers may be planetary, interplanetary or interstellar in scale.

## INTERPLANETARY TRAVEL

Worlds orbiting the same star are accessible by interplanetary travel, on ships operated by local entrepreneurs, or with a variety of small craft. Many stellar systems have only one major world and a few minor outposts. In such systems interplanetary travel is infrequent compared to interstellar flight. In some systems there may be several important worlds; vessels in such systems may use Jump drives to cross the vast distances between planets if this is quicker than traveling there using sublight drives, but the majority of traffic will be small craft and large non-starships.

Interplanetary travel takes time. The travel formulae given in the sidebar can be used to determine time required (if distance and acceleration are known), accel-

eration required (if distance and time are known), and distance traveled (if time and acceleration are known). All of the formulae use the MKS (meters, kilograms, seconds) unit system, and assume that the ship is undertaking a journey from rest, that it accelerates continuously to the midpoint of the trip, and then decelerates to rest again. In addition, several travel times and travel distances have been calculated out for ready reference.

## INTERSTELLAR TRAVEL

Worlds orbiting different stars are reached by interstellar travel, which makes use of the Jump drive. Once a starship moves to a safe distance from a world, it may activate its Jump drive. Jumping from closer in than 100 diameters is highly dangerous, becoming more or less suicidal at 10 diameters. Transit time to 100 diameters from a size 8 world takes 6.29 hours at 1G.

Jump drives are rated according to the number of parsecs that can be traveled in one week. This is normally 1-6; Jump numbers greater than 6 have not accomplished anything other than dangerous Misjumps. A ship can Jump a distance less than its Jump number (e.g. a ship rated for Jump 4 could Jump 3 Parsecs if desired. Fractional Jumps are entirely possible. Such Jumps use up fuel as if they covered the next full parsec (e.g. a ship might Jump half a parsec, and would use up fuel as if it Jumped 1 parsec). Any Jump takes about one week, regardless of the distance traveled.

Jump physics is not properly understood in the Traveller universe. Unusual effects do occur, creating an element of risk. However, Jump is so useful that the risk is deemed worth it.

Commercial starships usually make two jumps per month. They spend one week in Jump, followed by one week in the star system, travelling from the jump point to the local world, refueling, marketing cargo, finding passengers, leaving the starport and proceeding to a Jump point again. The week in the system usually provides some time for crew recreation and wandering around the planet.

Non-commercial ships usually follow the same schedule of one week in Jump and one week in a system. If haste is called for, a ship may refuel at a gas giant immediately, and re-Jump right away. This allows the ship to make one Jump per week, but makes no provision for cargo, passengers, or local stops.

### TRAVEL FORMULAS

For those interested in exact times and distances, the following formulas are provided. The variables used are Time (T) in seconds, Distance (D) in meters, and Acceleration (A) in meters per second squared (1G equals 9.81 meters per second squared, taken as 10 meters per second squared for convenience.).

**Time Required:** Two times the square root of Distance divided by Acceleration.

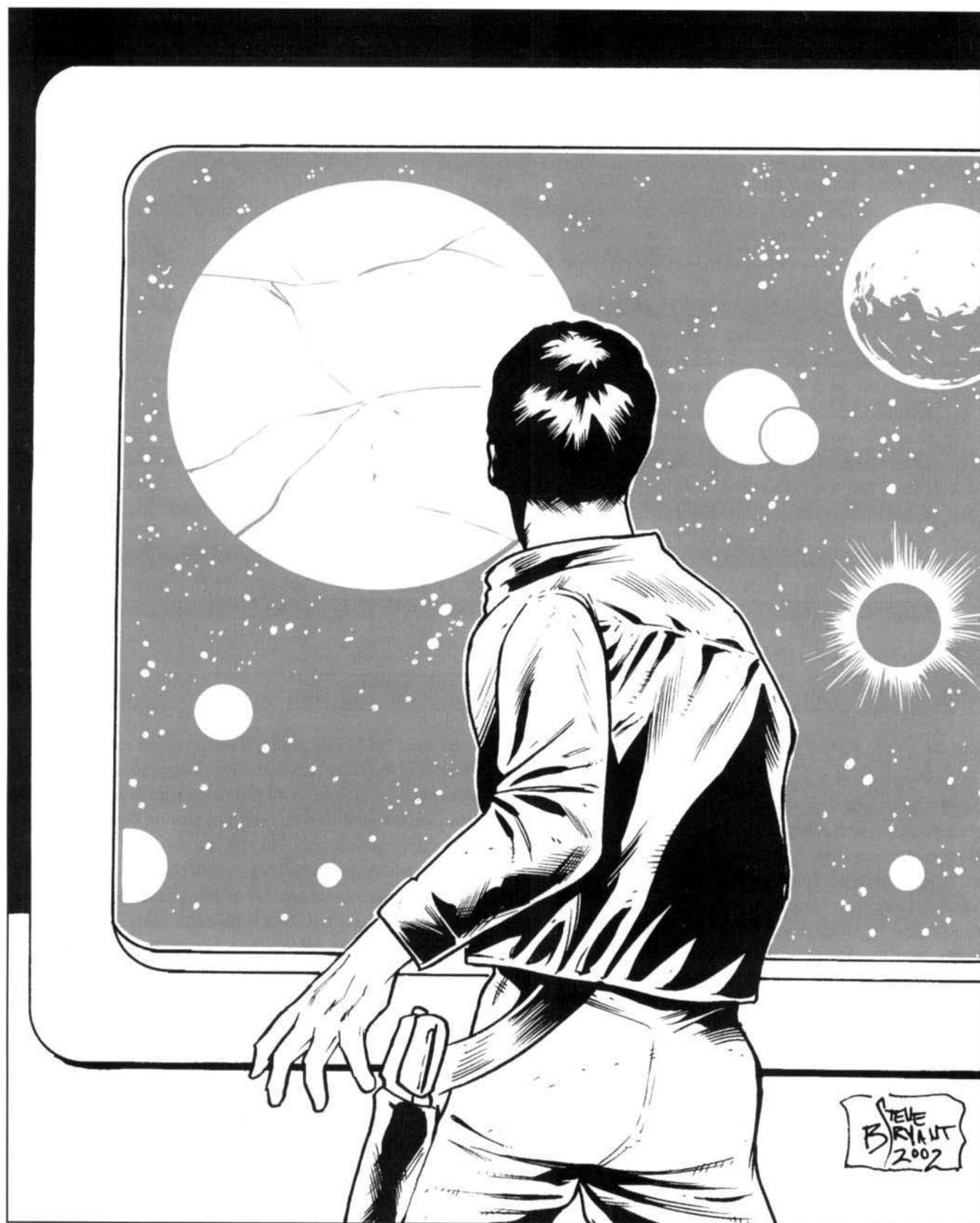
$$2 \times (D/A)^{1/2}$$

**Distance Traveled:** Acceleration times the Time Traveled squared divided by 4.

$$(A \times T^2)/4$$

**Acceleration Required:** Four times Distance divided by the Time Traveled squared.

$$4 \times (D / T^2)$$



## TYPICAL TRAVEL TIMES

### Acceleration Rate

### Typical Distances

	1-G	2-G	3-G	4-G	5-G	6-G
Planet to Orbit (10,000km)	33.33m	23.57m	19.25m	16.67m	14.91m	13.61m
Planet to Moon (400,000km)	3.51h	2.48h	2.03h	1.76h	1.57h	1.43h
Inner System Orbits (45,000,000km, orbits 0-5)	1.55d	1.10d	21.52h	18.63h	16.67h	15.21h
Outer System Orbits (600,000,000km, orbits 6-12)	5.67d	4.01d	3.27d	2.84d	2.54d	2.31d
Extreme Orbits (1,000,000,000km, orbits 13+)	7.32d	5.18d	4.23d	3.66d	3.27d	2.99d
Size 0 World to Safe Jump Distance	1.76h	1.24h	1.01h	52.70m	47.14m	43.03m
Size 1 World to Safe Jump Distance	2.22h	1.57h	1.28h	1.11h	59.63m	54.43m
Size 2 World to Safe Jump Distance	3.14h	2.22h	1.81h	1.57h	1.41h	1.28h
Size 3 World to Safe Jump Distance	3.85h	2.72h	2.22h	1.92h	1.72h	1.57h
Size 4 World to Safe Jump Distance	4.44h	3.14h	2.57h	2.22h	1.99h	1.81h
Size 5 World to Safe Jump Distance	4.97h	3.51h	2.87h	2.48h	2.22h	2.03h
Size 6 World to Safe Jump Distance	5.44h	3.85h	3.14h	2.72h	2.43h	2.22h
Size 7 World to Safe Jump Distance	5.88h	4.16h	3.39h	2.94h	2.63h	2.40h
Size 8 World to Safe Jump Distance	6.29h	4.44h	3.63h	3.14h	2.81h	2.57h
Size 9 World to Safe Jump Distance	6.67h	4.71h	3.85h	3.33h	2.98h	2.72h
Size A World to Safe Jump Distance	7.03h	4.97h	4.06h	3.51h	3.14h	2.87h
Small Gas Giant to Safe Jump Distance	11.11h	7.86h	6.42h	5.56h	4.97h	4.54h
Large Gas Giant to Safe Jump Distance	16.67h	11.79h	9.62h	8.33h	7.45h	6.80h

m = Minutes, h = Hours, d = Days

## PASSAGE COSTS

Interstellar travel is priced on the basis of accommodations; prices cover a trip from starport to starport, encompassing one Jump, regardless of length. There are four types of passage:

**High Passage:** The best method of travel is called high passage, which involves first class accommodations and cuisine. High passengers have the services of the ship's steward, entertainment and complete attention to their comfort. There is a baggage allowance of up to 1,000 kilograms. High passage costs Cr10,000 and provides food and lodging for 1 person for a distance of 1 jump. Double occupancy is allowed at a discounted rate of Cr16,000 (Cr8000 per passenger).

**Middle Passage:** In order for starships to fill their staterooms with passengers, middle passage is offered on a standby basis, in the event that not enough high passages are sold. While middle passengers occupy staterooms normally similar to those occupied by high passengers, they do not receive the service or entertainment

accorded the higher paying passengers. In addition, the quality of the cuisine is rather low. Baggage totaling 100 kilograms is allowed. A middle passenger may be 'bumped' and the stateroom taken by a late arriving high passenger; the middle passenger's ticket is returned, but no other compensation is made. (The middle could then buy a high passage and 'bump' another middle passenger, if the extra cost seemed worth it. Middle passage costs Cr8,000 and provides food and lodging for 1 person for a distance of 1 jump. Double occupancy is allowed at a discounted rate of Cr13,000 (Cr6500 per passenger).

**Working Passage:** A starship captain with a crew shortage may hire an individual to fill the vacant position, paying not money but passage in return. Working passage may not continue for more than three jumps, or the individual is considered to have been hired for standard salary. In order to be hired for working passage, the individual must have some expertise in the position for which he is hired (jack-of-all-trades may be substituted). Baggage totaling 1,000 kilograms is allowed.



**Low Passage:** Transportation while in cold sleep (suspended animation) is possible at relatively low cost to the passenger. The passenger is placed in a low passage berth before the ship takes off, and travels the entire journey in a state of suspended animation. He does not age, and requires very little life support. Unfortunately, the low passage system involves some intrinsic dangers to the passenger, and he runs some risk of not surviving the voyage. Therefore a qualified medic should always be in attendance when reviving passengers from low berths. If a medic is present, the medic must make a T/Medical skill check (DC10) for each passenger to safely revive them from cold sleep. If the check is failed or if a medic is not present, the passenger must make a Fort check (DC6), when he is revived after the ship has landed. Modifiers: Attending medic, +1 per skill rank. Failure to achieve the throw to revive results in death for the passenger. Refunds or civil liability if a low passenger fails to survive the trip are not allowed. Low passage costs Cr1,000 and includes a baggage allowance of 10 kilograms.

## LESSER KNOWN ASPECTS OF SPACE TRAVEL

As interstellar travel has developed, the field has developed its own dangers and customs. The following are just a few.

**The Low Lottery:** It is customary for the captain to contribute Cr10 out of each low passage towards a lottery. Each low passenger randomly guesses the number of low passengers who will survive the trip. If the winner does not survive, the captain receives the money. The ship's steward administers the lottery.

**The Travellers' Aid Society:** Individuals who have decided that they wish to pursue a life of travel and adventure may elect to join the Travellers' Aid Society (TAS), in order to take advantage of its facilities and passage dividends. Non-members can use some TAS facilities for a higher fee.

**Hijacking:** Starships are an attractive target for hijackers and other criminals. Starship crews maintain a constant level of alert, and the ship's computer can run an anti-hijacking program that denies access to control areas to potential hijackers. Passengers are required to check all weapons (except blades and daggers) into the ship's locker; they are returned at the end of the voyage. Nevertheless, there is a chance of an attempted hijacking, for ransom, or to steal the multi-million credit vessel. Make

a Basic check (DC20) to indicate a hijacking attempt (this throw does not apply if all passengers are player-characters). When an attempt occurs, randomly determine the number of hijackers, their identities, characteristics, and weapons, and implement their attempt at some point during the voyage. They will gain complete control of the ship only after defeating all other individuals on the ship. If the anti-hijacking program is functioning, the hijackers will be able to enter the bridge (gaining access to the controls) only by making a successful T/Computer skill check (DC20).

**Skipping:** Most starships are purchased on credit, and the monthly payments required against the multi-million credit debt are staggering. The owner or captain may decide to steal the ship himself instead of remaining under that load. Passengers have no way of determining if a specific ship is in such a status. Make a Basic check (DC20) to determine that a commercial ship is of this type. Ships that have skipped are subject to repossession attempts if detected by the authorities. Such attempts may range from the formal service of papers through legal injunctions to armed boarding parties. On each world landing, a K/Interstellar Law skill check (DC20) to avoid a repossession attempt; apply a Modifier of +1 per 5 parsecs distance from the ship's world of registry, to a maximum of +9. If the ship has called on the same world twice within the last two months, apply a Modifier of -2.

**Piracy:** A starship may be attacked by pirates while entering or leaving a system. Similar encounters may involve customs agents or military vessels, including blockades. The ship encounter table later in this book indicates the procedure.

**Jump Variance:** Calculating a Jump is a complex business, and since Jump dynamics are not completely understood, some of the "laws" involved are in fact rules of thumb. Astrogators attempt to arrive as close as possible to the 100-diameter Jump limit, with residual momentum towards an orbital position (not the planet itself, just in case...). However, an apparently perfectly-good set of Jump coordinates may bring the ship out almost a day late or early, and anywhere out to 400 diameters or more.

A "perfect Jump", hitting the 100-diameter limit exactly, with just the right vector, at exactly 168 hours from Jump entry, is the goal of every Astrogator. Achieving it would be something of a fluke, and most Astrogators never get within 5% of all three factors (duration, exit point and vector) at the same time. This means that vessels tend to emerge from Jump rather unpredictably, creating opportunities for

disaster, piracy etc, or simply requiring a long sublight haul to the target world.

The typical Astrogator can get within 110 diameters about 30% of the time, and within 125 diameters 90% of the time. The other 10% of Jumps can be quite wildly off, though as a rule better (higher skill level) Astrogators make less and smaller errors than less experienced ones. Other factors affecting the accuracy of a Jump include the condition and design of the drives and local gravity conditions (cluttered systems make for greater Jump variance). Familiarity with the system helps the Astrogator "feel" which of the many sets of possible Jump parameters (all of which seem perfectly valid) is the best.

Two vessels jumping within minutes of one another with very similar parameters can emerge a day apart. This is thought to be something to do with "shifts in the Jumpspace dynamic" - i.e. scientists are still baffled. Emergence can be synchronized by vessels sharing a common set of parameters and entering Jump at the same time; a maneuver used by the Navy and termed a "Squadron Jump".

## SALVAGE RIGHTS

Salvage is the reward given to persons who voluntarily recover a derelict ship or cargo, or assist a ship or recover its cargo from impending or actual peril or loss. To file a salvage claim, the vessel and/or its cargo must be brought to the nearest class C or better starport, whether repaired and piloted in, or towed in.

**Derelict:** A derelict is any ship, vehicle, equipment, cargo, or other property, which has been abandoned and deserted at sea or in space by those who were in charge of it without any hope of recovering it.

**Peril or Loss:** A ship is considered to be at risk or peril of loss if under pirate attack, in danger of being stranded without hope of self-repair, or other situation that might cause the death or disability of crew and passengers.

**Government Owned:** Items originally owned by a government are immediately returned to the government, and the normal salvage rules do not apply, although most governments will pay a 'recovery' fee for such items, based on 1d6% of the original value. If the salvager has the Barter feat and makes a successful Charisma or Social Standing skill check (DC15), add 1d4% to the recovery fee.

## GETTING PAID

Once a claim has been filed with the proper authorities, they will attempt to locate and contact the original (or

current) owners, who have 10 years to file a claim of ownership (with proper documentation of course). Perishable goods, or goods that may significantly lose their value during the 10 year period are immediately sold at auction, the proceeds from which will be held in trust. In addition, any items that would cost more to repair than to replace will be sold for scrap at a price equal to 1d10% of the original value of the item(s).

If a claimant does not come forward within the first year, and the item(s) were not already sold at auction, the salvage claim holder may take custodial control of the item(s) in question, subject to the following limitations.

- The item(s) may not be sold or otherwise transferred into the custody/ownership of anyone other than the salvage claim holder and his or her designated heirs.

- Reasonable care must be given to ensure that the remaining value of the item(s) do not deteriorate in quality from the state they were when custody was awarded.

- Repairs and improvements to damaged equipment and vessels may be conducted, the independently evaluated and depreciated value of which may be added to the claim against the original owners should they ever come forward or be found.

If a claimant does not come forward within five years, the custodial agent may elect to sell the item(s) for best price. One-half must be paid to the appropriate authorities in the form of taxes and fees, with one quarter being awarded to the salvage claim holder, and the remaining one quarter being held in trust for the original owners. Any proceeds in trust from goods sold at the time of the original salvage claim are similarly divided, with any and all interest being kept by the authorities.

If a claimant does not come forward within the ten year limit, the remaining funds in trust are awarded to the salvage claim holder.

If a claimant is found, regardless of whether they come forward or not, the salvage claim holder will be awarded a judicial judgment against the owner in an amount equal to 25% of the original or improved value of the item(s). It will be up to the salvage claim holder to see that the judicial judgment is enforced and paid.

## STARSHIPS AND SPACECRAFT

Starships (and non-starship spacecraft) are enormously expensive devices requiring the constant attention of a trained crew. They are far beyond the means of ordinary people. Even the smallest starships represent important

assets to their owners. Ships are built to last. With refits and frequent maintenance, a ship can remain in service for fifty or more years. During this time the vessel will probably be modified, upgraded and refitted. It may suffer accident or combat damage or even be scrapped then rebuilt with components very different from those it started out with.

Thus starships gradually lose their value (and some of their reliability) as time passes. As economic climates change, vessels are put to work in new roles or are sold on to new owners. This is how the majority of starfaring vessels in private hands got there, and by the time they do get there, they are not always in the best of condition.

Within most interstellar governments, of course, there is a minimum standard of spaceworthiness. Inspections are carried out randomly at the better ports (Class A to C) and by naval or customs vessels. However, a free trader tramping around the backwater ports may not be inspected for years. By the time it is... suffice to say that this is what the term "coffin ship" was coined for.

Let us take for example the Free Trader *Breakeven*, operating in Ley Sector under Captain Alexi Petrovitch. 60 years ago this was a shiny new Ling Standard Products Subsidized Merchant, ordered from the Yahei yards in Core sector as one of a batch of six. The vessels were to be a part of an ambitious expansion program by Feeder Routes LIC, a moderate sized shipping line serving the smaller ports near the core of Charted Space.

After twenty years in service (and three overhauls) the vessel was sold on. Feeder Routes was now operating bigger ships and the subbies (Subsidized Merchants) were considered uneconomical. One of three bought by the Arech Trade Consortium, the subbie served another ten years on a regular route in the Lishun sector. After suffering collision damage, and in need of an overhaul anyway, the ship was again sold on, becoming the third vessel in the trade fleet of the fledgling Ley Lines LIC. At this time a pair of turrets were added, since Ley sector is not as safe as the Core.

When Ley LIC went bust, the ship was bought by Logistics, Inc, a mercenary outfit specializing in providing supply and transport assets for other merc units. Three years and combat damage later, the ship was sold on...

And since that time she has been converted to a lab ship, then a crude patrol vessel carrying a couple of fighters for a cash-strapped planetary government seeking to do something about piracy, then back to a trader. She has passed from hand to hand for years. Worn systems have been replaced with whatever was available; jury-rigged systems have become part of her standard equipment.

These days, *Breakeven* is basically spaceworthy. Her CG lifters are a little erratic, her electronics fit has several incompatibility problems and there is an intermittent glitch in the internal monitor program. Maintenance is a nightmare due to non-standard systems and endless running repairs. Her maneuver drive runs at a good 8-11% under rated capacity. But she can fly, and can carry cargo - sometimes even at a profit. Her crew are fiercely proud of her (resulting in fights with other crews from time to time.) True, the captain sweats through every Spaceworthiness inspection, but *Breakeven* is HIS ship and he's lucky to have her. When he's not banging on a panel with a wrench out of sheer frustration he can sometimes even remember that.

This is the kind of ship that player-characters will have, unless they have government backing. A ship with character. A ship with its own little quirks. But a ship that works.

Mostly.

## STARSHIP OPERATIONS

There are certain requirements for a starfaring vessel to operate over any length of time. Many are enforced by interstellar laws, most of which stem from the desire of starship crews to survive their voyages.

## STARSHIP CREW

Starships require a broad range of skills to operate them, and a clear chain of command to deal with problems. On small ships, most crewmembers have several jobs but given the complex nature of starship operations, some degree of specialism is a requirement. The main jobs aboard ship are as follows:

### MASTER/CAPTAIN

All non-small-craft (i.e. anything that is not a port utility vessel or a subordinate craft carried aboard a starship) requires a commanding officer, who is usually termed the Master or Captain of the vessel, whatever his or her actual rank may be. Even Scout vessels, whose crews have no formal rank, must designate someone as Master. Exactly who is in charge can vary from day to day.

The Master is personally responsible for the safety of the ship and everyone aboard, plus everyone who might be affected by the actions of the ship and her crew. The Master must be a qualified bridge officer (i.e. he must have at least one of the following skills: Pilot, Astrogator, Sensors). Most ship's Masters have extensive experience as a junior officer and know how to do many of the jobs



aboard ship. Most also have skills like Law and Leader. Ship Tactics and similar military skills may be useful to an armed ship, and trading skills are desirable for merchant skippers.

## **EXECUTIVE OFFICER/FIRST OFFICER/MATE**

The second-in-command of a ship has several possible titles. On large ships, the First Officer has no other job, but on small vessels he or she will usually be a bridge officer with responsibility for one area of operations such as Sensors or Astrogation.

## **BRIDGE CREW**

The bridge crew may or may not be officers. They are usually specialists who carry out the tasks involved in flying the ship. Many of the bridge jobs can be doubled up; e.g. the Astrogator may also handle communications and sensors.

## **PILOT**

All ships must have a pilot, who guides the vessel. Computer assistance takes much of the labor out of this task, but a pilot is necessary in case of emergency. Pilots often plot the ship's course through normal space if there is no dedicated Astrogator aboard. Any ship should have at least one backup pilot (usually someone who normally does a different job) and for passenger ships this is a legal requirement.

## **ASTROGATOR**

The Astrogator plots the ship's course through Jumpspace. Despite the assistance of computers, there is still a lot of "feel" involved in Jump plotting and a good Astrogator is a valuable asset. The Astrogator will usually handle real-space course plotting as well. An Astrogator is not needed aboard a non-Jump capable vessel, though some larger ones carry a normal-space Astrogator.

## **COMMUNICATIONS**

Comms can be handled from any bridge position, so only large ships carry a dedicated comms officer. Anyone can operate the communications system under normal conditions, but under stress or in an unusual situation, someone with Communications skill is needed.

## **SENSORS**

Sensor operations are often doubled up with the Pilot's job, but in tricky conditions someone (who has Sensors skill) should be monitoring sensor data. The Astrogator often does this during normal-space flights

## **CHIEF ENGINEER/ENGINEERING OFFICER**

The Chief Engineer is the only other member of a crew usually required by law. In theory, the Master and Chief Engineer could legally attempt to run a ship with no other crew. In practice, this is only possible on very small ships. The Chief Engineer is responsible for Jump and Maneuver drives, Powerplant and all technical matters. He usually also has responsibility for general maintenance. T/Engineering skill is a necessity, but Technical: Electronics, Gravitics, Mechanical and Computer skills are also useful.

## **ASSISTANT ENGINEER/DRIVE HAND**

Larger ships usually carry one or more subordinate engineers. Most will have T/Engineering skill, but some will be specialists in Technical: Electronics, Gravitics etc. JoT can sometimes be substituted by personnel working as general "drive hands" under the supervision of a qualified engineer.

## **PURSER**

Commercial ships usually have a Purser, who is in charge of accounts and financial matters. This job is often doubled up aboard small ships, say with that of Medical Officer, Chief Steward or an Assistant Engineer. Admin or Liaison skill is necessary to hold this post.

## **MEDICAL OFFICER**

All spacecraft must have some form of medical assistance available to the crew. On small ships this may be a member of the crew with a basic skill in First Aid, but in order to obtain a license to carry passengers, a ship must have a properly trained medical officer. This can be a medic, paramedic or a doctor (depending upon level of T/Medical skill). The "doctor" need not be fully qualified, but must have undertaken accredited training at some point. Many medical students take time out to earn a little cash and experience as a Free Trader medic before finishing their studies.

## **SECURITY OFFICER & SECURITY GUARDS**

Only large liners carry a security officer and personnel. Armed and unarmed combat skills are necessary, plus skills like liaison or intimidation. Many Guards are also stewards, gunners, technicians or cargo handlers.

## **STEWARD**

Any ship that carries passengers requires stewards, who look after the passengers, cook, and sometimes pro-

**CREW SALARIES**

<i>Crew Position</i>	<i>Monthly Salary</i>	<i>Required Skills and/or Feats (Desirable Skills and/or Feats)</i>
Master/Captain:	Varies	Any Bridge Skill (Bridge Skills, Leader, P/Admin, Ship Tactics, K/Interstellar Law)
First Officer:	Varies	Any Bridge Skill (Bridge Skills, Leader, P/Admin, JoT, Ship Tactics)
Bridge Crew:	Varies	Varies (T/Sensors, T/Communications)
Pilot:	Cr6000	Pilot (T/Sensors)
Astrogator:	Cr5000	T/Astrogation (T/Sensors, T/Communications)
Communications Operator:	Cr3000	Technical: Communications (T/Sensors)
Sensors Operator:	Cr3000	Sensors (T/Communications)
Chief Engineer:	Cr4000	T/Engineering (Technical: Computer, Electronics, Gravitics, Mechanical)
Assistant Engineer	Cr3000	T/Engineering (Technical: Computer, Electronics, Gravitics, Mechanical)
Drive Hand:	Cr2000	None (JoT, Technical: Electronics, Engineering, Gravitics)
Purser:	Cr3000	Admin (K/Interstellar Law, Liaison, Steward feat)
Medical Officer:	Cr2000	First Aid or T/Medical
Security:	Cr2000	Combat Skills, (Intimidation, Tactics)
Steward:	Cr3000	None (Steward feat, Liaison, Gather Information)
Cargo Handler:	Cr1000	None (T/Robotics)
Gunnery:	Cr1000	Gunnery, T/Sensors
Technician:	Cr2000	Technical: Computer, Electronics, Gravitics, Mechanical
Boat Pilot:	Cr2000	Ship's Boat or Pilot
Deck Hand:	Cr1000	None (JoT)

vide entertainment. The Steward feat is useful but not absolutely necessary. Liaison or Gather Information skills can help, too. Almost anyone can be hired as a steward, so long as they are patient and friendly with strangers.

**CARGO HANDLER**

On small ships, everyone mucks in and helps with cargo stowage. Larger vessel carry specialists trained in handling hazardous cargoes or operating cargo robots (T/Robotics skill). The majority of cargo handling is grunt work, so anyone can be hired for this post.

**GUNNERY OFFICER & GUNNERS**

Armed ships require gunners, of whom the most senior is usually termed the Gunnery Officer. Gunner and Sensors skills are necessary. Some personal combat or technical skills are considered a bonus.

**TECHNICIAN**

Many ships employ one or more technicians with skills like Technical: Computer or Electronics, etc, to help with maintenance. On small ships, such a crewmember may

also be required to fill in as an assistant engineer, gunner, steward etc. even though he has no training.

**BOAT PILOT**

Ships with one or more subordinate craft often carry a Boat Pilot, who usually has other duties as well. Ship's Boat or Pilot skill is necessary to be hired as a Boat Pilot

**DECK HAND**

Many ships have one or more deck hands, who often have no shipboard skills (but may possess JoT skill). Deck Hands carry out basic shipboard tasks such as cleaning and simple maintenance under the direction of a skilled crewmember. Sometimes a deck hand is hired because they're handy to have around in case of trouble (weapon or unarmed combat skills), or as a favor to a friend. Often the hand will be trained in some shipboard skill and may eventually become a full crewmember. Proper skill accreditation requires that the trained-up crewmember takes a recognized test at a licensed institution, but out on the frontiers many captains accept someone who can prove he can do the job, regardless of his paper qualifications, and

especially if he can offer some other skills such as Gather Information, Vehicle or Combat skills.

## OWNER-ABOARD

Sometimes the owner of a ship travels aboard her, but is not part of the crew. No skills are needed for this position, though ownership of a starship is obviously a requirement. The Owner-Aboard can make general policy decisions, but the ship's Master has legal responsibility for the ship and her crew. In a crisis, even the owner is subordinate to the Captain he or she appointed.

## COMBINED POSITIONS

Some crew positions may be combined on smaller vessels. The salary for such positions is 75% of the combined salaries from both positions. Common examples are Pilot/Astrogator and Medic/Steward.

## GETTING HIRED

The following table shows the base skills required to get hired for a job aboard a starship. Leadership, Tactics etc are handy for those seeking officer posts, but the operational requirement is for shipboard skills first and foremost. JoT and other general skills can help a character show that he or she is handy to have around. Skills in *Italics* are desirable but not necessary.

## BASIC OPERATIONAL COSTS

In addition to crew salaries there are a number of other costs involved in the operation of a starship.

**Fuel:** Refined fuel may be purchased at any class A or B starport for Cr500 per ton delivered at the starport. If fuel must be ferried out to a ship, add Cr 100 per ton to the cost. Refined fuel may also be obtained by running unrefined fuel through a Fuel Purification System installed onboard a ship. Refined fuel decreases the chance of a problem occurring with a ship's power plant, maneuver

drive, and jump-drive.

Unrefined fuel is available for Cr100 per ton from any class A, B, or C starport delivered at the starport. If fuel must be ferried out to a ship, add Cr 100 per ton to the cost. Unrefined fuel is also available for free from the following sources:

**Water:** On worlds with a hydrographic rating of 1 or higher, a ship may land near an open body of water or ice and pump fuel into their fuel tanks for free. Using water as fuel in this manner is considered to be running unrefined fuel. Note that many worlds may not allow ships to land and fuel for free, preferring to control the availability of fuel from the starport only thus earning the revenue from the operation.

**Gas Giants:** Streamlined ships equipped with fuel scoops may dive into the upper atmosphere of a gas giant and fill their tanks with unrefined hydrogen. Larger ships may use streamlined fuel shuttles to ferry fuel loads back to the main ship as needed to refill the tanks. There are no fees associated with 'skimming' a gas giant for fuel, but these are also often the favorite point of attack for pirates. Fuel skimmed from a gas giant is considered to be unrefined.

**Life Support:** Life support includes the air supplies and filtration system, food and water stores, waste handling system, and other consumable supplies needed to keep the passengers and crew comfortable and healthy while aboard a ship in flight. Most ships simply replenish their life-support systems at the end of each jump while in the starport, but it is possible to purchase and store such supplies in bulk to avoid having to constantly pay the standard recharge fees. The higher cost of life support for high passengers and crew officers reflects the higher quality of food stores set aside for these personnel.

The basic life-support systems (waste reclamation, oxygen supply, CO2 scrubbers, etc) are factored as part (1/2-ton) of each stateroom aboard a ship. For each stan-

## BASIC OPERATIONAL COSTS

Per High Passenger or Crew Officer	Cr1000 per week
Per Middle Passenger or Crew	Cr750 per week
Per Low Passenger	Cr50 per week
1 ton of Life Support supplies will last 20 passengers/crew 1 month.	Cr54,000 (10% discount included)
1 ton of Luxury Life Support supplies will last 20 passengers/crew 1 month	Cr72,000 (10% discount included)



dard (4-ton) stateroom aboard a ship, 2 crewmembers or passengers may be carried aboard without overburdening the life-support system. For each standard (2-ton) small stateroom aboard a ship, 1 crewmember or passengers may be carried aboard without overburdening the life-support system. Every two extra crew or passengers the life-support system is required to support reduces its effectiveness in halved with the following consequences to those aboard.

**1/2 Effectiveness:** The air aboard becomes quite rank, stuffy, and uncomfortable. Paying passengers will likely complain (loudly) at their inconvenience, demand partial (or full) refunds, report the captain to the local starport, etc. Crew members will likely grumble if subjected to such conditions for much longer than a week, and will eventually seek other employment if the problems persist much past the next planetfall or two.

**1/4 Effectiveness:** The air aboard has high carbon-dioxide levels and smells very bad, to the point that it is almost nauseating to breathe. Anyone attempting to do much more than rest will lose 1 point of stamina for each round of exertion.

**1/8 Effectiveness:** The air is barely breathable, requiring anyone without an oxygen supply to make a Fortitude save (DC15) every hour or fall unconscious. Once unconscious the victim will begin to lose 1 point of Lifeblood every round until dead or given access to an oxygen supply.

### ROUTINE AND ANNUAL MAINTENANCE

A well-maintained ship costs far less to operate than one that forgoes routine maintenance in the hopes of saving a few bucks. A ship should perform an annual maintenance overhaul at minimum to keep it in good working order, and performing regular routine maintenance each month will further reduce the chance of malfunction and the eventual cost of the annual overhaul itself. An annual maintenance overhaul will cost 0.01% (1/1000th) of the original (new) cost of the ship. An annual overhaul requires the services of a class C or better starport and will take about 2 weeks to complete.

For each month of routine maintenance performed on a ship by the crew, reduce the cost of the annual overhaul by 5%, up to a maximum of a 50% reduction in cost. Because of this, a ship may skip performing routine maintenance up to twice in one year without failing behind and losing the annual maintenance cost reduction. Routine maintenance cost 0.0025% of the original (new) price of the ship per month. One full day per month is all that is

needed to perform routine maintenance. Even factoring in the cost of routine maintenance, a ship saves 20% on average on the cost of the annual maintenance.

**Annual Maintenance:** A T/Engineering skill check (DC15) must be made to ensure the swift completion of the job and that it passes inspection and certification. Under normal circumstances, annual maintenance will usually take about 2 weeks. Each failed skill check will increase this time by 1 week.

If the maintenance is being performed at a class B starport, add +2 to the skill check, if a class A starport add +4 to the skill check roll. If hiring an outside crew to perform the maintenance, the normal costs apply but add Cr14,000 to the total for labor costs.

**Routine Maintenance:** Make a T/Engineering skill check (DC10) each month to insure the proper maintenance of the ship's equipment over the past four weeks. If the maintenance is being performed at a class B starport, add +1 to the skill check, if a class A starport add +2 to the skill check roll.

**Installing a New Maneuver Drive, Power Plant, or Jump Drive:** An T/Engineering check must be made when installing these types of systems, to ensure they have been installed properly. Use the table below to determine the appropriate DC. A successful checks indicates the system has been installed and tested with no problems found. Installations will typically take 2 hours per Rating of the system.

<i>Installations</i>	<i>DC</i>	<i>Modifiers</i>
Maneuver Drive	10	+1 DC per Rating
Power Plant	15	+1 DC per Rating
Jump Drive	20	+1 DC per Rating

<i>Other Modifiers</i>	<i>Adjustment</i>
Rush job (half the time required)	+10 DC
Class A Starport	+4 to skill check roll
Class B Starport	+2 to skill check roll
Sufficient Engineering or Vehicle Shops	+1 to skill check roll
Per 5% crew loss	-1 to skill check roll

### ENTERING/LEAVING PORT

All but the most primitive installations operate some kind of traffic control to avoid the risk of collision among vessels using the port. Incoming ships are allocated a berth and an approach route, and are expected to await their turn and proceed in at a regulation speed. Some

## STARPORT FEES

Starport Classification

Service Provided	A	B	C	D	E or X
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<b>Landing Rights</b>	Cr100	Cr50	Cr20	Cr10	-
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Provides one-time docking and departure clearance at the starport. No berthing or other facilities are provided. Ship may remain in port no more than 24 hours.

<b>Landing and Berthing (6 days)</b>	Cr500	Cr250	Cr100	Cr50	-
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<b>Berthing per day after 6</b>	Cr500	Cr250	Cr100	C50	-
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Provides one-time docking and departure clearance, and up to 6 days berthing within the starport itself. Berthing includes power, life-support, and data hook-ups for the ship, along with access to maintenance facilities. If the starport is an orbital starport, add Cr500 to the listed costs for the increase in life-support costs.

<b>Orbital Berthing (6 days)</b>	Cr100	Cr50	Cr20	Cr10	-
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<b>Orbital Berthing per day after 6</b>	Cr100	Cr50	Cr20	Cr10	-
---	-------	------	------	------	---

Provides an orbital 'parking slot' that a ship may remain in during its stay. No power, life-support, or data hookup are provide, but the ship may leave and return to its parking slot as often as needed during its stay.

<b>Cargo Handling per ton</b>	Cr40	Cr30	Cr20	Cr10	-
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<b>Security Cargo Handling per ton</b>	Cr50	Cr40	Cr30	Cr20	-
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<b>Hazardous Cargo Handling per ton</b>	Cr70	Cr60	Cr50	Cr40	-
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Most small ship's crews handle cargo loading and unloading for themselves to save these costs, but for those ships that require or desire the use of cargo handlers provided by the starport are available.

<b>Cargo Shuttle Service per ton</b>	Cr30	Cr20	Cr10	Cr5	-
--------------------------------------	------	------	------	-----	---

<b>Security Cargo Shuttle Service per ton</b>	Cr40	Cr30	Cr20	Cr10	-
---	------	------	------	------	---

<b>Hazardous Cargo Shuttle Service per ton</b>	Cr60	Cr50	Cr40	Cr30	-
--	------	------	------	------	---

Ships in an orbital berth may require the use of a cargo shuttle to move their cargo from the ship to the starport if they have no vehicles of their own capable of doing so. Ships at an orbital starport may also have need of the services to deliver cargo from the orbital starport to a destination planetside. Cargos requiring armed security or hazardous material cargos will cost more to ship in this manner than standard cargos.

<b>Passenger Shuttle Service</b>	Cr100	Cr75	Cr50	Cr25	-
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Passengers requiring transportation to or from a ship to the local starport or planetside may hire the services of a passenger shuttle. The price listed is for a single passenger and up to 200kg of baggage.

<b>Warehousing per week per ton</b>	Cr15	Cr10	Cr5	-	-
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<b>Security/Refrigerated Warehousing per week per ton</b>	Cr25	Cr15	Cr10	-	-
---	------	------	------	---	---

<b>Hazardous Warehousing per week per ton</b>	Cr50	Cr25	Cr15	-	-
---	------	------	------	---	---

Warehousing is available a most starports if there is a need to store goods and cargo for periods of a week or longer. Security, Refrigerated, and Hazardous warehousing are each more costly than standard warehousing.

**CARGO****Standardized Cargo Container Modules**

<i>Cargo</i>	<i>H x W x L</i>	<i>Shape</i>	<i>Cost</i>
Capacity			
1/2 ton	3 x 1.5 x 1.5	Square	Cr6,000
1 ton	3 x 1.5 x 3	Rectangle	Cr10,000
2 tons	3 x 3 x 3	Square	Cr18,000
2 tons	3 x 1.5 x 6	Square	Cr18,000
4 tons	3 x 3 x 6	Rectangle	Cr32,000
4 tons	3 x 1.5 x 12	Rectangle	Cr32,000
8 tons	3 x 6 x 6	Square	Cr58,000
8 tons	3 x 3 x 12	Rectangle	Cr58,000

**Specialized Containers**

<i>Type</i>	<i>Cost Modifier</i>
Temperature/Humidity Controlled	+20%
Security Container	+10%
Liquid or Gas Storage Tank	x2
Controlled Environment	x3
Habitat	x5

ports use auto-guidance signals transmitted to the ship, or even put a "harbor pilot" on board. The latter is very rare.

Vessels with special arrangements or which have declared an emergency may be granted a priority docking clearance. A special approach/departure lane is kept open for such vessels, and violating it carries severe penalties.

Incoming vessels may be boarded and searched for contraband while in space or in dock. The Navy, local customs enforcement agents, the port authority or (rarely) local police personnel may carry out such a search. The thoroughness of a search depends upon circumstances. Some vessels, such as Megacorporate freighters, have special exemption-from-search arrangements. Not all such deals are legal.

Upon entering port, a vessel is usually connected to local data feeds and power lines, to allow its reactor to be taken offline. Passenger disembarkation and cargo offloading then takes place.

All vessels are required to file a flight plan when leaving port, though there is no guarantee that the plan filed will be the one followed.

**Starport Fees and Services:** Within civilized regions of space, most starports charge pretty much a standard-

ized set of rates depending on the classification of the starport itself. The larger and busier class A and B starports are general more expensive to deal with, while the more common class C starport and the class D starport have more reasonable rates. Most class E and X starports do not have any set fees established, as there are no services to offer.

**CARGO CONTAINERS**

Cargo containers are used to transport the majority of bulk cargo shipments by the larger shipping lines. They are not as commonly used among smaller lines and free traders as these often carry odd shipments and smaller consignments. It is only possible to take advantage of the standardization that cargo containers offer when carrying larger and more regular freight.

These modularized containers are standardized among most cooperating species. Any or all six Container sides may be (fairly) easily removed or installed as needed allowing for a multitude of configurations and uses. The top can be removed to serve as an open-topped container, the top and 4 sides can be removed and it used as a flat pallet, even the covering panels can be removed leaving nothing but the framework structure when needed. Of course in its standard configuration with all six sides installed and locked, the modular cargo can be easily secured and officially sealed against tampering if required to ensure the integrity of the cargo within.

When not needed, these modular containers may be broken down and stored, taking up only one-quarter (1/4) of their rated capacity. For example four 1-ton modular containers can be stored in the space of 1 ton, or four 8-ton modular containers in the space of 8 tons.

There are of course some types of cargo that are not suited for shipment in a standard cargo container and require a specialized container. Unlike their modular counterparts, these containers are not multifunctional and are designed and built for a single purpose.

**Reefer Containers:** These types of sealed containers allow the interior temperature and humidity levels to be set and maintained and any level ranging from 0-100% humidity and from -50°C to 90°C. Reefers are powered by an



internal battery supply good for two weeks before requiring a recharge (a 1 EP power source for 24 hours).

**Security Containers:** These sealed containers are built from heavy-duty materials to resist forced entry, and equipped with various security features to expose tampering and prevent theft and entry. They contain their own power supply capable of supporting the container's security features for up to 4 weeks. Security containers require a 4 EP power source for 24 hours to recharge.

**Liquid or Gas Tank:** These specially designed storage tanks are designed and equipped to ship most any type of liquid or gaseous cargo as safely and efficiently as possible.

**Controlled Environment:** Some cargos require an even more controlled environment that can be provided by a reefer container, such as an exotic or dangerous atmosphere (e.g. in the case of some alien botanical and biological life forms). These containers are capable of providing their own power and exotic life support for up to 2 weeks. CE containers require an 8 EP power source for 24 hours to recharge.

**Habitat:** These containers may be used as cramped but serviceable emergency quarters, offices, etc., as needed. The habitat unit can support one man per ton for up to 2 weeks on its own independent life support and power supply system. Habitat containers require an 8 EP power source for 24 hours to recharge.

## OPERATING THE SHIP

Standard procedures exist to govern how a starship goes about its business and handles emergency situations. Under normal circumstances, a ship will not deviate from these procedures. A captain whose vessel ignores standard operating procedure will usually have to explain himself to a patrol vessel or the local port authority.

### SUBLIGHT MANEUVER

All ship operations, including interstellar flights, involve some sublight maneuvering. Vessels normally run with active sensors on and transponders active (i.e. constantly transmitting) in friendly space. At the discretion of the captain, a vessel may go "silent" and run on passive sensors only. Her transponder does not transmit, and will answer interrogatives from other ships only at the crew's command, though some vessels (Navy ships, for example) can override this and command an automatic response from the silent vessel. Silent running is normally used where there is a threat of an attack.

Ships making short interplanetary flights usually accelerate halfway there, then reverse thrust and decelerate the rest of the way. Coasting at a constant velocity is slower, though it does greatly reduce the ship's emissions.

## JUMP DRIVES AND JUMP SPACE

Interstellar flights require the use of Jump drive. Jump is also often used for long-distance flights within a solar system, where the real-space transit time would be greater than the 1-week Jump time. To enter Jump, a vessel needs a working and properly fuelled Jump drive, a suitable set of course vectors, and a properly aligned hull Jump Grid.

The Jump grid allows the Jump field to properly form around the ship and protect it from Jumpspace. A damaged or misaligned grid can cause a ship to Misjump, or to suffer Jump Intrusions while in Jumpspace. In the worst-case scenario, a ship with a damaged drive or a distorted grid may be destroyed at entry or breakout.

A Jump Plot is also required. A Jump Plot can be created by a computer, and Plots are available in the form of "course tapes" purchased from major ports and for common destinations. However, the nature of Jump makes electronic systems less than reliable when creating a plot.

Astrogation is not an exact science. A computer will throw up dozens of apparently suitable jump solutions. All of them will of course work, but minor variations in the plot will cause large variance in flight time and emergence point. A good Astrogator develops a "feel" for his calculations that borders upon black magic. He or she can somehow predict the variance in the system to shave a few minutes off average Jump time and to give a close emergence.

All normal jumps take an average of 168 hours +/- 10% (147 + 6d6 hours), or about one week, and are subject to random variations in the point of emergence. If variation creates an emergence point that is too close to a planet or other large body, a catastrophe can occur. The older a plot is, the more variance there is in the actual Jump performance. Thus course tapes tend to err on the side of caution, and give emergence points a long way out from the destination world.

Another important reason for having a good Astrogator is conservation of momentum. A ship entering Jump has the same momentum in the same direction as it emerges. A good Astrogator can ensure an emergence that uses this momentum; the ship arrives headed inward towards the target on a safe vector, and not too fast that it cannot decelerate in time.

## MISJUMPS

d100 Misjump Effect

**Minor Misjump**

- 01-20 Crew and passengers suffer Jump Sickness (-2 to all checks) for 1d6 hours after emergence from Jump space.
- 21-40 Ship arrives 1d6+1 x 100 diameters from the destination.
- 41-55 Ship arrives late or early (1d6: 1-3 late; 4-6 early) by 1d4 days.
- 61-70 Jump drive is damaged (reduce rating by 1).

**Serious Misjump**

- 71-75 Crew and passengers suffer Jump sickness (-4 to all checks) for 4d6 hours after emergence from Jump space.
- 76-80 Ship arrives late or early (1d6: 1-3 late; 4-6 early) by 1d6 days.
- 81-85 Jump drive suffers major damage (reduce rating to 0).
- 86-90 Ship Misjumps 4d6 parsecs in a random (1d6) direction.

**Catastrophic Misjump**

- 91-92 Ship is destroyed on entry into Jump space.
- 93-94 Ship is destroyed on emergence from Jump space.
- 95-96 Ship never emerges from Jump space.
- 97-00 Other catastrophic effect (Referee's discretion)

Jumpspace can have other effects on a ship. An unstable Jump field can result in Jump Sickness or insanity in personnel within the ship, or can allow Jumpspace Intrusions into the ship itself. This causes structural damage, and tends to spread. Anyone who has seen a J-Space Intrusion and lived is very lucky indeed. Direct contact with Jumpspace is deadly to living beings. Thus working outside the hull while in Jump is a desperate undertaking. There is a bubble (typically about 2 meters deep) of safe space around the hull, but anything moving outside this area suffers what appears to be disintegration. J-Space is deeply unsettling to look at, too, and for this reason all viewports are covered while in Jump.

A ship in Jump is cut off from the rest of the universe. It cannot communicate, change course, or otherwise affect the "real" universe.

No-one really understands what Jumpspace actually is. It is there, it is useful, and its hazards are mostly well documented. However, hard data is hard to come by. Some researchers suggest that Jump Space is a kind of "non-place" which may not even exist when a ship is not present in it. Of these, a few go so far as to say that Jump Space is as big as the ship within it, and that all ships that have ever entered Jump are always present in the Jump bubble, for all time (in so far as time exists in Jumpspace). Others argue that this is rubbish, and that each ship creates a pocket universe for itself which it prevents from collapsing with the Jump Drive. After a time, the decay of this pocket universe spits the ship back out into real space at a point determined by the precise configuration of the Jump drive at entry. Another faction of scientists loudly declares that both other camps are wrong, and indeed idiots to boot. But they haven't got a better theory to offer.

What is known is that J-space is hostile to anything that enters it. Without a properly configured Jump Drive in constant operation, vessels will be destroyed. Other facts, speculation and wild tales include:

Key:

KF: "Known Fact" - which may turn out someday to be incorrect, or at least only partially true

SP: Speculation based upon at least some observed evidence

WT: Wild Tale

?: Veracity unknown

- o Ships cannot change course in Jump (KF)
- o It is impossible to Jump more than 6 Parsecs, except by accident (KF)
- o Communications gear receives only interference in Jump Space (KF)
- o Looking at Jump Space can cause mental instability (KF)
- o Jump has something to do with Psionics (??)
- o There are things living in J-space (WT)
- o The government is close to cracking the J-6 barrier (??)
- o The government is trying to crack the J-6 barrier (SP)
- o Radio signals have been received in Jump Space (WT)
- o Lost ships wander forever in Jump Space (WT)
- o The Ancients made Jump space (WT)
- o Jump Drives do not always function as expected, even when properly tuned (SP)
- o Some regions exhibit a higher tendency for Misjump than others (SP)
- o Droyne Jump Drives never Misjump (WT)
- o Unidentified vessels have been sighted at points that suggest they were exceeding Jump 6 to get there (??)
- o There is a cult that worships Jump space as "the face of God". (KF)

Clearly, much research needs to be done into the nature of Jump space and its effects. In the meantime, it is there and it works. People use it and try not to worry about how much remains unknown.

The Procedure for entering Jump is as follows:

1. Jump Plot is generated.
2. Powerplant brought to Jump Readiness
3. Jump Plot is fed to the navigational computer
4. Jump Drive is brought to Readiness
5. Jump Drive begins to fast-burn its Jump Fuel, developing high levels of power
6. Jump Grid is charged
7. Astrogator or Captain gives final Jump command
8. Jump Field is formed
9. Vessel enters Jumpspace

A vessel can abort safely at stages 1-4. Stage 5 is slightly risky and results in about 10% of Jump fuel being wasted. Abort is possible at Stage 6 or 7 with moderate risk. A crash-bleed of energy from the Jump Grid is possible at Stage 8, but this is extremely risky and wastes 50-80% of the jump fuel.

Vessels burn about 80% of their Jump fuel to create the entry into Jumpspace, most of which is used after the "hole" is formed, to keep it open as the ship enters. This fuel is used up at an immense rate in a powerful but inefficient process. The remainder of the fuel keeps the Jumpfield generator running, protecting the vessel and her crew. A little is left over after the Jump, giving a margin for error, but if this fuel runs out (say due to a tank leak or long jump time) then the Jumpfield will eventually fail. No living person knows what happens at this point, which indicates that it must be something bad.

If all goes well, the ship will enter Jumpspace and remain there for about 1 week protected by the Jump Field. Experienced personnel can usually tell when a ship is about to Emerge from jump, and the Jump plot should give an indication of how long the ship will be in Jumpspace. However, variance can cause a ship to precipitate early out of Jump. Emergence outside the +/- 10% envelope usually indicates a Misjump.

**Misjumps:** The chance of a Misjump each time a ship engages its Jump drive is normally very small; make a basic check (DC21) to see if a Misjump occurs. If the ship is using unrefined fuel add +2 to the roll. If the ship is within 100 planetary diameters of a world add +5 to the roll, add +15 if with 10 planetary diameters of a world. If a ship is using drop tanks to fuel a jump, add +2 to the roll. A failed Astrogation check when plotting a course through Jump space will also cause a Misjump (see T/Astrogation skill pg. 92).

Misjumps vary from relatively minor to catastrophic. If a Misjump does occur, roll on the Misjump table, pg. 353.

## FUEL SKIMMING

Fuel skimming is a common practice among those who do not wish to pay for their fuel. Ordinary water can be "cracked" for hydrogen fuel by a ship's processing gear. This water can be obtained by melting ice or taking up water using hoses. Some ships can immerse themselves and open special vents to the fuel-processing tanks.

Alternatively, hydrogen can be skimmed from a gas giant. This involves diving at speed into the upper atmosphere, thus forcing gas into the ship's scoops. This gas is processed; hydrogen is stripped out, and the remainder is dumped. Fuel skimming is a lengthy and risky process, and the diversion required is so time-consuming that most merchant captains just accept the expense of purchasing fuel.

## EMERGENCY

All vessels are required to respond to a GK (Distress) signal unless this would expose them to unacceptable risk. Lesser emergencies can be declared using normal communications procedures.

Lesser emergencies are those where the vessel may soon need outside assistance but can probably deal with the situation using its own resources. Examples include a vessel with a minor and controllable fire aboard, sickness among passengers or crew, or a combat-damaged ship attempting to make port under her own power. Interstellar law requires that such emergencies be declared, and that any nearby vessels stand ready to assist at need.

A GK signal is only broadcast when a vessel is in dire peril and needs outside assistance. Any captain who ignores such a signal will have to answer to a court of inquiry, though his reasons may be good ones.

## DROP TANKS, BLADDERS & FUELLING STATIONS

The nature of Jump drives makes fuelling stations, where a vessel is fed fuel for its Jump drives through hoses, impracticable. Fuel is mostly needed after the Jump "hole" is created. The Jumpfield would sever pipes before the ship entered Jumpspace proper. This would cause the collapse of the Jumpfield and destruction of the ship. Even if it did manage to enter J-space, the ship would have no fuel to maintain its field, resulting in a catastrophic loss of the vessel. No experiment with fuelling stations has ever succeeded.

Ships can extend their range by two methods, however. Collapsible bladders can be installed in cargo hold areas, to contain fuel which is then pumped into the main tanks for a second Jump once the normal fuel load has been consumed. Drop tanks are another option. The tanks can either



be used as part of the ship's main fuel system, or can be used to fire the J-drive up then blasted free with explosive couplings. This is hazardous, as it can cause interference in the forming Jump-field, but it is acceptable in some military situations. The ship's internal tankage then fuels the J-drive as normal, and the loss of the tanks may actually lower displacement enough that additional Jump range is gained.

## TRADE AND COMMERCE

Starships generate revenue by carrying passengers, cargo, mail and charters. Goods taken on in orbit are delivered when placed in orbit around the destination. Goods taken on a planetary surface are delivered when off-loaded on the surface of the destination. This custom applies to cargo, passengers, and mail.

### BULK CARGOS

Merchants may inquire at a starport once per week about the number, sizes, and destinations of cargos awaiting transportation. The Referee should determine all worlds accessible to the starship (depending on jump number), and roll for each such world on the Bulk Cargo table. Note that except for Priority shipments, all bulk cargos pay per Jump, regardless of the distance of the Jump itself.

*Example: A Jump-1 capable cargo ship charges the same rate as a Jump-3 capable ship, but the Jump-3 ship can carry a cargo to a world 3 parsecs away in only a single Jump. It will take the Jump-1 ship three separate Jumps, and three separate payments to get to the same destination. The Jump-3 ship is not only faster, but also much cheaper for the owner of the cargo. Of course, if the cargo only needs to get to a system 1 parsec away, both the Jump-1 and the Jump-3 ship will get it there in the same amount of time for the same price.*

**Priority:** These cargos pay well, and improve with the distance carried but are very time sensitive and usually must be delivered within 14 days of their acceptance. If delivered on time, a priority cargo will pay Cr1000 for every 1 parsec in distance it was carried between the port of origin and its delivery destination.

**Hazardous:** Carrying these types of cargos pays well, but carries more than a little risk. For each week such a cargo is carried on board a ship, the Referee should make a check (DC5) to see if any 'mishap' with the cargo is avoided. The exact nature of such a mishap is left up to the creativity of the Referee, but the specifics of the cargo being carried lead to more than a few ideas. Hazardous cargos pay a flat Cr10,000 per ton per Jump

**Security:** Only an armed ship will usually be contracted to carry a security cargo. These are typically high value or sensitive materials that tend to attract the attention of pirates and other undesirable types interested in acquiring such goods for themselves. The Referee should make a check (DC7) once each week while a ship has a security cargo aboard to see if such an encounter is avoided. Security cargos pay Cr5000 per ton per Jump.

**Major, Minor, and Incidental:** These are typical run-of-the-mill bulk cargos (grains, metals, ores, consumer electronics, etc.) offered in specific, non-negotiable lot sizes. They may not be broken up into smaller lots. If the size of a lot is too large to be carried on board a ship (i.e. 200-tons of grain and a 100-ton ship), it may not be accepted. For major cargos, multiply the result from the Bulk Cargo table by x10 to determine the exact size of the lot in tons; for minor cargos, multiply by x5; for incidental cargos simply use the result itself in tons. Payment for these types of cargo is a flat Cr1000 per ton, regardless of the distance between the point of origin and the destination.

### PASSENGERS

After a starship has accepted cargo for a specific destination, each week passengers will present themselves for transport to that destination. The passenger table is used to determine the number of passengers desiring passage to the announced world based on the origin world's population, and on the destination world's population, and travel zone status. Roll the number of dice specified (3D-1D, for example, indicates that three dice are rolled, and from that total, the result of another one die roll is subtracted). Apply any indicated modifiers.

Passengers will pay the standard fare for the class of transportation they choose: Cr10,000 for high passage, Cr8,000 for middle passage, and Cr1,000 for low passage. Passage is always sold on the basis of transport to the announced destination, rather than on the basis of jump distance.

Some passengers (2d4 x 10%) are willing to or request to travel under double occupancy, sharing a stateroom with another passenger (not crew) for a slightly reduced rate. Subtract -2 from the roll (min. 0) when checking for high passage double occupancy. Staterooms booked for double occupancy pay at the double occupancy rate: Cr16,000 for high passage (Cr8000 for each passenger), and Cr13,000 for middle passage (Cr6500 for each passenger). There is no double occupancy rate for low passage.

## BULK CARGO

World Pop Digit	Priority*	Hazardous*	Security*	Major (x10)	Minor (x5)	Incidental
0	-	-	-	-	-	-
1	-	-	-	1d6-4	1d6-4	-
2	-	-	-	1d6-2	1d6-1	-
3	-	-	-	1d6-1	1d6	-
4	-	-	-	1d6	1d6+1	-
5	1d6-4	-	1d6-4	1d6+1	1d6+2	-
6	1d6-3	1d6-4	1d6-3	1d6+2	1d6+3	1d6-3
7	1d6-2	1d6-3	1d6-2	1d6+3	1d6+4	1d6-3
8	1d6-1	1d6-2	1d6-1	1d6+4	1d6+5	1d6-2
9	1d6	1d6-1	1d6	1d6+5	1d6+6	1d6-2
A	1d6+3	1d6	1d6+1	1d6+6	1d6+7	1d6
	Cr1000 per ton per Jump Distance	Cr10,000 per ton	Cr5,000 per ton	Cr1000 per ton	Cr1000 per ton	Cr1000 per ton

\* Has special requirements

### Modifiers (Based on Destination World)

Liaison skill rank of 5 or better	+2
Population UWP of 4 or less	-4
Population UWP of 8 or better	+1
Red Zone	No cargo except Priority, Security, and Hazardous
Amber Zone	No Major cargo
Technology Level	Add or subtract the difference between the TL of the originating world and the TL of the destination world.

The Referee should roll to determine the number of priority, hazardous, security, major, minor, and incidental cargos available on the world of origin; modifiers take into account the world of destination. After rolling for the number of cargos, roll one die for each cargo to determine its size. Multiply the die roll for major cargos by 10, minor cargos by 5, and incidental cargos by 1 to determine the number of tons in each.

For example, if a ship is on a population 6 world, going to a population 3 world with a tech level 3 less than the current world, the Referee rolls one die for major cargos. He rolls a 4 (+2 from the table, -4 for the low population of the destination, +3 for the tech level difference), giving 5 major cargos. He then rolls one die for each cargo and multiplies each result by 10 to determine their individual tonnages. Each cargo is a distinct shipment and cannot be subdivided, but the ship may accept or reject specific cargos based on the best fit within the cargo hold. All cargos are carried at Cr1,000 per ton. Starship owners may purchase goods locally and ship them at their own expense, speculating that they can later sell them at a profit (see Speculative Trading, pg. 358).

**PASSENGERS**

<i>World Pop Digit</i>	<i>High Passengers</i>	<i>Middle Passengers</i>	<i>Low Passengers</i>
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0	-	-	-
1	-	1d6-1	2d6-6
2	1d6-1d6	1d6	2d6
3	2d6-2d6	2d6-1d6	2d6
4	2d6-1d6	2d6-1d6	3d6-1d6
5	2d6-1d6	3d6-2d6	3d6-1d6
6	3d6-2d6	3d6-2d6	3d6
7	3d6-2d6	3d6-1d6	3d6
8	3d6-1d6	3d6-1d6	4d6
9	3d6-1d6	3d6	5d6
A	3d6	4d6	6d6

Cr10,000	Cr8000	Cr1000
per psngr	per psngr	per psngr
Cr16,000	Cr13,000	
Double Occ.	Double Occ.	

**Modifiers:***Skills (only one may be used)*

Recruiting skill rank of 5+	+2
P/Administration skill rank of 5+	+1
K/Interstellar Law skill rank of 10+	+1
Based on Destination World	
Population 4 or less	-3
Population 8 or better	+3
Red Zone	-12, no middle or low passengers
Amber Zone	-6
Technology Level	Add or subtract the difference between the TL of the originating world and the TL of the destination world.

Differences in starship Jump drive capacity have no specific effect on passage and bulk cargo prices. A Jump-3 starship charges the same price as a Jump-1 starship. The difference is that a jump-3 ship can reach a destination in one jump, while the jump-1 ship would take three separate jumps (through two intermediate destinations, and requiring three separate payments) to reach it. Higher Jump numbers also may make otherwise inaccessible destinations within reach. But for two ships of differing Jump numbers going to the same destination in one Jump, each would charge the same cargo or passage price.

**Mail and Incidentals:** Subsidized merchants may receive mail delivery contracts, usually as an adjunct to their established routes. Five tons of ship cargo capacity must be committed to postal duty on a full time basis, the ship must be armed, and a gunner must be a part of the crew. The starship is paid Cr25,000 (Cr5,000 per ton of postal cargo area) for each trip made, regardless of the actual mail tonnage carried. Such tonnage will not exceed 5 tons per trip.

Other ships may be approached to deliver private messages, at times through the ship's owner or captain, and at times clandestinely through a crew member. Private



## CARRIER FEES

### Non-Starships

Per hour (12 hour minimum) Cr1 per ton of vessel chartered

### Starships

Charter rate per 2-week block. Ship owner provides crew and covers all overhead expenses.

Per ton of cargo space available +Cr900

Per High Passage accommodation available +Cr9000

Per Low Passage accommodation available +Cr900

mail is usually intended for delivery to a specific point (such as the Travellers' Aid Society building, or a tavern keeper), and is generally accompanied by a Cr20 to Cr120 honorarium. The Referee should decide if a private message to is awaiting transmittal, and determine randomly which crew member is approached to carry it. Serving as a carrier for private mail also serves as an introduction to the recipient as a dependable, trustworthy person.

**Mail:** 1d6-1 tons waiting. Cr25000 no matter what the actual tonnage carried is, even if no mail at all is waiting.

**Charters:** The standard price to charter a non-starship is Cr1 per ton per hour, usually with a twelve-hour minimum. Charter price for a starship is computed based on its capacity. Starships are chartered in 2-week blocks; the charge is Cr900 per ton of cargo hold plus Cr9,000 per high passage berth and Cr900 per low passage berth. The owner pays all overhead and supplies a crew.

## SPECULATIVE TRADING

A trader with cargo space available and free capital with which to speculate may seek out suitable goods to buy and sell. The Speculative Trade Goods table lists many types of goods, often of general classes which may be of interest to characters for various uses. The goods labels are abstractions, such that a cargo of firearms could potentially be any form from muzzle loading replicas to laser carbines. Should characters wish to divert some part of the cargo to

personal use (through payment or pilferage), the exact type of cargo must be determined by the Referee.

**Locating Buyers or Cargos for Sale:** Each week a trader spends on a world she may search for suitable cargos to buy, attempt to locate a buyer for goods she has for sale, or both. The trader must make a Broker skill check, the DC determined on the Locating and Selling Speculative Cargo table below, based on the local starport type. Reduce the listed DC by -1 for each Population UWP digit for local world. If successful, the specified numbers of speculative cargos or potential buyers are available.

A professional broker can usually be hired to assist in the buying or selling of speculative cargos at most starports, if the merchant nor any of her companions or crew have the skill. In return for their fee, a professional broker assures that a potential cargo for sale or a potential buyer will be located within a week of hire; no check is required. This does not guarantee a sale, nor even a price, although the broker can also be hired to negotiate a price in addition to locating a cargo or buyer (see The Price of Goods).

## LOCATING AND SELLING SPECULATIVE CARGO

Starport Type	DC	Potential Buyers or Speculative Cargos for Sale	Broker Fee
A	15	1d8 available	Cr1000
B	20	1d6 available	Cr500
C	25	1d4 available	Cr250
D	30	1d3 available	Cr200
E	35	1d2 available	Cr150
X	40	1 available	Cr100

### Modifiers

Circumstance	DC
Per World Population UWP digit	-1 or more

**Buying Goods:** Once it has been determined that one or more speculative cargos are available for sale, it must be determined what exactly each of the cargos are. The Referee should roll 1d100, adding +10 if the local world has a Population UWP digit of 9 or greater, and subtracting -10 if the Population UWP is 5 or less. If the result is less than 0, add +10 to the result. If the result is greater than 100, subtract -10 from the result. Apply this final result to the Speculative Trade Goods table to determine what type of cargo is for sale, its base price, any purchase modifiers, and the exact quantity of goods available. Once these values have been determined, proceed to The Price of Goods below.

**Selling Goods:** If the character is attempting to sell a cargo, find it on the Speculative Trade Goods table and determine its base price, any resale modifiers, and the exact quantity of goods available. Once these values have been determined, proceed to The Price of Goods below. Only one potential buyer is found per week, but actually represents the best of a number of offers made for the goods.

## THE PRICE OF GOODS

A character may elect to negotiate the price of goods for herself, or hire a broker to do so for her. The use of a broker is handy when a character is not trained in the mercantile arts (i.e.: non-Merchant class characters).

The price of goods is determined by rolling 3d6 and consulting the Actual Value table (AV). The result from this table determines the percentage of the base price that will be paid for each quantity of goods in this lot. This roll on the actual value table can be modified by the following factors:

**Using a Broker:** The character must decide what quality of broker will be hired for the job. The more effective the broker's capabilities, the higher the price for his services will be. For each +1 modifier on the Actual Value Table the broker adds, he will charge a 5% fee based on the final negotiated price. The maximum broker bonus that may be hired is +4.

### BROKERS

Four types of brokers are available:

+5 AVT Modifier	5% commission.
+10 AVT Modifier	10% commission
+15 AVT Modifier	15% commission
+20 AVT Modifier	20% commission

**Character Skills:** Instead of hiring a professional broker at a starport, a character with the Broker

skill may make a skill check in an attempt to gain a brokering bonus. The character must select what level of bonus they will attempt to achieve (+1 to +4) before the skill check is made as this determines the DC of the check itself. See the Character Brokers table below.

Bribery may be used in place of the standard broker skill, but a payment must be made based on the level of bonus and the final sale price to the person being bribed. P/Administration skill may be used in place of Broker or Bribery, but with a -2 penalty to the skill check roll.

Only Merchants with the Calculating Eye class feature may Take10 when attempting to negotiate the price of speculative cargo.

### CHARACTER BROKERS

Attempted Bonus	DC	Minimum Bribe
+1	15	5% of final price
+2	20	10% of final price
+3	25	15% of final price
+4	30	20% of final price

**World Type:** The type of world a cargo is being bought or sold at may impart a bonus or penalty to the purchase or sale. For example, trying to sell grain on an agricultural world is probably not the road to riches.

### ACTUAL VALUE

3d6	Percentage Value	3d6	Percentage Value
3-	30	13	130
4	40	14	140
5	50	15	150
6	60	16	160
7	70	17	170
8	80	18	180
9	90	19	200
10	100	20	300
11	110	21+	400
12	120		

All applicable modifiers are used when rolling on the Actual Value Table.

## SPECULATIVE TRADE GOODS

Die	Trade Goods	Base Price	Purchase Modifiers	Resale Modifiers	Quantity
0-	Add 10 to the roll and redetermine the result				
01	Grain	300	A-2, NA+1, I+2	A-2	8d6x5
02	Scrap Metal	300	P-2, NI-2	I+2, R-2	5d6x10
03	Steel	500	I-2, R-1, P+1	I-2, R-1, P+3	4d6x10
04	Lead	500	P-6, NI-4	I+4, R-1	10d6x10
05	Livestock	1,000	A-4	NA+4, NI+2, A-2	1d6x5 (4/ton)
06	Plants	1,000	A-4	NA+2, R+2, I-1	4d6x10
07	Aluminium	1,000	I-3, R-2, P+1	I-3, NI+4, R-1	5d6x10
08	Carbon	1,000	NI-3, P-2	I+2, A+1, R-2	5d6x10
09	Fruit	1,000	A-3, NA+1, I+2	A-2, I+3, P+2	2d6x5
10	Rope	1,000	A-6, NI-2	I+2, NI+2	4d6x10
11	Meat	1,500	A-2, NA+2, I+3	A-2, I+2, P+1	4d6x5
12	Wire	1,500	I-4, R-2, NI+2	A+4, NI+2, P+2	2d6x10
13	Paper Products	1,500	P-1, A-4, I+2	R+2, NA+4	5d6x10
14	Workable Stone	1,500	P-4, NI-2, NA-2	I+4, R+4	5d6x10
15	Wood	2,000	A-6	A-6, I+1, R+2	2d6x10
16	Copper	2,000	I-3, R-2, P+1	I-3, R-1	2d6x10
17	Organic Oils	2,000	A-6	I+2, R+4, P+1	1d6x10
18	Inorganic fertilizer	2,000	P-4, NI-2	A+4, R+2, NA-2	5d6x10
19	Herbs	2,500	A-6	R+4, I+3	5d6
20	Textiles	3,000	A-7, NA-5, NI-3	A-6, NA+1, R+3	3d6x5
21	Piping	3,000	I-4, P-2, NI+2	NI+4, R-2	2d6x5
22	Caustic Alkali	3,000	P-4, NI-2	I+2, R-2	4d6x10
23	Brass	4,000	NI-2	I+1, R-1	4d6x10
24	Glass	4,000	I-2, P-2	NI+1, R-1	2d6x10
25	Agricultural Seeds	5,000	A-6, R-2, P+3	NA+3, P+2	2d6
26	Minerals	5,000	NI-2, I+4, P-3	I+3, R-1	2d6x10
27	Liquid Pavement	5,000	I+2, P-2, NI-1	I+4, R+2	2d6x10
28	Bulk Plastic	5,000	NI-2, I+2, NA-4	I+4, A+2	5d6x10
29	Dishware	5,000	P-2, NI-2, NA-2	R+1	1d6x10
30	Fireworks	5,000	P-3, NI-2	R+2, A+4, NA-1	2d6
31	Abrasive Powders	5,000	P-4, NI-2	I+4	4d6x10
32	Pigments/Dyes	5,000	P-2, A-4	NA+4, R+2	2d6x10
33	Spices	6,000	A-2, NA+3, I+2	A-2, R+2, P+3	1d6x5
34	Coatings (Paint)	6,000	I-2, NA-1	I+4, A+1, R-1	1d6x5
35	Polymers	7,000	I-2, R-3, P+2	I-2, R+3	4d6x5
36	Adhesives	7,000	P+2, I-2	I+2, R+2	1d6x5
37	Tin	9,000	I-3, R-2, P+1	I-3, R-1	3d6x10
38	Books	10,000	P-6, A-2	R+4, I-2, NI+2, NA+2	1d6x10
39	Liquor	10,000	A-4	A-3, I+1, R+2	1d6x5
40	Petrochemicals	10,000	NA-4, I+1, NI-5	NA-4, I+3, NI-5	1d6
41	Compressed Gasses	10,000	NI-2, P-4	I+4, R+2	2d6
42	Blades	10,000	I-3, R-2, P+3	I-2, R-1, P+3	2d6
43	Tools	10,000	I-3, R-2, P+3	I-2, R-1, P+3	2d6
44	Preserved Foods	10,000	I-4, A-2	I+2, NA+4, P+2, R-1	1d6x10
45	Leather	10,000	A-4, P-2	R+4, I+2	4d6
46	Strong Acids	15,000	NI-2, P-1	I+4, R-1	2d6
47	Canned Beverages	15,000	P-4, NI-2, I-2	R+4, I+4	1d6x10
48	Insecticide	15,000	NI-2, NA-4	A+4, R+2	1d6x10
49	Mercury	15,000	NI-2, P-4, I+2	I+4, R-1	2d6
50	Furniture	15,000	P-2, I-4, A-1	I+2, R+4	2d6x5
51	Crystals	20,000	NA-3, I+4	NA-3, I+3, R+3	1d6
52	Animal Skins	20,000	A-4, P-1	NA+1, R+4	2d6
53	Tea	20,000	A-4, NI-2	R+8, I+4	3d6
54	Chemical Catalysts	20,000	NI-2, P-2	I+4, R+2	1d6x5
55	Chemical Solvents	20,000	NI-1, AG-1	I+4, R+2	1d6x10
56	Coffee	25,000	A-4, NI-2	R+8, I+4	4d6
57	Starship Hull Plates	25,000	I-2	R+2, NI-2	4d6
58	Explosives	25,000	P+2, I-2	I+2	2d6



59	Toys	25,000	P-2, NA-2, I-4	R+4, A+2	4d6
60	Firearms	30,000	I-3, R-2, P+3	I-2, R-1, P+3	2d6
61	Ammunition	30,000	-3, R-2, P+3	I-2, R-1, P+3	2d6
62	Refined Silicon	35,000	NI-2, I-4, P-1	I+6, R+2	2d6x10
63	Info Cubes/Disks	50,000	R-2, I-2	P+3, A+6, R+4	1d6
64	Modular Buildings	50,000	I-2, R-2	P+4, NI+2	2d6
65	Body Armor	50,000	I-1, R-3, P+3	I-2, R+1, P+4	2d6
66	Fragrance Oils	50,000	P-2, NI-2, A-4	I+2, R+6	1d6
67	Silver	70,000	I+5, R-1, P+2	I+5, R-1	1d6x5
68	Mechanical Parts	70,000	I-5, R-3	N I+3, A+2	1d6x5
69	Construction Equipment	75,000	I-4, R-2	NI+4, P+4, NA+2	2d6 (4 tons ea)
70	Computer Software	100,000	I-4, R-2	I+2, NI+2	2d6
71	Pharmaceuticals	100,000	NA-3, +4, P+3	NA-3, I+5, R+4	1d6
72	Electronics Parts	100,000	I-4, R-3	NI+2, P+1	1d6x5
73	Starship Electronics Parts	150,000	I-4	R+4, NI-2	2d6
74	Farm Machinery	150,000	I-5, R-2	A+5, NA-8, P+1	1d6
75	Computer Parts	150,000	I-5, R-3	NI+3, A+1, NA+2	1d6x5
76	Special Alloys	200,000	I-3, NI+5, R-2	I-3, NI+4, R-1	1d6
77	Holo-Vid Cubes	250,000	I-4	R+4, P+2	4d6
78	Statuary	250,000	P-6, NI-2, NA-2	R+4, I+2	2d6
79	Cybernetic Parts	250,000	I-4, R-1	NI+4, A+1, NA+2	1d6x5
80	Starship Engine Parts	250,000	I-2	R+2, NI-2	4d6
81	Art Work	250,000	P-4, NI-2, NA-2	R+6, I+2	1d6
82	Vacc Suits	400,000	NA-5, I-3, R-1	NA-1, NI+2, P+1	1d6x5
83	Cloned Human Organs	500,000	P-1, I-2	R+6, I+2, NI-2	1d6
84	Human-Cybernetic Parts	500,000	I-4	R+2, I+4	2d6
85	Robot Parts	500,000	I-4	R+2, P+4, NI+4	4d6
86	Energy Cells	500,000	I-4, NI+2, P+2	R+2, NA+2	2d6
87	Antiques	500,000	P-2	R+6, I+2	2d6
88	Machine Tools	750,000	I-5, R-4	NI+3, A+1, NA+2	1d6x5
89	Computer Memory Modules	1,000,000	I-4	R+2	2d6
90	Radioactives	1,000,000	I+7, NI-3, R+5	I+6, NI-3, R-4	1d6
91	Gems	1,000,000	I+4, NI-8, P-3	I+4, NI-2, R+8	1d6
92	Aircraft	1,000,000	I-4, R-3	NI+2, P+1, NA-2	1d6
93	Robots	1,500,000	I-4	R+2, P+4, NI+4	2d6 (4/ton)
94	All Terrain Vehicles	3,000,000	I-2, R-2	NI+2, P+1, A+1	1d6
95	Jewelry	5,000,000	I-2, NI-4, P-3	R+8	1d6
96	Air/raft	6,000,000	I-3, R-2	NI+2, P+1	1d6
97	Armored Vehicles	7,000,000	I-5, R-2, P+4	NA-2, A+2, R+1	1d6
98	Gold	8,000,000	P-2, NI-2, NA-2	I+4, R+6	1d6
99	Computers	10,000,000	I-2, R-2	NI+2, P+1, A-3	1d6
100	Starship Weapons	Per weapon	I-2	R+2	2d6 (4/ton)
101+	Subtract 10 to the roll and redetermine the result				

Trade Goods: The specific type of goods located for sale or attempting to be sold.

Base Price: The single unit price of the goods. Used to determine the final price. See The Price of Goods, pg 359.

World Types: The Speculative Trade Goods table indicates purchase and resale modifiers based on world types. The Universe chapter indicates the meaning of various world characteristics for other aspects of Traveller, and defines trade classifications. There are six classifications of interest: agricultural and non-agricultural, industrial and non-industrial, rich and poor worlds. A world may meet the criteria for more than one label (it may be poor, non-industrial, for example). Those meeting criteria for more than one label are subject to the modifiers for each such label when using the trade goods table.

A - Agricultural: atmos 4-9, hydro 4-8, popul 5-7.

NA - Non-agricultural: atmos 3-, popul 6+.

I - Industrial: atmos 0-2, 4, 7, or 9, popul 9+.

NI - Non-Industrial: popul 6-.

R - Rich: atmos 6 or 8, popul 6-8, govt 4-9.

P - Poor: atmos 2-5, hydro 3-.

Purchase Modifiers: Any modifiers applied to the determination of the final price of purchase based on the type of world the goods are being bought by a character. See The Price of Goods.

Resale Modifiers: Any modifiers applied to the determination of the final price at sale, based on the type of world the goods are being sold upon by a character. See The Price of Goods.

Quantity: This is the quantity of goods available in the lot, expressed in tons except where quantity has a bracketed value following it. In these cases Quantity refers to the actual number of objects at the tonnage described. Goods are available up to the quantity encountered. A lot may be split or partial purchases may be made if the characters desire; such partial purchases do entail a handling fee of 1% if made.

Throw the number of dice and multiply as shown. For example, 3d6x5 indicates that the result of three d6 is multiplied by 5.

When determining the contents of a cargo, the players and Referee must be certain to correlate the established price of goods with the cost per ton. For example, the base price of a shotgun is Cr150, while a ton of firearms as trade goods has a base price of Cr30,000. A strict weight extension of the shotgun (3.75 kg per shotgun) would indicate 266 shotguns. Extension should be instead based on price, with weight as a limiting factor. Thus one ton of shotguns would contain 200 guns, at Cr150 each. The extra weight can be considered packing and crates. Similar calculations should be made to keep prices in line on other trade goods.

# STARSHIP ENCOUNTERS

15

Starships, by their very nature, come and go. They may thus be encountered anywhere. The Referee should check for encounters any time a ship enters or leaves a star system, and as often as seems appropriate while a ship remains in-system. Make a check (DC17) to see if an encounter occurs. If the system has a class A or B starport add +10 to the roll, add +5 for a class C starport, and add +2 for a class D starport. There are no modifiers for a class E or X starport. If the check roll is equal or higher than 17, an encounter occurs.

1) First determine the type of encounter that has occurred on the table below. Be sure to note the modifiers for the starport type, the population of the mainworld and the presence of any bases.

<i>1d100</i>	<i>Type of Encounter</i>
01-05	Pirate Vessel
06-65	Merchant Vessel or Liner
66-85	System Defense Vessel
86-90	Other Vessel or Craft
91-95	Scout Service Vessel
96-00	Navy Vessel

## *Encounter Modifiers*

Class A or B Starport	+5
Class C Starport	+0
Class D Starport	-5
Class E or X	-10
Naval Depot Present	+25
Naval Base Present	+10
Scout Base Present	+5
Carrying Security Cargo	-10
Carrying Speculative Cargo worth Cr100,000-999,999 per ton	-10
Carrying Speculative Cargo worth Cr1,000,000-9,999,999 per ton	-15
Carrying Speculative Cargo worth Cr10,000,000+ per ton	-20

2) Next determine the range at which the encounter occurs (see Encounter Distance pg. 144).

3) Now determine the specifics of the encountered vessel(s) and their reactions. Each encounter type (determined in step 1 above) is detailed on the following pages.

## **PIRATE**

The scourge of the universe, pirates can be found lurking even in the most civilized of regions at times. Naval and mercenary ships are constantly on patrol to deter or destroy pirates, but they cannot be everywhere. Naval forces will move in to clean up an area particularly beset by piracy, but the really smart pirates will have moved on by then. To determining a pirate encounter, consult the tables that follow. These will allow you to determine the number of pirate ships encountered, what type of ship each of them are (roll individually), where the attack is likely to occur (use the next available result if no asteroid belt or gas giant is present), and the action the pirates will take. Note that most pirates do not advertise what they are, and will use deception and stealth to take their victims unawares. "Pirate" encounters could also include foreign commerce raiders, privateers or rogue naval vessels.





## 1d100 Number of Pirate Vessels

01-40	1
41-70	2
71-90	3
91-100	4

## 1d100 Type of Ship

01-10	Scout/Courier
11-35	Free Trader
36-50	Subsidized Merchant
50-75	Corsair
76-90	Patrol Cruiser
91-100	Mercenary Cruiser

## 1d100 Position

01-40	Lying in ambush for ships skimming the local gas giant
41-70	Hiding in the local asteroid belt
71-90	Close to the standard jump point for this system
91-100	Hiding on the far-side of the mainworld or its moon

## 1d100 Reaction

01-10	Attack without warning
11-20	Attack with warning
21-30	Ordered to heave to and be boarded or they will attack (automatically attack if fail to comply)
31-50	Ordered to heave to and be boarded or they will attack (roll again at -25 if fail to comply)
51-70	Ordered to heave to and be boarded or they will attack (roll again if fail to comply)
71-80	Ordered to heave to and be boarded or they will attack (roll again at +25 if fail to comply)
81-90	Ordered to heave to and be boarded or they will attack (will ignore if fail to comply)
91-100	Will ignore

## Situational Modifiers

## Modifier

Pirates outnumbered	+5 per ship exceeding the number of pirate vessels
Target outnumbered	-5 per ship exceeding the number of pirate vessels
Pirates outweigh the target in tonnage	-25
Target outweighs the pirates in tonnage	+25
Scout base present	+10
Naval base present	+25

If a pirate group takes serious damage to more than 20% of its vessels, they will break and run on a DC of 15.

## MERCHANT OR LINER

The lifeblood of any interstellar civilization, these will be the most common types of ships encountered when travelling across space. Use the tables below to determine the specific type of ship encountered, what it is doing at the time of the encounter, and what its reaction will be if contacted.

## 1d100 Type of Ship

01-20	200-ton Free Trader
21-30	200-ton Far Trader
31-45	400-ton Subsidized Merchant
46-60	400-ton Subsidized Merchant
61-70	600-ton Subsidized Liner
71-90	Bulk Carrier
91-100	Luxury Liner

## 1d100 Activity

- 01-30 Inbound
- 31-60 Outbound
- 61-85 Refueling at gas giant or making repairs (no assistance required)
- 86-95 In need of non-emergency assistance
- 96-100 Signal GK!

## 1d100 Reaction

- 01-10 Hostile, wants no contact. Will attack (DC18) if provoked
- 21-25 Hostile, wants no contact
- 26-50 Unfriendly, is irritated at contact
- 51-90 Friendly, welcomes contact, offers possible information
- 91-100 Very Friendly, initiates contact, possible future contact.

## SYSTEM DEFENSE

Most mainworlds with a sufficient technological capacity (TL 9 and higher) will typically have some form of ships for customs enforcement, security and in-system defense. Use the tables below to determine the type of ship encounter, what action it will take, and what its reaction might be if its orders are not obeyed.

## 1d100 Type of Ship

- 01-25 Scout Courier
- 26-50 Patrol Cruiser
- 51-75 System Defense Boat
- 76-90 Planetary Naval Ship
- 91-100 Interstellar Naval Ship

## 1d100 Activity

- 01-40 On patrol
- 41-50 Heading out to patrol or Jump
- 51-60 Inbound from patrol or Jump
- 61-75 Escorting or carrying out inspection of other vessel (determine type on the Merchant/Liner chart, above)
- 76-90 On maneuvers
- 91-95 Responding to emergency
- 96-00 Returning with combat damage

## 1d100 Action

- 01-05 Hostile, mistakes ship for known pirate vessel. Fires shot across bow and orders ship to heave to and prepare for boarding
- 06-15 Requires boarding inspection before ship may continue.
- 16-30 Requires transponder codes and manifests to be transmitted before ship may continue
- 31-75 None
- 76-90 Offers formal greeting and general advisory on local conditions
- 91-00 Offers friendly greeting and welcome on behalf of owning government

## 1d100 Reaction

- 01-10 Attacks
- 11-35 Issues warning (roll again -25 to the roll)
- 36-60 Issues warning (roll again)
- 61-85 Issues warning (roll again +25 to the roll)
- 86-100 Ignores and allows ship to continue, but notes ship for future reference

## OTHER

There are many other types of ships in service throughout charted space, all on different missions for different purposes. Use the tables below to determine the nature of the vessel encountered, its current activity, and its possible reaction if contacted.

### 1d100 Type of Ship

01-10	Seeker
26-50	Scout/Courier
51-70	Lab Ship
71-80	Safari Ship
81-95	Yacht
96-100	Mercenary Cruiser

### 1d100 Activity

01-30	Inbound
31-60	Outbound
61-85	Refueling at gas giant or making repairs (no assistance required)
86-95	In need of non-emergency assistance
96-100	Signal GK!

### 1d100 Reaction

01-10	Hostile, wants no contact. Will attack (DC18) if provoked
21-25	Hostile, wants no contact
26-50	Unfriendly, is irritated at contact
51-90	Friendly, welcomes contact, offers possible information
91-100	Very Friendly, initiates contact, possible future contact.

## SCOUT SERVICE

The scout services utilized many different types of ships, but by far the most commonly encountered are the ubiquitous scout/courier, the X-boat, and the X-boat tender. The tables below will allow you to determine specifically what type of Scout vessel is encountered, its current activity, and its general reaction if contacted.

### 1d100 Type of Ship

01-50	Scout/Courier
51-75	X-Boat
76-100	X-Boat Tender
	+ 25 if Scout Base present
	+10 if system is on an x-boat route

### 1d100 Activity

01-30	Inbound
31-60	Outbound
61-70	Refueling at gas giant or making repairs (no assistance required)
71-85	Sending/receiving communications; launching receiving Xboat or courier; conducting a survey
86-95	In need of non-emergency assistance
96-100	Signal GK!

### 1d100 Reaction

01-10	Hostile, wants no contact. Will attack (DC18) if provoked
21-25	Hostile, wants no contact
26-50	Unfriendly, is irritated at contact
51-90	Friendly, welcomes contact, offers possible information
91-100	Very Friendly, initiates contact, possible future contact.



## NAVY

Ships of a navy can't be everywhere all the time, but when they are encountered they will normally make their presence known (especially if on patrol or "showing the flag"). Naval vessels brook little interference in the conduct of their duties and mission. Use the tables provided below to determine the type of Naval vessel encountered, its mission, what its actions will be when encountered, and what reaction it will have if its orders are not obeyed.

*1d100 Type of Ship*

01-40	Escort, Patrol Ship or Courier (See Subtable)
41-80	Transport or Auxiliary (See Subtable)
81-90	Cruiser or Light Carrier (See Subtable)
91-95	Capital Ship (See Subtable)
96-00	Naval Squadron (See Subtable)

**Escorts, Patrol Ships and Couriers Subtable***1d100 Type of Ship*

01-20	Scout/Courier
21-40	300t Close Escort
41-60	400t Patrol Cruiser
61-70	400t Fleet Courier
71-80	1000t Escort Destroyer
81-90	3000t Destroyer
91-00	5000t Fleet Escort

**Transport & Auxiliary Subtable***1d100 Type of Ship*

01-15	Auxiliary: Far Trader
16-30	Auxiliary: Subsidized merchant
31-50	Auxiliary: 1000t Freighter
51-55	Assault Transport
56-60	Troopship
61-80	Tanker
81-95	Logistics Ship
96-00	Intelligence Ship

**Cruiser & Light Carrier Subtable***1d100 Type of Ship*

01-50	Light Cruiser
51-65	Heavy/Armored Cruiser
66-80	Light Carrier/Escort Carrier
81-85	Strike Cruiser
86-90	Strike Carrier
91-95	Bombardment Cruiser
96-00	Assault Carrier

**Capital Ship Subtable***1d100 Type of Ship*

01-30	Battle Cruiser
31-50	Fleet Carrier
51-95	Battleship
96-99	Dreadnought
00	Command/Superdreadnought

## Naval Squadron Subtable

1d100 Type of Squadron

01-25	Patrol Flotilla (1d6+1 Patrol Cruisers)
26-50	Convoy (1d6 Auxiliaries and 1d6 Close Escorts)
51-65	DestRon (Destroyer Squadron; 1d6 Destroyers)
66-75	CruRon (1d6 Light Cruisers)
76-80	Task Force: Light Carrier, Light Cruiser and 1d6 Close Escorts)
81-85	Logistics ship and 1d6 Close Escorts
86-90	Heavy Cruiser and 1d6 Destroyer Escorts
91-99	TankRon (Tanker Squadron: 1d6 Tankers + 2d6 Close Escorts)
00	BatRon: 1d6 Battle Cruisers, Battleships or Dreadnoughts plus escorts

1d100 Mission

01-50	On Patrol/Guardship
51-60	Courtesy Visit (Flag-Showing)
61-75	On Maneuvers
76-90	Moving to or from mission area ("Redeploying")
86-95	Hunting Pirates
96-00	Other, or secret, mission (Referee should determine nature)

1d100 Action

01-05	Hostile, mistakes ship for known pirate vessel. Fires shot across bow and orders ship to heave to and prepare for boarding
06-15	Requires boarding inspection before ship may continue.
16-30	Requires transponder codes and manifests to be transmitted before ship may continue
31-76	None
76-91	Offers formal greeting and general advisory on local conditions
91-00	Offers friendly greeting on behalf of owning government

1d100 Reaction

01-20	Attacks
21-50	Issues warning (roll again -25 to the roll)
51-80	Issues warning (roll again)
81-95	Issues warning (roll again +25 to the roll)
96-100	Ignores and allows ship to continue, but notes ship for future reference

## FLESHING OUT STARSHIP ENCOUNTERS

Starship encounters can be made more memorable if the Referee keeps a list of vessels handy, and assigns a name and a "personality" to any vessel contacted. Encountering familiar ships helps create the feeling of a "living universe" in the players, and also keeps them guessing if this encounter is significant, or just a chance meeting on the way to the Jump point.

Any starship or small craft will be in space for a reason, though that reason may not always be obvious. Nor is a ship's stated purpose always what it claims. Many a pirate has claimed to be a system defense vessel or an innocent merchant in order to surprise its victims. However, for the most part it will be obvious what a ship is up to from its heading, acceleration etc. For example, a merchant ship moving away from the starport is almost certainly heading out to Jump. Such vessels only make a profit when they deliver their cargo to its destination, so they will waste little time in getting there.

Most starship encounters will be a simple matter of exchanging transponder squawks and maybe a polite greeting. Much of the time this can be assumed to be going on "in the background" as the players near the port or the Jump point, and to be of little consequence. However, some encounters are more significant. Naturally, any encounter involving weapons fire will need to be resolved using the starship combat rules, but other encounters can also be important. A short chat with a passing merchant ship may provide a vital clue, or may allow the players to avoid a dangerous situation. Also, some situations require a response that may lead to adventure.



Sometimes, special circumstances may require the vessels in a system to remain in port or to enter a holding orbit, to heave to for boarding and inspection, or to run for cover from a sudden solar flare. A vessel transmitting a GK signal (a distress call) must be assisted unless the ship receiving the call has a pressing reason not to do so. The absolute minimum response is to rebroadcast the signal (increasing its range), but as a rule an attempt to render assistance must be made unless it would expose the rescuing ship or her passengers and crew to unreasonable danger.

Around a busy Class A or B starport, it is impossible not to encounter other ships, though there is little point in detailing every single vessel in the area. There will always be a host of ships and craft coming and going. Among the merchants and passenger ships will be port utility craft, customs cutters and perhaps fighters or SDBs on close-in security patrol. Vessels behaving strangely or disregarding traffic control instructions can expect a rapid intervention from local defense craft, and weapons fire will bring an escalating response that few vessels can survive. Important worlds will also have standing naval patrols and SDB squadrons scattered across the system for police and defense operations.

As a rule, other ships are more friendly when encountered in these busy systems, feeling more secure under the guns of defense craft than out in the backwaters.

Class C ports see less traffic, though there may be a handful of ships in system at any one time. There will still be a few port authority cutters, fighters etc, but these ports will not have dozens of small craft buzzing about. System defenses are also lighter, and vessels will be more cautious since help is often a long time coming, if it is available at all.

Class D and E ports see little traffic. A class D port will have at most a couple of small craft for utility and rescue work, and a Class E will have none at all. Vessels are generally cautious in these backwaters, since there is no assistance to be had if an encounter goes awry. Of course, there may be visiting Navy ships or a vessel serving a tour as a Guardship, on anti-piracy patrol or whatever, but it is more than likely that the players' vessel will be more or less alone in the system; two or three ships on the landing pad at once is unusual enough to be remarkable.

Naval and Port Authority ships, and also the merchant vessels operated by major shipping lines, have defined protocols for dealing with other ships. They tend to be polite and formal, and also somewhat jealous of their space. Vessels coming in too close will be briskly warned off. However, although the crews of these vessels will not be inclined to gossip, contact is likely to be cordial (though some merchant lines are notoriously contemptuous of Free Traders).

If a boarding party is sent over by a naval or customs vessel, personnel will be armed, cautious, and (usually) professionally polite. Some boarding party personnel may be officious or overbearing (this is quite common when going through a customs check at a high-law world).

Smaller vessels, such as Scouts and Free Traders, are more varied in their contact with other vessels. Vessels transiting to and from the Jump point are likely to be willing to chat and exchange news (though insider trading tips are a valuable commodity and not lightly handed out). Chatting to other ships can thus be a good way to pick up rumors. Of course, the 'personality' of a ship depends upon her captain and crew. Some are garrulous, some are haughty, some are coldly formal or ignore contact entirely. Smaller ships are often quite distinctive due to their long, eventful careers and the little idiosyncrasies they pick up along the way.



# UNIVERSE/WORLDS DEVELOPMENT

## OPEN GAMING CONTENT NOTE

The rules presented in this chapter on the design of star systems and worlds are not Open Gaming Content, however any star systems or worlds created using the rules are considered Open Gaming Content. Basically you cannot explain how to create a star system or world as described under these rules, but you may freely publish and distribute the final stellar or world data and information under the terms of the Open Gaming License.

## THE UNIVERSE

The Referee is responsible for mapping the universe before actual game play begins. The entire universe is not necessary immediately, however, as only a small portion can be used at any one time. In unsupervised play, one of the players can generate worlds and perform mapping on a turn-by-turn or adventure-by-adventure basis.

The universe is mapped in convenient segments, called subsectors. Each sub-sector is an area of hexagonal cells measuring eight hexes by ten hexes. Since the recommended scale is one parsec (3.26 light years) per hex, the subsector covers an area ten parsecs by eight parsecs (see the Subsector Form, pg. 439).

Four subsectors (arranged in 2 rows of 2 subsectors each) form a quadrant.

Sixteen subsectors (arranged in four rows of four subsectors each) form a sector, probably the largest size practical for a continuing Traveller campaign.

Mapping a subsector consists of two sequences: star mapping and world development. Star mapping examines each hexagon in the subsector grid and determines if there is a star system present. It also determines the presence or absence of starports, bases, and fuel for starships. All of this information is coded onto the subsector hexes, and serves as a guide to the Referee and to the players during interstellar travel. World development examines the single most important world in each system and determines the basic characteristics for it. This information is retained for use in adventures on the world surface.

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## STAR SYSTEM DEVELOPMENT

These system and world generation rules are derived from the original expanded System Generation rules found in Classic Traveller Book 6 - Scouts. They are not intended to replace that work; rather this revision is designed to streamline and simplify the original rules. They are an approximation, and as such they may in places diverge from what we currently know as 'scientific fact' (which anyway has a tendency to change with time...). Playability and a sense of believability are what drove its design rather than formulas and hard facts. Those looking for a more detailed and 'authentic' design system are encouraged to pick up a copy of the Classic Traveller Reprint: The Books (0-9), or the GURPS: Space or GURPS Traveller: First In supplements.

## THE UNIVERSAL WORLD PROFILE (UWP)

*Traveller* uses a shorthand method of describing the most important features of a world. This is termed a Universal World Profile (UWP). UWPs can be created for any planetary body, though normally they are used for the main world of any given system, providing the Referee with quick reference.

UWPs use code numbers and letters to indicate the characteristics of a world. Codes follow a Unidigit system, beginning at 0-9, then using letters to avoid the confusion created by 2-digit entries. Thus A=10, F=15, etc.

Full details of the UWP are found under World Data Format. The most important points are summarized here:

Name:	The name of the world or planetary body
Starport Code:	A-X and indicating decreasing quality of starport, and no starport, respectively
Size:	The Size Code of the world, representing its diameter in thousands of kilometers
Atmosphere:	Atmosphere Code, representing the type of atmosphere the world possesses
Hydrographics:	Hydrographics Code, in increments of 10% water coverage
Population:	Population Code, in orders of magnitude
Government:	Government Code, indicating the nature of the dominant world government
Law Level:	Law Code, indicating the general nature of law and law enforcement on-planet
Tech Level:	0-F and higher, indicating increasing technological capability



Systems and worlds developed with this system are fully compatible with worlds created with the Classic Traveller rules, and vice-versa.

## STEP 1 - STELLAR OCCURRENCE

There is normally a basic one-half chance that a hex will contain a stellar system. Systematically check each hex, throwing one die and marking the hex with a circle if the result is a 4, 5, or 6. This indicates that at least one star is present; otherwise, leave the hex blank.

The Referee may elect to alter the normal chances of stars being present, making them more or less frequent to correspond to specific regions of the galaxy. This is easily accomplished by imposing a modifier of +1 or -1 on the whole subsector, or on broad areas within a subsector.

Density	Check	Example
Standard	4+ on 1d6	standard region
Dense	3+ on 1d6	thick with worlds
Sparse	5+ on 1d6	few worlds
Rift	6 on 1d6	a handful of worlds at best.

## STEP 2 - STARS IN SYSTEM

The next step in developing a star system is to determine the number of stars that are present. Normally there will only be a single star, but occasionally a binary (two-star) or trinary (three-star) system will be found. If there are multiple stars, repeat steps 3-5 for each star.

2d6 Roll	Result
2-7	Solo (single star)
8-11	Binary (two stars)
12	Trinary (three stars)

## STEP 3 - STAR SIZE

Use the Star Size table to determine the size of each star in the system, rolling once for each. When rolling for the size of a binary (2nd) star in a system subtract -2 from the roll. When rolling the size for a trinary (3rd) star in a system subtract -4 from the roll. If the result is a Giant star, roll again on the Giant Star Size sub-table.

**White Dwarf:** A white dwarf (Spectral Class W, Size D) is what remains of most stars at the end of their life. All of the star's fuel has been expended, and it is slowly cooling off and becoming dimmer. Eventually the star will become what is known as a Black Dwarf; nothing but a planetary sized hunk of fused metal of incredible density and a massive gravitational field. About 5% of the stars in our galaxy are classified as a white dwarf. If the star is a white dwarf, you may skip step 4, as the spectral class of the star is automatically W.

**Red Dwarf:** The most common of all stars is the Red Dwarf (Spectral Class M, Size V) star, which make up approximately 80% of the stars in our galaxy. If the star is a red dwarf, you may skip step 4, as the spectral class of the star is automatically M. A red dwarf is the most long lived of stars, with a lifespan that numbers hundreds of millions of years.

**Main Sequence:** A main sequence star, also known as a Dwarf star, are the most commonly found stars in the universe, and represent the mature lifespan of a star. These stars will usually evolve into some type of giant star during the later stages of their existence.

**Giant:** Typically an older star that has become large and brighter, moving out of the main sequence stage. During this peri-

od some stars can grow to as much as 100 times their original size. Most giants are destined to become either a white dwarf, or end their existence in a massive supernova.

### STAR SIZE

1d20	Descriptor	Size	Odds	Temp Mod.
1	White Dwarf	D	(1 in 20)	+2
2-16	Red Dwarf	V	(1 in 1.25)	+1
17-19	Main Sequence (Dwarf) Star	V	(1 in 33)	+0
20	Giant	Varies	(1 in 20)	-

### GIANT STAR SIZE

1d20	Descriptor	Size	Odds	Temp Mod.
1-6	Sub-Giant	IV	(1 in 67)	-0
6-14	Giant	III	(1 in 45)	-1
15-18	Bright Giant	II	(1 in 100)	-2
19	Weak Super			
	Giant	Ib	(1 in 400)	-2
20	Bright Super			
	Giant	Ia	(1 in 400)	-4

## STEP 4 - STAR SPECTRAL CLASSIFICATION

Once the size of the star has been determined, consult the Spectral Class table to determine the spectral class of the star. Roll once for each star in the system. The number and type of dice that should be rolled will depend on the type of star as shown on the Spectral Class Dice table.

If the star size result was a White Dwarf or a Red Dwarf, this step should be skipped. When rolling for the size of a binary (2nd) star in a system add +2 from the roll. When rolling the size for a trinary (3rd) star in a system add +4 from the roll.

Stars are rated by their spectral class from brightest (and hottest) to dimmest (and coolest), and represented by the letters O, B, A, F, G, K, and M. A common and easy mnemonic to use to remember this is "Oh Be A Fine Girl (or Guy) Kiss Me".

**O:** The class O star is very rare, so much so that there is no way to factor it into the tables for this game. The referee should place these types of stars as they see fit, but it is recommended to place no more than one or maybe two per sector. The class O is an extremely bright blue star, hotter, brighter and generally larger than the class B, and has an even shorter lifespan.

**B:** These rare large blue stars are extremely bright and hot, but extremely short-lived with a typical lifespan only numbered in hundreds of thousands of years.

**A:** A usually large, white hot star with a lifespan ranging from millions to tens of millions of years.

**F, G, K:** Very common, warm stars ranging in color from light yellow to yellow to orange in appearance, and from bright to normal to dim in luminosity. They generally have lifespans numbering millions if not tens of millions of years.

**M:** If the star is a red dwarf, this is a small, cool, dim star with a lifespan numbering hundreds of millions if not billions of year. For giant stars, this is usually a former main sequence star in the final days of its existence. The planets that might have existed in the stars habitable zone during its main sequence phase will have been swallowed up during the expansion into a red giant. Any planets that do exist will not have had enough time to recover from the expansion of the star to have developed any type of ecosystem.

Stars also have a further spectral classification value ranging from 0 to 9, that represents how far along the spectral class a star is. For example, a K5 star is halfway to being a class G star and is



midway between orange and yellow in color. While this more detailed size has no actual use in T20, it does complete compatibility with previous versions of Traveller.

For those who wish to further determine the spectral classification of a star, roll 1d10 to specify the spectral distance with 10 equaling 0. Note that there are no known Class K5 to K9 sub-giant stars. If this occurs simply reroll or set the distance as K4.

## SPECTRAL CLASS

Result	Class	Color	Temp Mod.
1-3	B	Light Blue	-6
4	A	White	-4
5-9	F	Light Yellow	-2
10-11	G	Yellow	+0
12-13	K	Orange	+1
14-20	M	Red	+2

## SPECTRAL CLASS DICE

Star Size	Roll
Main Sequence	2d6+1
Sub-Giant	2d6
Giant	2d10
Super Giant	1d20

## STEP 5 - GAS GIANTS PRESENT

Most (but not all!) stars have a gas giant or two circling them. Use the table below when checking for the presence of gas giants around each star in the system. Once the number of gas giants has been determined, their size can be found by rolling 1d6. A result of 4 or greater indicates a small gas giant. 3 or less indicates a large gas giant. A small gas giant is roughly 40-60,000 km in diameter, while a large gas giant will range from 60-120,000 km in diameter.

Digit	Average Size	Gravity Description	Typical Surface Gravity
SGG	50,000km	Small Gas Giant	1.25g
LGG	90,000km	Large Gas Giant	2.5g

2d6 Roll	Number of Gas Giants
2	5
3	4
4	3
5	2
6	2
7	1
8	1
9	1
10+	0

## STEP 6 - PLANETOID BELTS PRESENT

Planetoid belts are also a common occurrence among star systems, whether debris from an unformed planet or the remains of a planet destroyed in a collision with another stellar body. A planetoid belt that is the main world of a system is referred to as an Asteroid Belt to distinguish it from non-mainworld planetoids.

2d6 Roll	Number of Planetoid Belts
2	3
3	2
4	2
5	1
6	1
7+	0

## STEP 7 - PLACE MAIN WORLD, GAS GIANTS, AND PLANETOID BELTS

Orbits are based on distance from the center of the parent star, and are numbered from 0 to 19 from closest to farthest orbit. An orbit of zero is usually (dwarf stars being the exception) within the corona of the star itself. Some star types, most notably giants and supergiants, will have a minimum orbit at which planets, gas giants, or planetoid belts will be found due to the enlarged nature of the sun. Anything that would normally have been found in these closer orbits have been swallowed up by the radius of the star itself. Thus, when placing any stellar feature, the object must be placed in an orbit at least equal to the Minimum Orbit for the star.

## MINIMUM ORBIT

Star Size	Spectral Class					
	B	A	F	G	K	M
Dwarf	0	0	0	0	0	0
Main Sequence	0	0	0	0	0	0
Giant	1	2	3	4	5	6
Super Giant	2	3	4	5	6	8

## ORBITAL DISTANCES

Orbit Number	Distance in Millions of Kilometers
0	30
1	60
2	105
3	150
4	240
5	420
6	780
7	1500
8	3000
9	5800
10	11,500
11	23,000
12	46,000
13	92,000
14	185,000
15	368,000
16	735,000
17	1,470,000
18	2,940,000
19	5,880,000
20	Beyond...

**Habitable Zone:** This is a temperate orbit around a star where stellar radiation is neither too much nor too little. If other factors are right, life may exist on worlds in this zone. Use the table that follows to determine the Habitable Zone orbit for a given star. A result of X means there is no possible habitable zone around this type of star.

## HABITABLE ZONE

Star Size	Spectral Class					
	B	A	F	G	K	M
White Dwarf	0	X	3	1d2	1d2-1	0
Red Dwarf or Main Sequence	8+1d4	5+1d2	3+1d3	1+1d4	1d4	0
Sub-Giant or Giant	9+1d3	6+1d3	5+1d3	6+1d2	6+1d3	7+1d3
Super Giant	10+1d3	9+1d3	9+1d3	9+1d3	9+1d3	10+1d2

**Zones:** Orbits closer to a star than the Habitable Zone are said to lie in the Inner Orbits of the star. Orbits farther out than the Habitable Zone are said to lie in the Outer Orbits of the star. The Star Stellar Type and Size determine the Habitable Zone.

**Companion Stars:** Companion binary stars are normally found in close orbit to the primary star (orbit 0), or in a far orbit from the primary (orbit 20+). However a companion star is occasionally found within the main orbits of a primary star. In such cases the next orbit out from the companion will always be empty as will half of the orbits extending from the companion in towards the primary star.

Companion trinary stars are almost always found in far orbits from the primary (orbit 20+), but follow the same placement as binary companions when exceptions are found.

**The Main World:** If the main world of a system has already been determined, it should be placed in the Habitable Zone of a star's available orbits. If the Main World has an atmosphere of 1- or 10+, then it is not necessary to place it in the Habitable Zone.

**Gas Giants:** Gas Giants should generally be placed in the Outer Orbits of a star first where possible. They may also appear in the Inner Orbits and the Habitable Zones, though this is far less frequent.

**Planetoid Belts:** Planetoid Belts should be placed in the next orbit inward from a Gas Giant where feasible.

## STEP 8 - OTHER PLANETS

Once the Main World orbit has been determined, and gas giants and planetoid belts (if any) have been placed, check the remaining stellar orbits to see if any other planets exist in the system.

Roll (2d6 - Number of gas giants - Number of planetoid belts - 1). If the result is greater than 0, that is the number of additional planets in the system. Place them as you see fit in any remaining open orbits around the star with preference to the Habitable, Inner, then Outer Zones in that order.

## STEP 9 - SATELLITES

It is not usually necessary to determine the details of satellites of all worlds in a system. For worlds where it is relevant, use the following process:

Normal World:	1d6-3 (minimum 0)
Small Gas Giant:	2d6-4 (minimum 0)
Large Gas Giant:	2d6

Satellite size equals the main world size code - 1d6. If satellite Size=0 then it is a ring of debris instead. If satellite Size is less than 0 then the satellite is a small world, (1d8) x 100 km in diameter. Satellites of Size 1 or greater may have an atmosphere and hydrographics (determine normally). Smaller satellites and rings never have an atmosphere.

## WORLD DEVELOPMENT

### STEP 0 -

### MAIN WORLD PARENT STAR

The first step in setting up the main world is to determine which star it orbits if there is more than one star in the system. If there is only one star, then obviously the main world will orbit it.

2d6

Roll Parent Star

2-7 Primary

8-10 Binary (2nd star if present, otherwise Primary)

11-12 Trinary (3rd star if present, otherwise Binary)

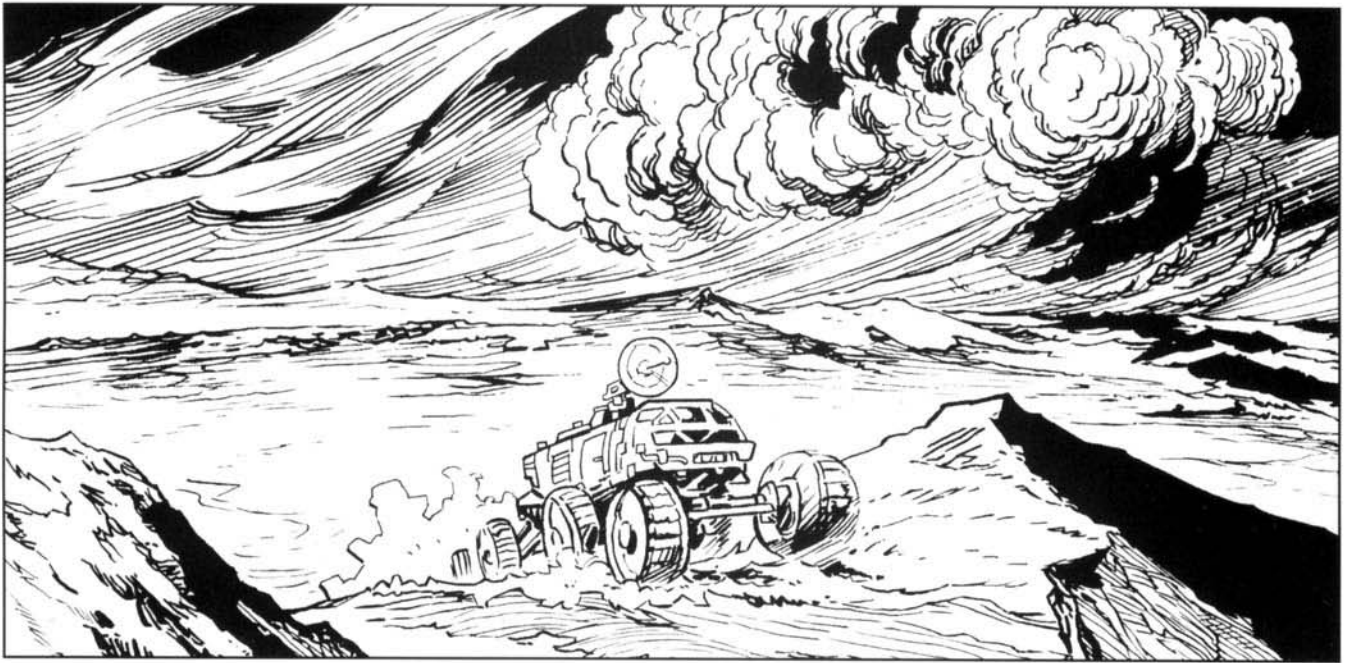
### STEP - 1 WORLD ORBIT

The orbit of the world should have already been established when determining the stellar properties of the star system. If for some reason it has not been determined, you may select any open orbit around the star (preferably in the Habitable Zone) or roll 1d20-1 with the result equaling the world's orbit. If the orbit is already occupied, roll again.

The table below should also be used to determine further temperature modifiers for the world in addition to those imposed by the parent star itself, and the length of the year of the world (the time it takes to make a complete orbit of the parent star). 1 Year is based on 365.25 days.

### WORLD ORBIT

Orbit	Temp Modifier	Length of Year	Example
0	-4	x0.1	
1	-2	x0.25	Mercury
2	-1	x0.6	Venus
3	+0	x1	Earth
4	+1	x2	Mars
5	+5	x8	Planetoid Belt
6	+6	x12	Jupiter
7	+7	x84	Uranus
8	+8	x165	Neptune
9	+9	x250	Pluto
10	+10	x678	
11	+11	x1911	
12	+12	x5395	
13	+13	x15,244	
14	+14	x43,096	
15	+15	x121,863	
16	+16	x344,639	
17	+17	x974,728	
18	+18	x2,756,862	
19	+19	x7,797,464	



## STEP 2 - WORLD SIZE

The digit representing planetary Size indicates the diameter of the planetary sphere stated in thousands of kilometers. To determine the Size of a world, roll 2d6-2. If the world is in orbit 0 subtract -5; if the world is in orbit 1 subtract -4; if the world is in orbit 2 subtract -3. If the world is orbiting a Spectral Class M star, subtract -2 from the roll. Any roll total of less than 0 equals 0. Results of R and S are special results used only for satellites.

Digit	Average Size	Gravity Description	Typical Gravity
R	Ring (around a world)	No Gravity	0
S	Small (200-800 km)	No Gravity	0
0	Asteroid Belt	No Gravity	0
1	1600 km	Very Low Gravity	0.125g
2	3200 km	Very Low Gravity	0.25g
3	4800 km	Very Low Gravity	0.375g
4	6400 km	Low Gravity	0.5g
5	8000 km	Low Gravity	0.625g
6	9600 km	Low Gravity	0.75g
7	11,200 km	Average Gravity	0.875g
8	12,800 km	Average Gravity	1g
9	14,400 km	Average Gravity	1.125g
A+	16,000 km	Heavy Gravity	1.25g

## STEP 3 - WORLD ATMOSPHERE

The digit indicating planetary Atmosphere represents the type of atmosphere encountered on the world. Some types of atmospheres require the use of protective clothing or masks. To determine the Atmosphere code for a world, roll 2d6-7, and add the world Size digit to the total. If the world is in the Inner Zone of a star, subtract -2 from the roll. If the world is in the Outer Zone of a star, subtract -4 from the roll. If the world size is 0 or S, then the atmosphere is automatically 0. Results of less than 0 should be changed to 0.

**No Atmosphere or Trace:** Total or near total vacuum. Survival in these atmospheres requires a vac suit, or other pressurized shelter or protection.

**Very Thin:** The world has a very thin standard oxygen/nitro-

gen atmosphere of 0.1 to 0.49 atmospheres. Survival requires the use of compressors to ensure an adequate supply of oxygen can be drawn from the atmosphere.

**Thin:** The atmosphere is thin (0.5 to 0.74 atmospheres) but a standard oxygen/nitrogen mix. No assistance is needed to breathe on these worlds, though those not acclimatized to the conditions will tire quickly.

**Standard:** A normal to near-normal atmosphere density (0.75 to 1.49 atmospheres) with an oxygen/nitrogen mix. No assistance is needed to breathe on these worlds.

**Dense:** A dense atmosphere (1.5 to 2.5 atmospheres) with a standard oxygen/nitrogen mix. No assistance is needed to breathe on these worlds, though those not acclimatized may find breathing uncomfortable.

**Tainted:** The atmosphere contains some type of taint such as severe industrial pollutants, a high sulfur count, a biological agent, or some other contaminant which requires the use of a filter mask or filtration system to survive.

**Exotic:** An exotic atmosphere is one with an unbreathable gas mix that requires the use of a constant fresh air supply such as oxygen tanks for survival. No other protective gear is normally required.

**Corrosive:** These atmospheres are physically corrosive and damaging to all but the most robust of equipment and gear. A hazardous environment suit or vac suit is required to survive in these types of atmosphere.

**Insidious:** A similar but more extreme version of the Corrosive atmosphere, an insidious atmosphere will actually defeat any protective measures within 2-12 (2d6) hours of their exposure.

Digit	Description
0	No Atmosphere.
1	Trace.
2	Very Thin, Tainted.
3	Very Thin
4	Thin, Tainted.
5	Thin
6	Standard
7	Standard, Tainted.
8	Dense
9	Dense, Tainted.
A	Exotic.
B	Corrosive
C	Insidious
D	Dense, High Pressure
E	Ellipsoid
F	Thin, Low Pressure



**Dense, High Pressure:** Pressure at or below sea level is too high to support most forms of life, but at higher altitudes in the lower pressure the atmosphere becomes breathable.

**Ellipsoid:** The world's shape is an ellipsoid rather than a sphere, causing much higher atmospheric pressure at the poles of the planet and much lower atmospheric pressure in the equatorial regions. Usually a region with a breathable atmosphere can be found at some point between these extremes.

**Thin, Low Pressure:** Because of the enormous size of the world, its thin atmosphere sinks to the lowest levels of the terrain rendering the atmosphere unbreathable except at very low altitudes such as deep valleys, crevasses, and depressions.

## STEP 4 - WORLD CLIMATE

The average daytime climate of a world depends on a number of factors including the world's orbit, the type of star it circles, the type of atmosphere it has, and a bit of random chance. Worlds within the inner orbital zone of a star are almost exclusively torrid in temperature and generally unfit for supporting life without significant technological assistance. Similarly, worlds within the outer orbital zone of a star are typically frozen and far too cold to support life without additional technological support. It is only worlds within the habitable zone of a star that are usually capable of maintaining the more tolerable temperatures to support life without massive technical assistance.

Roll 1d20 and add the temperature modifiers imposed by the parent star of the world, along with the temperature modifier for the orbit of the world as determined in Step 1. Cross-reference the roll result with the table below to determine the climate.

### WORLD CLIMATE

1d20	Climate	Temp*
5 or less	Torrid	61 or higher
6	Very Hot	55
7	Hot	45
8	Warm	35
9	Tropical	25
10-11	Temperate	15
12	Chilly	0
13	Cool	-15
14	Cold	-25
15	Frigid	-35
16 or greater	Frozen	-41 or lower

Use the table below to determine the average night temperature of the world at 30 degrees latitude, based on the atmosphere type.

### NIGHTTIME TEMPERATURES

Atmosphere	Low Temperature
None	-3 x Max Temperature
Trace	-2 x Max Temperature
Very Thin	-1.5 x Max Temperature
Thin	- Max Temperature
Standard	-1/2 x Max Temperature
Dense	-1/4 x Max Temperature
Exotic	-
Corrosive	-
Insidious	-

## STEP 5 - WORLD HYDROGRAPHICS

The digit indicating Hydrographic percentage represents the

percentage of planetary surface (in increments of 10%) covered by seas or oceans. For normal worlds, this will be water; on other worlds (with exotic, corrosive, or insidious atmospheres), it may instead be other liquids, such as ammonia.

To determine the available Hydrographics on a world, roll 2d6-7 adding the Atmosphere digit of the world to the roll. If the world is in the Inner Zone of the star, then the Hydrographics digit is automatically 0. If the world is in the Outer Zone, subtract -2 from the roll. If the size of the world is 1 or less (including S), then Hydrographics is automatically 0. If the world's Atmosphere is 1- or 10+ then subtract -4 from the roll. Any result of less than 0 should be changed to 0.

Digit	Description
0	No free-standing liquid. Desert
1	10% surface liquid
2	20% surface liquid
3	30% surface liquid
4	40% surface liquid
5	50% surface liquid
6	60% surface liquid
7	70% surface liquid
8	80% surface liquid
9	90% surface liquid
A	No large land masses. Water or Fluid World

## STEP 6 - NATURAL RESOURCES

Natural Resources can be anything from mineral deposits to exotic lifeforms, to food production capabilities. This value will most often be used as a part of the determination of a world's trade potential, along with forming the basis for general prospecting. To determine the natural resources of a world, roll 2d6-7+Size digit; if Atmosphere is 4-9, add +2. If Hydrographics is 0 or A, subtract -2. If Hydrographics is 4-7, add +1. Treat any Natural Resources result of less than 0 as 0.

## STEP 7 - INDIGENOUS LIFEFORMS

The possibility of native lifeforms on a world is represented below. This refers to non-sentient lifeforms. The presence of sentient lifeforms is left to the discretion of the Referee. The Referee is also free to ignore this step and assign the presence of any lifeforms on a world as seems appropriate. Note that the odds of life evolving on a world in the inner or outer zones of a star are very unlikely. If found on such worlds life will usually be found underground where there is shelter from the extreme temperatures of the surface.

### INDIGENOUS LIFEFORMS

Worlds in the Habitable Zone	DC16
Worlds in the Outer Zone	DC18
Worlds in the Inner Zone	DC20
<b>Modifiers</b>	
Very Thin Atmosphere	-1
Trace Atmosphere	-2
Exotic Atmosphere	-1
Corrosive Atmosphere	-2
Insidious Atmosphere	-4
No Water	-4
Hot Climate	-1
Very Hot Climate	-2
Torrid Climate	-4
Very Cold Climate	-1
Frozen Climate	-2
Frigid Climate	-4

Where life does exist, biodiversity may also be determined ran-

domly by rolling 2d6 and adding the modifiers given above.

## BIODIVERSITY

Roll	Biodiversity	Description
3 or less	Minute	small strains of single-celled life-forms. Bacteria and the like
4-5	Minor	Algae, lichens, and mosses are most common
6-7	Active	abundant plant diversity, some low form animals (e.g. insects)
8 or more	Diverse	Thriving plant and animal ecological systems
<hr/>		
	<i>Additional Modifiers</i>	<i>Mod.</i>
	Giant Star	-8
	White Dwarf	-4

## STEP 8 - WORLD POPULATION

The digit indicating population is an exponent of 10. This may be viewed as the number of zeros following a one. Thus, a population digit of 6 indicates a population of approximately 1,000,000. To determine the population digit of a world, roll 2d6-2. If the atmosphere of the world is anything other than 0, 5, 6, or 8, subtract -2 from the population roll. If the orbit of the planet is within the Inner Orbit Zone of a star subtract -5 from the population roll, and if within the Outer Orbit Zone subtract -3 from the population roll. A Population of less than 0 should be changed to 0.

Digit	Description	Population
0	No Inhabitants	0-9
1	Tens of Inhabitants	10-99
2	Hundreds of Inhabitants	100-999
3	Thousands of Inhabitants	1000-9999
4	Tens of Thousands	10,000-99,999
5	Hundreds of Thousands	100,000-999,999
6	Millions of Inhabitants	1,000,000-9,999,999
7	Tens of Millions	10,000,000-99,999,999
8	Hundreds of Millions	100,000,000-999,999,999
9	Billions of Inhabitants	1,000,000,000-9,999,999,999
A	Tens of Billions	10,000,000,000+

## POPULATION EXPONENT

To further refine the population census, each world also has a Population Exponent, which is used as a multiplier against the base population digit to determine total population. The Population Exponent is determined by rolling 1d10-1. Count 0 as 1 unless the Population digit is 0, in which case the world is totally uninhabited.

## STEP 9 - STARPORTS AND BASES

2d6

Roll	Starport*	Naval Base**	Scout Base***
2	A	no	no
3	A	no	no
4	A	no	no
5	B	no	no
6	B	no	no
7	C	no	yes
8	C	yes	yes
9	D	yes	yes
10	E	yes	yes
11	E	yes	yes
12	X	yes	yes

Roll once for each column.

\* **Starport:** +3 if Population 3-, +5 if Population 2-, if Population is 0 then Starport is type X.

\*\* **Scout Base:** -1 if Starport C, -2 if Starport B, -3 if Starport A. Do not roll if Starport E or X.

\*\*\* **Naval Base:** Do not roll if Starport C, D, E, or X.

## STARPORT TYPES

A: Excellent Quality Installation.

Refined fuel is available along with annual maintenance overhaul facilities. Shipyard capable of constructing starships and non-starships present. Naval base and/or scout base may be present

B: Good Quality Installation.

Refined fuel is available along with annual maintenance overhaul facilities. Shipyard capable of constructing non-starships present. Naval base and/or scout base may be present

C: Routine Quality Installation.

Only unrefined fuel is available along with reasonable repair facilities. Scout base may be present

D: Poor Quality Installation.

Only unrefined fuel is available, but no repair or shipyard facilities. Scout base may be present.

E: Frontier Installation.

Essentially a marked spot of bedrock with no fuel, facilities, or bases present.

X: No Starport.

No provisions have been made for any ship landings.

## STEP 10 - WORLD GOVERNMENT

The digit representing planetary government indicates a range of possible ruling systems, from anarchy to totalitarianism. The planetary government table gives a brief description of the general characteristics of each government type. Balkanization is a special result, and indicates that there is no world government; instead several rival territorial governments exist. In such cases, the Referee should generate the specific qualities of each territory on the planet separately. To determine the overall world government digit, roll 2d6-7 + Population Digit.

Digit	Description
0	No Government Structure: In many cases family bonds predominate.
1	Company Corporation: Government by a company managerial elite. Citizens are company employees.
2	Participatory Democracy: Government by advice and consent of the citizens.
3	Self-Perpetuating Oligarchy: Government by a restricted minority, with little or no input from the masses.
4	Representative Democracy: Government by elected representatives.
5	Feudal Technocracy: Government by specific individuals for those who agree to be ruled. Relationships are based on the performance of technical activities that are mutually beneficial.
6	Captive Government: Government by an imposed leadership answerable to an outside group. A colony or conquered area.
7	Balkanization: No central ruling authority exists; rival governments compete for control.
8	Civil Service Bureaucracy: Government by agencies employing individuals selected for their expertise.
9	Impersonal Bureaucracy: Government by agencies that are insulated from the governed.
A	Charismatic Dictator: Government by a single leader enjoying the confidence of the citizens.
B	Non-Charismatic Leader: A previous charismatic dictator

has been replaced by a leader through normal channels.

- C** Charismatic Oligarchy: Government by a select group, organization, or class enjoying the overwhelming confidence of the citizenry.
- D** Religious Dictatorship: Government by a religious organization without regard to the specific needs of the citizenry.
- E** Religious Autocracy: Government by a single religious leader having absolute power over the citizenry.
- F** Totalitarian Oligarchy: Government by an all-powerful minority which maintains absolute control through widespread coercion and oppression.

## STEP 11 - LAW LEVEL

The digit representing Law Level indicates the relative force of law extant on the world. The level specifically states the restrictions in force concerning the possession and use of weapons by individuals. To determine Law Level, roll 2d6-7 + Government digit.

### Digit Description

- 0** No Law. No prohibitions.
- 1** Low. Body pistols undetectable by standard detectors, explosives (bombs, grenades), and poison gas prohibited.
- 2** Low. Portable energy weapons (laser carbine, laser rifle) prohibited. Ship's gunnery not affected.
- 3** Low. Weapons of a strict military nature (machineguns, automatic rifles) prohibited.
- 4** Moderate. Light assault weapons (submachineguns) prohibited.
- 5** Moderate. Personal concealable firearms (such as pistols and revolvers) prohibited.
- 6** Moderate. Most firearms (all except shotguns) prohibited. The carrying of any type of weapon openly is discouraged.
- 7** Moderate. Shotguns are prohibited.
- 8** High. Long bladed weapons (all but daggers) are controlled, and open possession is prohibited.
- 9** High. Possession of any weapon outside one's residence is prohibited.
- A** Extreme. Weapon possession prohibited.
- B** Extreme. Rigid control of civilian movement.
- C** Extreme. Unrestricted invasion of privacy.
- D** Extreme. Paramilitary law enforcement.
- E** Extreme. Full-fledged police state.
- F** Extreme. All facets of daily life rigidly controlled.
- G** Extreme. Severe punishment for petty infractions.
- H** Extreme. Legalized oppressive practices.
- J** Extreme. Routinely oppressive and restrictive.
- K** Extreme. Excessively oppressive and restrictive.
- L** Extreme. Totally oppressive and restrictive.

**Note:** Law level is also the DC to avoid police or enforcement harassment for violations. Thus, on a world with law level 4, the Referee must make a basic check vs. DC 4 to see if local officials attempt to harass or arrest the characters when they encounter them. If the roll is less than the world Law Level, the local authorities will want to question the characters. Most such harassment will be of a petty nature, such as demanding identification, rather than groundless arrest. However, the characters may not be aware that they have violated a local law or custom until the police arrive.

## STEP 12 -

## TECHNOLOGICAL LEVEL

The degree of technological expertise, and thus the capabili-

ties of local industry, depends greatly on the basic characteristics of a world. This technological index is generated based on a 1d6 throw, modified by planetary characteristics.

Consult the tech level table and reference the appropriate planetary digits with the descriptions, note all modifiers indicated, and sum them to form one total modifier. Roll 1d6 and apply the modifier to the result, thus determining the local Technological Level (TL).

Tech Level may vary from 0 to 20, more commonly ranging from 4 through about 10. Higher numbers indicate greater capability.

The Technological Level is used in conjunction with the Technological Level table (pg. 194) to determine the general quality and capability of local industry. The tables indicate the general types or categories of goods in general use on the world. In most cases, such goods are the best that may be produced locally, although local organizations or businesses may import better goods when a specific need is felt. In most cases, local citizenry will not be armed with weapons of a type that cannot be produced locally, although police or military may be. Tech Level also indicates the general ability of local technology to repair or maintain items that have failed or malfunctioned.

The Technological Level tables have several spaces or holes, and the Referee or the players should fill in such gaps when they discover items or devices of interest.

### Digit Description

- 0** Stone Age, primitive
- 1** Bronze Age to Middle Age
- 2** circa 1400 to 1700 AD
- 3** circa 1700 to 1860 AD
- 4** circa 1860 to 1900 AD
- 5** circa 1900 to 1939 AD
- 6** circa 1940 to 1969 AD
- 7** circa 1970 to 1990 AD
- 8** circa 1990 to 2100 AD
- 9** circa 2100+ AD
- 10** Early Interstellar Community
- 11** Average Interstellar Community
- 12** Average Interstellar Community
- 13** Above Average Interstellar Community
- 14** Above Average Interstellar Community
- 15** Technical Maximum Interstellar Community
- 16** Occasional Interstellar Community

Digit	Starport	Size	Atmos	Hydro	Pop	Gov
0	-	+2	+1	-	-	+1
1	-	+2	+1	-	+1	-
2	-	+1	+1	-	+1	-
3	-	+1	+1	-	+1	-
4	-	+1	-	-	+1	-
5	-	-	-	-	+1	+1
6	-	-	-	-	-	-
7	-	-	-	-	-	-
8	-	-	-	-	-	-
9	-	-	-	+1	+2	-
A	+6	-	+1	+2	+4	-
B	+4	-	+1	-	-	-
C	+2	-	+1	-	-	-
D	-	-	+1	-	-	-2
E	-	-	+1	-	-	-
F	-	-	-	-	-	-
X	-4	-	-	-	-	-



## STEP 13 - TRADE CLASSIFICATIONS

The term trade classification is a general catchall phrase that covers world attributes that influence trade and commerce, and other information that is of interest to PCs. Some trade classifications influence the Speculative Trade Goods table, see Speculative Trading (pg. 358).

**Agricultural (Ag)** worlds have large portions of their economies devoted to agriculture. They must have an Atmosphere of 4 through 9, Hydrographics of 4 through 8, and a Population of 5 through 7.

**Non-agricultural (Na)** worlds must import much of their foodstuffs from off planet. While such a world may produce synthetic foodstuffs for local consumption, it probably imports quality foods as luxury items. A non-agricultural world must have an Atmosphere of 3 or less, Hydrographics of 3 or less, and a Population of 6 or more.

**Industrial (In)** worlds have large production bases and can easily engage in the manufacture of finished goods. Such a world must have an Atmosphere of 0, 1, 2, 4, 7, or 9 (vacuum, trace, or tainted), and a Population of 9 or greater.

**Non-industrial (Ni)** worlds are forced to import much of their finished goods. Non-industrial worlds must have a Population of 6 or less.

**Rich (Ri)** worlds have good climates and environments and are sought after by most individuals as living places. A rich world must have Government type 4 through 9, an Atmosphere of 6 or 8, and a Population of 6 through 8.

**Poor (Po)** worlds are undeveloped and marginal backwaters. A poor world must have an Atmosphere of 2 through 5 and Hydrographics of 3 or less.

**Water worlds (Wa)** are totally covered by seas and oceans, i.e. Hydrographics A.

**Desert worlds (De)** have no standing water, i.e. Hydrographics 0.

**Vacuum worlds (Va)** have no atmosphere i.e. Atmosphere 0.

**Asteroid belts (As)** are accumulations of small planetoids in a belt around the central star of the system, occupied by the majority of the system population and thus considered to be the mainworld. Asteroid belts have Size 0

**Ice-capped (Ic)** worlds have water present only in the form of ice caps; these are mostly vacuum worlds that would ordinarily have no water. Ice-capped worlds must have Atmosphere 0 or 1 and Hydrographics 1 or greater.

**Subsector Capital** is the term given to the single most important world in the subsector, especially if the entire sector is under one interstellar government. Subsector Capital designations are assigned by the Referee.

**Capital** is the term given to a world that is the seat of an interstellar government. If there are several interstellar governments within a subsector, each will probably have a capital. Capital designations are assigned by the Referee.

Other notations are possible as well. The Referee may elect to note the presence of prison worlds, exile worlds, preserves or reserves for various purposes, and so on.

## STEP 14 - WORLD TRADE BALANCE

The World Trade Balance is equal to the Natural Resources score for the main world - Population digit, with the modifiers given in the tables below. For example, Modern Earth +5 (TL 9, Pop 9, Starport D, Law Level 4-6, Industrial, Law Level 5, Govt 4). If the Trade Balance is negative, the world is a net importer, i.e. it imports more Credits in goods than it exports. If the Trade Balance is positive, then the world is a net exporter, i.e. it exports more Credits in goods than it imports.

Tech Level	Modifier
16+	+3
14-15	+2
13-12	+1
10-11	+0
7-9	-1
4-6	-2
0-3	-3

Starport	Modifier
A	+2
B	+1
C	+0
D	-1
E	-2
X	-3

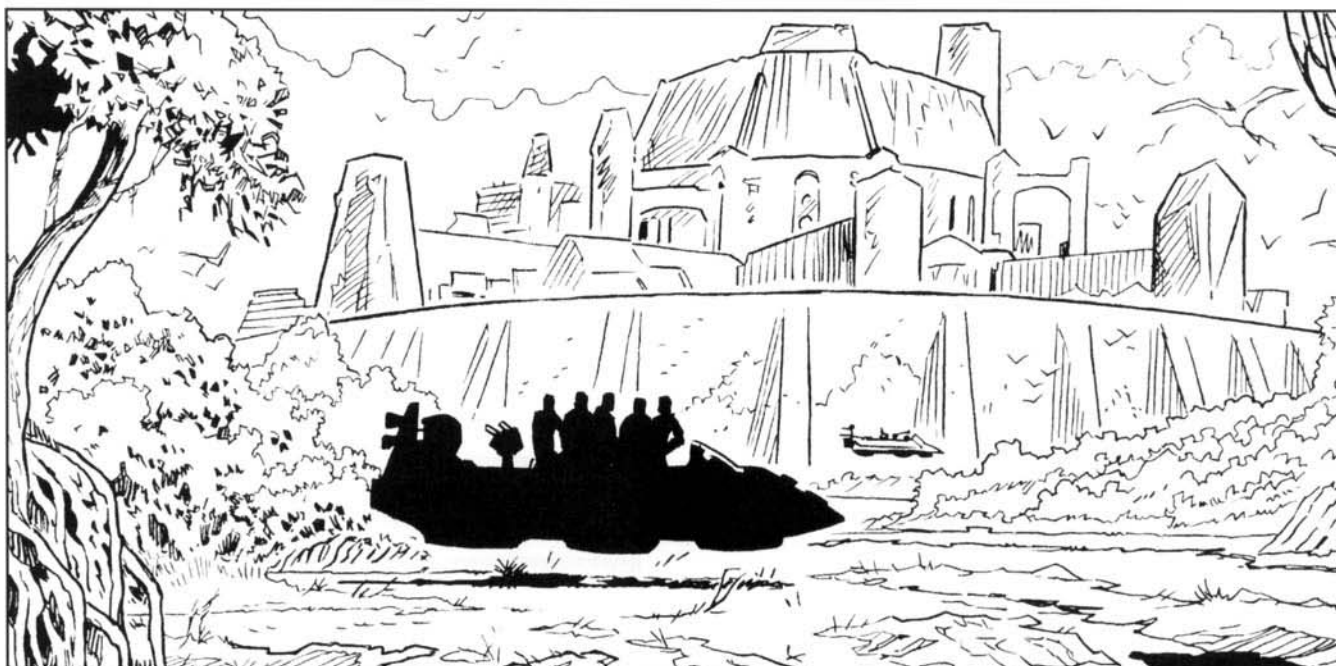
Trade Class	Modifier
Industrial	+4
Agricultural	+1
Rich	+2
Poor	-1

Law Level	Modifier
0-3	+2
4-6	+1
7-8	+0
9+	-1

Government	Modifier	Notes
3 or C	-1	Oligarchy
5	-1	Captive Government
8 or 9	-1	Bureaucracy
D	-2	Religious Dictatorship

The following table indicates the most likely types of goods to be Exported (E) or Imported (I) for a given world, depending upon its Trade classification.

Trade Classification	Basic Trade Goods					
	Food Drink	Wood Plant	Raw Materials	Refined Materials	Manufactured Goods	Luxury Goods
Industrial	I	I	I	E	E	E
Agricultural	E	E	I	E	I	I
Non Agricultural	-	-	I	E	E	I
Non-Industrial	E	E	-	-	I	I
Rich	E	I	I	E	I	E
Poor	I	I	E	I	I	I
None	-	-	E	-	-	I



## REFEREE'S NOTES

The purpose of the world generation sequence can best be seen as a prod to the imagination. Even the most imaginative individual soon loses brilliance in the face of creating hundreds of individual worlds. The procedure uses die rolls to create a basic world type and then allows the Referee to use that information to determine specific world data. Imagination may be required to explain a tech level 4 civilization in an asteroid belt, or a high population world with a participating democracy for a government.

Specific characteristics for worlds should be construed as guidelines rather than strict limits. For example, a world with a hydrographic percentage of A is 100% ocean; nevertheless, the world would probably have some small islands sufficient for establishing a starport.

**Starport:** The various starport types are intended to provide a variety of facilities for use in trade or survey missions. Starports provide fuel or construction yards.

### TECH LEVEL AND THE IMPERIUM

The Imperium in the Official Traveller Universe is currently at a maximum TL of 14, with the first TL15 items starting to become available to the Imperial military in the year 1000.

**Bases:** The tables provide for Scout and Naval bases at some worlds. These bases serve as points for Scout and Naval veterans to renew acquaintances with old friends, to find potential patrons, and to scrounge or buy surplus equipment of use to them. The Referee may elect to include other types of bases, perhaps army bases, merchant exploration or trade bases, and defense establishments.

**Travel Zones:** The use of travel zones is intended to assist in designating areas to avoid and areas to explore. The Referee should consider travel zones and their underlying reasons.

**World Size:** The generation tables assume that the world in question will be a solid matter sphere. Some alternatives are possible, although they are rare enough to require implementation by the Referee. These include:

**Rosettes:** Three or more equal masses (worlds) set at the points of an equilateral polygon, and with the correct equal angular velocities about their center of mass, will have a stable orbital configuration. In fact, no central star is required for the group. Rosettes will almost never occur naturally.

**Ringworlds:** An incredibly strong band may be set rotating about a central star, making a ringworld which uses centrifugal force to provide a simulation of gravity. Such a ringworld, of 93 million miles radius, and with a width of 1 million miles, has a usable surface area equal to about 3 million Earths.

**Sphereworlds:** Using materials similar to those in a ringworld, and adding gravity generators where necessary for strength and comfort, a spherical shell could be used to completely enclose a star. Such a shell would then trap all

## WORLD DATA FORMAT SAMPLE

Name	Hex #	UWP	Bases	Trade Classification	Zone	PBG	Allegiance	Stellar Data
Speer	0108	C432430-8	S	Poor, Non-industrial	R	404	1	K8 V

stellar radiation for use by the civilization. With a radius of about 93 million miles, the internal surface area would equal about one billion Earths.

**Atmosphere:** The various atmosphere types require specific personal equipment for survival and protection.

- No atmosphere and trace atmospheres require use of a vac suit.
- Tainted atmospheres require the use of filter masks.
- Very thin atmospheres require the use of compressors to insure sufficient oxygen to breathe. The tainted very thin atmosphere requires a combination respirator/filter mask for survival.
- Thin, standard, and dense atmosphere are breathable without assistance.
- Exotic atmospheres require the use of oxygen tanks, but protective suits are not required.
- Corrosive atmospheres require the use of protective suits or vacc suits.
- Insidious atmospheres are similar to corrosive atmospheres, but will defeat any personal protective measures in 2 to 12 hours.

**Hydrographics:** It is possible for some worlds with vacuum atmospheres to have hydrographic percentages greater than 0. In such cases, the world has ice caps present; the water will not be freestanding liquid.

**Population Density:** For comparison, the following population densities are common on twentieth century Earth. Earth on the whole has a population of about three billion during the 1970's (population level 9); that was approximately 5 persons per square mile, or 16 persons per square mile of land area. Europe is populated at about 151 persons per square mile, the equivalent of population level 10. The Netherlands contain 1500 persons per square mile, or about population level 11. Hong Kong has 10,000 persons per square mile, the equivalent of population level 12.

**Government:** Government types are intended to convey the general type of authority on the world; each listed type should be a clue to the Referee in administering details of encounters on the world.

**Law Level:** Law level is an indication of the relative oppressiveness of the world. The digit is classified on the law level table to show prohibitions against weapons. It is also the DC to avoid being harassed or arrested by local authorities.

**Tech Level:** The technological level of a world determines the quality and sophistication of the products of a world. It indicates what precise types of equipment are available and common locally.

**Trade Classifications:** Additional details of a specific

world can be expressed by the trade classification and statements about the world. The Referee should be ready to establish new classifications when appropriate.

## WORLD DATA FORMAT

When noting Universal World Profiles, the following format should be used in order to insure recording all necessary information.

**Name:** The name of the star system, typically also the name of the mainworld.

**Hex #:** The hex location of the system on the local sector (not subsector) map.

**UWP:** The mainworld Universal World Profile. The UWP is a shorthand notation of a world's basic 8 characteristics. In order of placement these are: Starport Classification, Size, Atmosphere, Hydrographics, Population, Government Type, Law Level, and Technological Level. For example:

*Speer C432430-8*

The world called Speer has a Class 'C' starport, a size of 4 (6400km), an Atmosphere of 3 (Very Thin), a Hydrographics rating of 2 (20% surface water), a Population of 4 (Tens of Thousands), a Government Type of 4 (Self-Perpetuating Oligarchy), a Law Level of 0 (No prohibitions), and a Technological Level of 8.

**Bases:** The type of bases found in the system. S is used to denote a scout base, while N is used to denote a naval base.

**Trade Classification:** The trade classifications of the local mainworld.

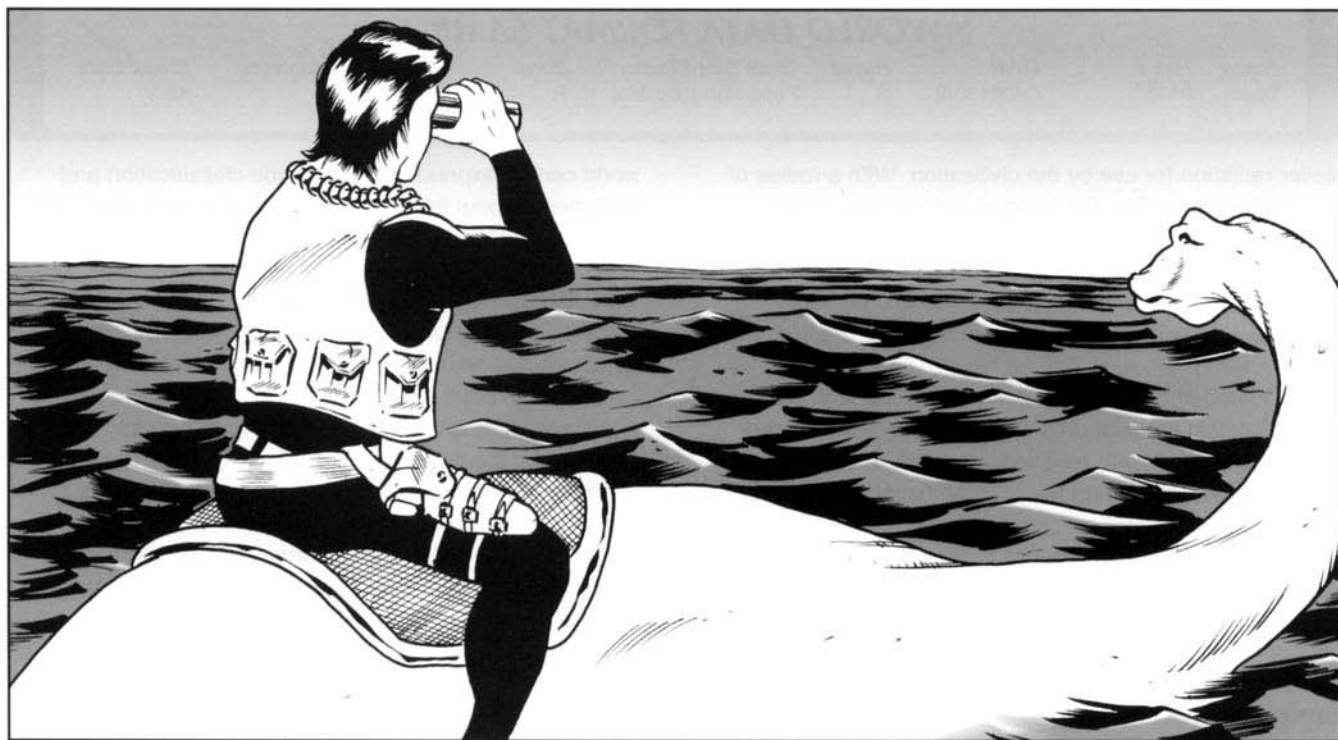
**Travel Zone:** The local TAS travel zone rating, typically R for a red zone or restricted world, A for an amber zone or dangerous world, and G for a green zone or safe (relatively) world. Red zoned or interdicted worlds are usually either posted with warning bouys or actively patrolled by scout or naval vessels.

**PBG:** Three digits representing: The local mainworld Population Exponent, the number of planetoid belts found in the system, and the number of gas giants found in the system, respectively.

**Allegiance:** A numerical or abbreviated representation of the allegiance of the system to any interstellar government.

**Stellar Data:** Size and spectral classification data for the stars found in this system.





## ENVIRONMENTS WATER

Any character can wade in relatively calm water that isn't over his head. No check is required.

Swimming in calm water only requires skill checks with a DC of 10. Trained swimmers can just Take10.

Fast-moving water is much more dangerous. On a successful Swim or Strength check (DC 15), it deals 1d3 points of Stamina damage per round (1d6 points of normal damage if flowing over rocks and cascades). On a failed check, the character must make another check that round to avoid going under. If the character goes under, the character is drowning.

Very deep water is not only generally pitch black, posing a navigational hazard, but worse, if one ascends or descends too quickly they may suffer from the bends (see Pressure Breach, pg. 387), with every 30m meters distance up or down equaling 1 atmosphere of pressure increase or decrease.

Very cold water deals 1d6 points of Stamina damage from hypothermia per minute of exposure.

### DROWNING

Any character can hold her breath for a number of rounds equal to twice her Constitution score. After this period of time, the character must make a Constitution check (DC 10) every round in order to continue holding her breath. Each round, the DC increases by 1.

When the character finally fails her Constitution check, she begins to drown. In the first round, she falls unconscious (0 Stamina). In each following round, she loses 1d6 Lifeblood until Lifeblood reaches -10 and she dies. It is possible to drown in substances other than water, such as sand, quicksand, fine dust, and silos full of grain.

## STARVATION AND THIRST

In normal climates, Medium-size characters need at least 3 litres of fluids and about 2,000 calories (about half a kilo) of decent food to keep them nourished and avoid starvation. This is proportional to size, so small characters may need as little as half as much. In very hot climates, characters need two or three times as much water to avoid dehydration.

A character can go without water for 1 day plus a number of hours equal to his Constitution score. After this time, the character must make a Constitution check each hour (DC 10, +1 for each previous check) or sustain 1d6 points of Stamina damage.

A character can go without food for 3 days, in growing discomfort. After this time, the character must make a Constitution check each day (DC 10, +1 for each previous check) or sustain 1d6 points of Stamina damage. Characters who have taken Stamina damage from lack of food or water are fatigued. Stamina damage from thirst or starvation cannot be recovered until the character gets food or water. Not even psionic abilities that restore Stamina can heal this damage.

## HEAT

Heat deals Stamina damage that cannot be recovered until the character gets cooled off. Once rendered unconscious through the accumulation of Stamina damage, the character begins to take Lifeblood damage at the same rate.

A character in very hot conditions (above 32° C) must make a Fortitude saving throw each hour (DC 15, +1 for each previous check) or sustain 1d4 points of Stamina damage. Characters wearing heavy clothing or armor of any sort have a -4 penalty to the save. A character with the Survival skill may receive a bonus to this saving throw and may be able to apply this bonus to other characters as well through appropriate measures. Characters reduced to unconsciousness begin taking Lifeblood damage (1d4 points per hour).

In extreme heat (above 45° C), a character must make a Fortitude save once every 10 minutes (DC 15, +1 for each previous check) or sustain 1d4 points of Stamina damage. Characters wearing heavy clothing or armor of any sort have a -4 penalty to their saving throws. A character with the Survival skill may receive a bonus to this saving throw and may be able to apply this bonus to other characters as well. Characters reduced to unconsciousness begin taking Lifeblood damage (1d4 points per each 10-minute period).

A character who sustains any Stamina damage from heat exposure now suffers from heatstroke and is fatigued. These penalties end when the character recovers the Stamina damage she took from the heat.

Abysmal heat (air temperature over 60° C, fire, boiling water, lava) deals Lifeblood damage. Breathing air in these temperatures deals 1d6 points of Lifeblood damage per minute (no save). In addition, a character must make a Fortitude save every 5 minutes (DC 15, +1 per previous check) or sustain 1d4 points of Stamina damage. Those wearing heavy clothing or any sort of armor have a -4 penalty to their saving throws. In addition, those wearing metal armor or coming into contact with very hot metal suffer 2d4 Lifeblood damage per round of contact.

Boiling water deals 1d6 points of scalding damage, unless the character is fully immersed, in which case it deals 10d6 points of damage per round of exposure.

## CATCHING ON FIRE

Characters at risk of catching fire are allowed a Reflex saving throw (DC 15) to avoid this fate. If a character's clothes or hair catch fire, he takes 1d6 points of damage immediately. In each subsequent round, the burning character must make another Reflex saving throw. Failure means he takes another 1d6 points of damage that round. Success means that the fire has gone out. (That is, once he succeeds at his saving throw, he's no longer on fire.)

A character on fire may automatically extinguish the flames by jumping into enough water to douse himself. If no body of water is at hand, rolling on the ground or smothering the fire with cloaks or the like permits the character another save with a +4 bonus.

Those unlucky enough to have their clothes or equipment catch fire must make Reflex saving throws (DC 15) for each item. Flammable items that fail sustain the same amount of damage as the character.

## COLD

Cold and exposure deal Stamina damage to the victim. This Stamina damage cannot be recovered until the character gets out of the cold and warms up again. Once a character is rendered unconscious through the accumulation of Stamina damage, the cold and exposure begins to deal Lifeblood damage at the same rate.

An unprotected character in cold weather (below 5° C) must make a Fortitude saving throw each hour (DC 15, +1 per previous check) or sustain 1d6 points of Stamina damage. A character who has the Survival skill may receive a bonus to this saving throw and may be able to apply this bonus to other characters as well.

In conditions of extreme cold or exposure (below -15° C), an unprotected character must make a Fortitude save once every 10 minutes (DC 15, +1 per previous check), taking 1d6 points of Stamina damage on each failed save. A character who has the Survival skill may receive a bonus to this saving throw and may be able to apply this bonus to other characters as well. Characters wearing winter clothing only need check once per hour for cold and exposure damage.

A character who sustains any Stamina damage from cold or exposure suffers from frostbite or hypothermia and is fatigued. These penalties end when the character recovers the Stamina damage she took from the cold and exposure.

## WEATHER HAZARDS WINDS

Winds can create a stinging spray of sand or dust, fan a large fire, heel over a small boat, and blow gases or vapors away. If powerful enough, they can even knock characters down (see the Wind Effects table), interfere with ranged attacks, or impose penalties on some skill checks.

**Light Wind:** A gentle breeze, having little or no game effect.

**Moderate Wind:** A steady wind with a 50% chance of extinguishing small unprotected flames, such as candles.

**Strong Wind:** Gusts that automatically extinguish unprotected flames (candles, torches, and the like). Such gusts impose a -2 penalty to ranged attacks and to Listen checks.

**Severe Wind:** In addition to automatically extinguishing any unprotected flames, winds of this magnitude cause protected flames (such as those of lanterns) to dance wildly and have a 50% chance of extinguishing these lights. Ranged weapon attacks and Listen checks are at a -4 penalty.

**Windstorm:** Powerful enough to bring down branches if not whole trees, windstorms automatically extinguish unprotected flames and have a 75% chance of blowing out protected flames, such as those of lanterns. Ranged weapon attacks are impossible, and even heavy weapons such as artillery and rockets have a -4 penalty to attack. Listen checks are at a -8 penalty due to the howling of the wind.

**Hurricane-force Wind:** All flames are extinguished. Ranged attacks are at -10, and even heavy weapons suffer a -8 penalty. Listen checks are impossible; all characters can hear is the roaring of the wind. Hurricane-force winds often fell trees.

**Tornado:** All flames are extinguished. All ranged attacks are impossible (even with heavy weapons), as are Listen checks. Instead of being blown away (see the Wind Effects table), characters in close proximity to a tornado who fail their Fortitude saves are sucked toward the tornado. Those who come in contact with the actual funnel cloud are picked up and whirled around for 1d10 rounds, taking 6d6 points of Stamina damage per round, before being violently expelled (falling damage may apply). While a tornado's rotational speed can be as great as 500 kph, the funnel itself moves forward at an average of 50 kph. A tornado uproots trees, destroys buildings, and causes other similar forms of major destruction.

## PRECIPITATION

Most precipitation is in the form of rain, but in cold conditions it can manifest as snow, sleet, or hail. Precipitation of any kind followed by a cold snap in which the temperature dips from above freezing to 0° C or below may produce ice.

**Rain:** Rain reduces visibility ranges by half, resulting in a -4 penalty to Spot and Search checks. It has the same effect on flames, ranged weapon attacks, and Listen checks as severe wind (see above).

**Snow:** While falling, snow reduces visibility as rain (-4 penalty to ranged weapon attacks, Spot checks, and Search checks). Once on the ground, it reduces movement by half. Snow has the same effect on flames as Moderate Wind (see above).

**Sleet:** Essentially frozen rain, sleet has the same effect as rain while falling (except that its chance to extinguish protected flames is 75%) and the same effect as snow once on the ground.

**Hail:** Hail does not reduce visibility, but the sound of falling hail makes Listen checks more difficult (-4 penalty).

Sometimes (5% chance) hail can become large enough to deal 1 point of damage (per storm) to anything in the open. Once on the ground, hail has the same effect on movement as snow.

**Storms:** The combined effects of precipitation (or dust) and wind that accompany all storms reduce visibility ranges by three quarters, imposing a -8 penalty to all Spot, Search, and Listen checks. Storms make ranged weapon attacks very difficult (-10 penalty), except for heavy weapons, (-4 penalty to attack.) They automatically extinguish candles, torches, and similar unprotected flames. They cause protected flames, such as those of lanterns, to dance wildly and have a 50% chance to extinguish these lights. See the Wind Effects table for possible consequences to creatures caught outside without shelter during such a storm. Storms are divided into two types: Thunderstorms and Duststorms:

**Duststorm:** These desert storms differ from other storms in that they have no precipitation. Instead, a duststorm blows fine grains of sand that obscure vision, smother unprotected flames, and can even choke protected flames (50% chance). Most duststorms are accompanied by Severe Winds (see above) and leave behind a deposit of 1d6 inches of sand. However, there is a 10% chance of a greater duststorm accompanied by Windstorm-magnitude winds (see above and the Wind Effects table). These greater duststorms deal 1d3 points of Stamina damage each round on anyone caught out in the open without shelter and also pose a choking hazard (see the Drowning Rules, except that a character with a scarf or similar protection across her mouth and nose does not begin to choke until after a number of rounds equal to ten times her Constitution score). Greater duststorms leave 1d3 meters of fine sand in their wake.

**Snowstorm:** In addition to the wind and precipitation common to other storms, snowstorms leave 2d6 centimeters of snow on the ground afterward.

**Thunderstorm:** In addition to wind and precipitation (usually rain, but sometimes also hail), thunderstorms are accompanied by lightning that can pose a hazard to characters without proper shelter (especially those in metal armor). As a rule of thumb, assume one bolt per minute for a 1-hour period at the center of the storm. Each bolt causes electrical damage equal to 1d10 eight-sided dice. One in ten thunderstorms is accompanied by a Tornado.

**Powerful Storms:** Very high winds and torrential precipitation reduce visibility to zero, making Spot and Search rolls, Listen checks, and all ranged weapon attacks impossible. Unprotected flames are automatically extinguished, and even protected flames have a 75% chance of being doused. Creatures caught in the area can make a Fortitude saving throw (DC 20) or face the following effects



## WIND EFFECTS

Wind Force	Wind Speed	Ranged Attacks (Normal/Heavy Weapons*)	Creature Size**	Wind Effect on Creatures	Fort Save DC
Light	0-15 kph	-/-	Any	None	-
Moderate	16-30 kph	-/-	Any	None	-
Strong	31-50 kph	-2/-	Tiny or smaller	Knocked down	10
			Small or larger	None	
Severe	51-80 kph	-4/-	Tiny	Blown away	15
			Small	Knocked down	
			Medium-size	Checked	
			Large or larger	None	
Windstorm	81-120 kph	-10/-4	Small or smaller	Blown away	18
			Medium-size	Knocked down	
			Large or Huge	Checked	
			Gargantuan or Colossal	None	
Hurricane	121-280 kph	Impossible/-8	Medium-size or smaller	Blown away	20
			Large	Knocked down	
			Huge	Checked	
			Gargantuan or Colossal	None	
Tornado	281-500 kph	Impossible/impossible	Large or smaller	Blown away	30
			Huge	Knocked down	
			Gargantuan or Colossal	Checked	

\*Wind effects are as follows:

Checked: Creatures are unable to move forward against the force of the wind. Flying creatures are blown back 1d10 meters.

Knocked Down: Creatures are knocked prone by the force of the wind. Flying creatures are instead blown back 1d10 meters.

Blown Away: Creatures on the ground are knocked prone and rolled 1d12 meters, sustaining 1d4 points of Stamina damage per 3 meters.

Flying creatures are blown back 2d10 meters and sustain 2d6 points of Stamina damage due to battering and buffering.

based on the size of the creature. Powerful storms are divided into the following four types:

**Windstorm:** While accompanied by little or no precipitation, windstorms can cause considerable damage simply through the force of their wind (see the Wind Effects table).

**Blizzard:** The combination of high winds (see the Wind Effects table), heavy snow (typically 10d10 cm), and bitter cold make blizzards deadly for all who are unprepared for them.

**Hurricane:** In addition to very high winds (see the Wind Effects table) and heavy rain, hurricanes may be accompanied by flash floods (see below). Most adventuring activity is impossible under such conditions.

**Tornado:** One in ten Thunderstorms is accompanied by a tornado (see the Wind Effects table).

**Fog:** Whether in the form of a low-lying cloud or a mist rising from the ground, fog obscures all sight, including infrared sensors, beyond 1.5 meters. Creatures within 1.5 meters have one-half concealment (attacks by or against them have a 20% miss chance).

**Flash Floods:** Runoff from heavy rain forces creatures in its path to make a Fortitude save (DC 15). Creatures of size Large or smaller who fail the save are swept away by the rushing water, taking 1d6 points of Stamina damage per round (1d3 points on a successful Swim check). Huge creatures who fail are knocked down and face potential drowning. Gargantuan and Colossal

creatures are checked, but they only drown if the waters rise above their heads.

## OTHER DANGERS

Use the following guidelines to cover the other sorts of dangers a character can face.

### ACID

Corrosive acids deal 1d6 points of damage per round of exposure except in the case of total immersion (such as into a vat of acid), which deals 10d6 points of damage per round. An attack with acid, such as from a hurled vial, counts as a round of exposure.

The fumes from most acids cause damage upon inhalation. Those who come close enough to a large body of acid (often found on exotic, corrosive or insidious atmosphere worlds) to dunk a creature in it must make a Fortitude save (DC 13) or take 1 point of Lifeblood damage. All such characters must make a second save 1 minute later or take another 1d4 points of Lifeblood damage.

Creatures immune to acid's caustic properties might still drown in it if they are totally immersed.

### CORROSIVE ATMOSPHERE

A corrosive atmosphere is unbreathable to humans and most lifeforms in general, inflicting 1d6 points of Lifeblood damage to lifeforms for each round of inhalation.

In addition, these atmospheres are typically of extreme temperatures (either extremely hot or extremely cold) which would be enough to quickly and easily kill a person.

Those whose skin is partially exposed to a corrosive atmosphere (say by vac suit failure) must make a Fortitude save (DC 13) or take 1 point of Stamina damage per minute of exposure. Those who are fully exposed (i.e. have no suit but perhaps a breathing mask) make the same save and suffer 1d6 points of Stamina damage and 1 point of Lifeblood damage per minute of exposure if it is failed.

A Vac Suit, while sufficient to protect a lifeform from the effects of a corrosive atmosphere, will begin to break down (-1 AR per hour) after 24 hours of repeated exposure due to the acidic effects. Once a Vac Suit reaches 0 AR or lower suit failure automatically occurs. Hostile Environment Suits and pressurized vehicles are immune to this corrosive effect.

## CYROGENIC FLUIDS

Cryogenic fluids are the very cold liquids, like Liquid Hydrogen, found as vehicle or starship fuel, used in Low Berths, or carried as cargo. Cryogenic liquids deal 2d6 points of damage for splash hits, up to 20d6 points for total immersion. Sealed armor, such as a vac suit, combat armor, hostile environment suit, or battle dress will reduce this damage normally. Unsealed armor has no effect against this type of damage.

## EXOTIC ATMOSPHERE

Exotic atmospheres are not safely breathable by most lifeforms, but are not otherwise generally dangerous. This is often due to unusual biological or chemical compounds within the atmosphere that can cause adverse effects. These compounds sometimes cause damage and at other times have more specific effects. If exposed to an Exotic atmosphere, a character will suffer the effects of suffocation in addition to any other effects listed in the description of the planetary atmosphere.

## FALLING OBJECTS

Just as characters take damage when they fall more than 3 meters, so too do they take damage when they are hit by falling objects. Objects that fall upon characters deal damage based on their weight and the distance they have fallen.

For each 90kg of an object's weight, the object deals 1d6 points of damage, provided it falls at least 3 meters. Distance also comes into play, adding an additional 1d6 points of damage for every 3-meter increment it falls beyond the first (to a maximum of 20d6 points of damage).

Objects smaller than 90kg also deal damage when dropped, but they must fall farther to deal the same dam-

age. Use the Damage from Falling Objects table to see how far an object of a given weight must drop to deal 1d6 points of damage.

### DAMAGE FROM FALLING OBJECTS

Object Weight	Falling Distance
90-46 kg.	6 meters.
45-24 kg.	9 meters.
23-15 kg.	12 meters.
14-4.6 kg.	15 meters.
4.5-2.4 kg.	18 meters.
2.3kg-500gr.	21 meters.

For each additional increment an object falls, it deals an additional 1d6 points of damage. For example, since a 15kg metal sphere must fall 15 meters to deal damage (1d6 points of damage), such a sphere that fell 45 meters would deal 3d6 points of damage. Objects weighing less than 500 grams do not deal damage to those they land upon, no matter how far they have fallen. For any object which is totally unyielding (e.g. rock or metal) or which is well shaped to cause damage (a weapon or stalactite), double the damage it causes when it falls.

## ICE

Characters walking on ice must make Balance checks (DC 15) to avoid slipping and falling. Over long distances, a character must make a check each minute. Characters in prolonged contact with ice may run the risk of cold damage.

## INSIDIOUS ATMOSPHERE

Insidious atmospheres are the most dangerous types of atmospheres to deal with, since nothing is safe from their effects. Unprotected characters suffer 2d6 points of damage per round of exposure. Damage continues for 1d3 rounds after exposure ceases, but this additional damage is only half of that dealt during actual contact (that is, 1d6 points per round).

Vac suits are useless in an insidious atmosphere, but a Hostile Environment Suit or pressurized vehicle will last 6 hours before beginning to succumb to the effects at a rate of -2 AR per 15 minutes of additional exposure. Once a Hostile Environment Suit reaches 0 AR or lower suit failure automatically occurs.

## LACK OF AIR/HYPOXIA

Characters in conditions of low oxygen, such as on top of a mountain, must roll a Fortitude saving throw each hour (DC 15, +1 per previous check), taking 1d6 points of Stamina damage each time they fail.

A character who sustains any Stamina damage from lack of oxygen is automatically fatigued. These penalties end when the character recovers the Stamina damage he took from low oxygen.

**Hypoxia:** Long-term oxygen deprivation due to low atmospheric pressure (typically high altitude) or other causes, affects mental and physical ability scores. After each 6-hour period a character spends at an altitude of over 6 kilometers, he must make a Fortitude save (DC 15, +1 per previous check) or take 1 point of temporary damage to all ability scores.

## LAVA

Lava or magma deals 2d6 points of Stamina damage per round of exposure, except in the case of total immersion (such as when a character falls into the crater of an active volcano), which deals 20d6 points of lifeblood per round. Damage continues for 1d3 rounds after exposure ceases, but this additional damage is only half of that dealt during actual contact (that is, 10d6 points per round).

An immunity or resistance to heat or fire serves as an immunity to lava or magma.

## PRESSURE BREACH

The interior of starships in space, vehicles used in deep water, along with buildings on vacuum, trace, exotic, corrosive, or insidious atmosphere worlds are typically pressurized, allowing those inhabitants within to live and work without the use of a pressure suit. In the event that such an environment should lose internal pressure through any reason other than the normal use of airlocks, will cause compression (if the outside pressure is higher) or decompression (if the outside pressure is lower).

If a path of open hatches, iris valves, doors (any type, open or closed), internal walls (if they are not airtight), and/or breached bulkheads can be traced from a location in the vessel to a pressure breach, then all locations along that path become exposed, resulting in compression or decompression. Iris valves and hatches may not be opened if there is a difference of pressure on either side (i.e. they will not function if there is pressure on one side and vacuum on the other side).

**Rate of Compression:** A 1-ton (14 cu. meter) area will compress at a rate of 0.1 atmosphere X the difference in outside air pressure every 12 seconds from a hole 100 square centimeter (1 sq. meter) in size. Thus a 100-ton ship on a planet with an atmospheric pressure of 10 would increase from 1 atmosphere to 10 atmosphere in a period of 2 minutes from a 100 sq. cm hole. The rate of compression scales up and down proportionally to the size of the hole.

If the rate of compression is enough to raise the pressure 1 full atmosphere or more in a single round, exposed victims must make a Fortitude save (DC15) to avoid getting the 'bends' or pressure sickness. A failed save will inflict 1d6 Lifeblood damage per 1 full atmosphere of change.

**Rate of Decompression:** A 1-ton (14 cu. meter) area will decompress at a rate of 0.1 atmosphere every 12 seconds from a hole 100 square centimeter (1 sq. meter) in size. Thus a 100-ton ship would drop from 1 atmosphere to 0.1 atmosphere (effective vacuum) in a period of 20 minutes from a 100 sq. cm hole. The rate of decompression scales up and down proportionally to the size of the hole.

If the rate of decompression is enough to drop the pressure 1 full atmosphere or more in a single round, an explosive decompression occurs (see below). In addition, survivors of the explosive decompression must make a Fort save (DC15) to avoid getting the 'bends' or pressure sickness. A failed save will inflict 1d6 Lifeblood damage per 1 full atmosphere of change.

**Explosive Decompression:** Any lifeform unprotected and exposed must make a Reflex save (DC15) to avoid holding their breath. Characters with the Armor Proficiency (Vac Suit), Armor Proficiency (Battle Dress), or Zero-G and Low Gravity Adaptation feat may add +2 to their saving throws due to training and experience. If the saving throw is failed, the character held their breath, resulting in lung damage. The character must now make a second Reflex save (same DC and modifiers) to realize their mistake fast enough to avoid too much damage. If this second save is successful, the character takes 3d6 Lifeblood damage (which can reduce the victim to a minimum of 1 Lifeblood). If the save fails, immediately reduce their Lifeblood rating immediately to 0, and the character is dying.

A character in a decompressed area is now subject to vacuum exposure.

Robots, along with lifeforms in sealed vac suits, battle dress, or combat armor are immune to the effects of explosive decompression.

**Signs of Atmospheric Change:** The following signs can be used by the Referee to give characters a hint that they are facing a change in atmospheric pressure:

(a) Explosive Noise. When a rapid change of pressure occurs it is usually accompanied by a loud explosive noise when the two air masses meet.

(b) Flying Debris. As the air is rapidly drawn out of a spacecraft or aircraft at altitude, unsecured items within the cabin will also be drawn toward the point of rupture. Most anything of 1kg or less will become a hurtling projectile, some very capable of inflicting serious damage if they should happen to strike anyone in their path. The Referee may wish to have characters in such a situation make a Reflex save (DC10 to 15) to avoid getting hit by debris for 1d6 damage.

(c) Fogging. Sudden changes in temperature or pressure, or both, can create a temporary fog within the cabin during the event.

(d) Temperature. If a decompression occurs, temperature will be reduced rapidly. Chilling and frostbite may



## RADIATION DAMAGE

Severity	Rads	Stamina	Lifblood	CON*	Symptoms
Mild	51-150	1d6	-	-	Mild to moderate nausea and vomiting
Moderate	151-300	2d6	1d4	-1 once	Hair loss, mild skin burns, nausea, vomiting
Severe	301-500	2d10	2d6	-1 per hour	Hair loss, moderate skin burns, nausea, vomiting, internal bleeding.
Extreme	501-800	3d10	2d10	-2 per hour	Hair loss, severe skin burns, nausea, vomiting, internal bleeding, sterility
Lethal	800+	4d10	3d10	-4 per hour	Hair loss, massive skin burns, nausea, vomiting, internal bleeding, sterility

\* Requires a Fortitude save (DC10 + 2 per 100 rads of exposure), to avoid this permanent loss to Constitution.

Solar Flares: The effects of a solar flare will last 1d12 hours during which time it will bombard any exposed living creature to 100x1d20 rads per hour.

occur if protective clothing is not worn or available. If compression occurs, temperatures will rise rapidly to match the outside temperature.

(e) Pressure. A compression or decompression event is accompanied by a rapid change in air pressure, cause the ears to pop, sinuses to clog, etc.

## RADIATION

Radiation occurs from many sources; Nuclear bombs, Meson guns, solar flares, some power plant fuels are all sources of radiation. Some planets may also be heavily radiated due to any number of factors including large concentrations of heavy metals and other radioactive elements, stellar bombardment, or even ancient wars.

Radiation occurs in two modes, burst and continuous. Radiation bursts, like from a nuclear bomb blast, do normal stamina/lifblood damage, but personal armor has no effect (vehicle and starship armor still apply normally).

Continuous radiation exposure, like from solar flares or nuclear fuel rods, cause damage based on the level of exposure measure in Rads (see the Radiation Damage table above), for each hour of exposure.

## SMOKE OR HEAVY DUST

A character who breathes heavy smoke must make a Fortitude saving throw each round (DC 15, +1 per previous check) or spend that round choking and coughing. A character who chokes for two consecutive rounds takes 1d6 points of Stamina damage.

Smoke obscures vision, giving one-half concealment (20% miss chance) to characters within it.

## SUFFOCATION

A character who has no air to breathe can hold her breath for 1 round per point of Constitution. After this period of time, the character must make a Constitution check (DC 10) in order to continue holding her breath. The save must be repeated each round, with the DC increasing by +1 for each previous success.

When the character fails one of these Constitution checks, she begins to suffocate. In the first round, she falls unconscious (0 Stamina). In each subsequent round, she loses 1d6 Lifblood until she suffocates to death.

**Slow Suffocation:** A Medium-size character can breathe easily for 6 hours in a sealed chamber measuring 3 meters on a side. After that time, the character takes 1d6 points of Stamina and 1 point of Lifblood damage every 15 minutes. Each additional Medium-size character or significant fire source (a torch, for example) proportionally reduces the time the air will last. Thus, two people can last for 3 hours, after which they each take 1d6 stamina and 1 Lifblood damage per 15 minutes. If a fire or other flame is present (equivalent to another Medium-size character in terms of the air it uses), the air runs out in only 2 hours.

## VACUUM EXPOSURE

A character who is exposed to vacuum without protection suffers effects similar to suffocation, but due to the nature of a vacuum the character cannot hold her breath. To do so would be extremely harmful. (see Explosive Decompression for more information). While exposed to a vacuum a character can survive for 1 round per 2 points of Constitution. After this period of time, the character must make a Constitution check (DC 20) in order to continue to

## SAMPLE ENCOUNTER TABLE

CLEAR Terrain	Regina (A788899-A)							
1d6	Animal	Size	SP/LB	AC/AR	Attacks and Damage	AFS	S/D/C	F/R/W
1	1d6 Grazers	Small (6kg)	2/6	17/8	Claws +0 (1)	A+ F9 S3	3/6/6	+1/+2/+6
2	Hunter	Small (25kg)	8/7	13/0	Slap +5 (1d3-2)		7/14/7	+1/+7/+5
3	1d6 Grazers	Large (400kg)	10/11	11/6	Slap +0 (2d4+5)		21/3/11	+0/+6/+0
4	Intimidator	Large (1200kg)	42/16	5/0	Bite +2 (2d6+2), Slap +2 (2d6+2)		15/3/16	+3/+4/+4
5	1d6 Hunters	Large (600kg)	19/12	12/3	Gore +4 (1d10), Kick +4 (1d10)		11/11/12	+6/+2/+2
6	Gatherer	Medium (200kg)	19/11	10/0	Bite +0 (2d4+1)		13/10/11	+0/+12/+3

The top line of the encounter table should denote the type of terrain the table is to be used for, and the planet for which the table was generated (including the UWP rating for the world).

**Animal:** The number and type (or name) of animal encountered.

**Size:** The size of each animal by d20 size category and weight.

**St/Lb:** Each animal's average Stamina and Lifeblood ratings.

**AC/AR:** The Armor Class and Armor Rating of each creature in the group.

**Attacks and Damage:** The type of attacks the creature may utilize and the amount of damage such an attack may inflict.

**AFS:** The Attack - Flee - Speed factors of each animal in the group.

**S/D/C:** The Strength, Dexterity, and Constitution scores for the animals.

**F/R/W:** The Fortitude, Reflex, and Willpower saving throw bonuses for the animals.

survive. The save must be repeated each round, with the DC increasing by +1 for each previous success.

When the character fails one of these Constitution checks, she falls unconscious (0 stamina). In each subsequent round, takes 1d6 Lifeblood damage until she dies.

## ANIMAL ENCOUNTERS

Animals in any ecological system interact with each other, forming food chains, obeying instincts, defending territory, and generally living out their lives. When people enter such an ecological system, they will encounter the animals of the system, prompting natural reactions, such as attack or flight.

Although the precise nature of animals may change, and they may prove quite alien to ordinary experience, most will conform to the broad classifications given below. A Referee may choose to establish his own ecological system on a specific world, ignoring the encounter system outlined here. This system, however, is intended to allow broad latitude in both animal types and attack/defense mechanisms, while remaining essentially logical and reasonable.

**Animal Types:** Nearly all animals may be classified into four basic categories: herbivore, omnivore, carnivore, and scavenger. Specific definitions for these terms are provided in a later section of these rules, and differ from the precise scientific definitions in current use. Within each

category, a variety of animal types exist, based on specific feeding/hunting habits; examples of this concept are grazers, chasers, and pouncers.

Animals which are encountered may be classified into various categories and types, and specific attack and defense mechanisms determined. The resulting description indicates the actions an animal will take without resorting to such confining labels as bear or tiger. While a Referee may well elect to use such names, this system also allows the players freedom to encounter truly alien beasts as well.

## USING AN ENCOUNTER TABLE

Each day, an adventuring band may possibly have one or more encounters with some animal life forms. As a general rule, the Referee will check for an encounter once while the band is travelling and once while the band is halted (for rest, exercise, encampment, or whatever). There is a one-third chance (DC7 to avoid) that an animal encounter will occur in any of the specified terrain types. The Referee may choose to modify this frequency depending on planetary or local conditions.

In addition, specific encounters at specific locations are always possible. For example, the Referee may already have populated a location (perhaps a ruin) with specific animals. These are not subject to normal random encounter rules.

**Procedure:** Twice each day, the Referee will throw to determine if an encounter occurs. If a band splits temporarily, each portion of the band should be liable for an independent encounter. When an encounter does occur, the correct (based on terrain type) encounter column is then used to ascertain the class, type, quantity, and characteristics of the animal encountered (in some circumstances the encounter column may indicate that a non-animal event has been encountered instead. The encounter range is determined using the Encounters rules on pg. 144.

**Animal Descriptions:** The Referee may elect to describe animals in order to create a better image in the adventurers' minds. The basic system may be used without this aspect, but descriptions such as lion-like, amoeboid, etc. may prove useful.

The table on page 389 is an example of typical animal encounter table, showing the format for presentation of the information and for easy use of the encounters. The table is clearly headed with the type of terrain, and with the world on which the terrain occurs.

Note that each line is a single encounter. For example, die roll 6 indicates that the party has encountered 8 grazers of 400kg each, probably feeding in the clear terrain. They can take 25 hits before unconsciousness, and another 15 hits before dying. They are unarmored, and use hooves for weapons (inflicting 14 Stamina damage each time they hit). They will flee on 1+, attack on 7+ if they have not already fled, and have a speed of 4 times ordinary.

## CREATING ANIMAL ENCOUNTER TABLES

Once the encounter table format has been decided upon, the Referee notes the terrain type for the table, and consults the terrain types table. Any applicable modifiers are recorded. The Referee refers to the Animal Types table and rolls two dice for the animal category involved. The result is the animal type for the entry. The Special Attributes table is consulted to determine if the animal has any special characteristics, such as the ability to fly or swim. The Animal Sizes and Weaponry table is consulted to determine the animal's size, wound potential, weaponry,

### TERRAIN TYPES

<i>Terrain Type</i>	<i>Terrain Equivalent</i>	<i>Subspecies Mod</i>	<i>Size Mod</i>
Clear	Road, Open	+3	-
Prairie	Plain Steppe	+4	-
Rough	Hills, Foothills	-	-
Broken	Badlands	-3	-3
Mountain	Alpine	-	-
Forest	Woods	-4	-4
Jungle	Rainforest	-3	-2
River	Stream, Creek	+1	+1
Swamp	Bog	-2	+4
Marsh	Wetland	-	-1
Desert	Dunes	+3	-3
Beach	Shore, Sea Edge	+3	+2
Surface	Ocean, Sea	+2	+3
Shallows	Ocean, Sea	+2	+2
Depths	Ocean, Sea	+2	+4
Bottom	Ocean, Sea	-4	-
Sea Cave	Sea Cavern	-2	-
Sargasso	Seaweed	-4	-2
Ruins	Old City	-3	-
Cave	Cavern	-4	+1
Chasm	Crevasse, Abyss	-1	-3
Crater	Hollow	-	-1

and armor. Finally, the Characteristics table is consulted to note the animal's predisposition to attack or flee, and its speed.

When events are called for on the encounter table, the Referee should insert an event from those described in these rules, or generate additional events appropriate to the situation.

### ANIMAL ENCOUNTERS

<i>2d6 Column</i>			<i>1d6 Column</i>		
<i>Die</i>		<i>Category</i>	<i>Die</i>		<i>Category</i>
2	S	Scavenger	1	S	Scavenger
3	O	Omnivore	2	H	Herbivore
4	S	Scavenger	3	H	Herbivore
5	O	Omnivore	4	H	Herbivore
6	H	Herbivore	5	O	Omnivore
7	H	Herbivore	6	C	Carnivore
8	H	Herbivore			
9	C	Carnivore			
10	E	Event			
11	C	Carnivore			
12	C	Carnivore			



## A) TERRAIN TYPE

The Referee should determine the local terrain type from the Terrain Types table. This table will determine specific modifiers that will be used later in steps 2 (Animal Subspecies) and step 4 (Animal Size).

## B) ENCOUNTER TABLE TYPE

There are two types of encounter tables that may be generated, a 1d6 and a 2d6-based table. Which type should be used is up to the Referee, as the only difference is the number of entries on each. When generating a new creature, the Referee rolls on this table to determine the basic category of animal the creature is: carnivore, omnivore, scavenger, or herbivore.

## 1) ANIMAL CATEGORY

Nearly all animals may be classified into four basic categories: herbivore, omnivore, carnivore, and scavenger. Specific definitions for these terms are provided below, and differ from the precise scientific definitions in current use.

**Scavengers:** Animals that share or steal the prey of others, or that take the remains of kills, are classed as scavengers.

**Herbivores:** Animals that eat unresisting food are generally classed as herbivores. While this is usually construed as covering plant eaters, the definition is extended here to cover the eating of unresisting animals as well. For example, the anteater and the whale eat effectively unresisting animals (ants and krill) and should be classified as herbivores.

**Omnivores:** Animals that eat food without regard to its resistance are termed omnivores. The bear, which will eat fruits and berries as readily as it will hunt for animals, is an omnivore.

**Carnivores:** Animals that prey on other animals by attacking and killing them in the face of resistance are classed as carnivores.

## EVENTS

Events are not necessarily animals, comprising instead both geographic and geological dangers, and special types of animals not ordinarily encountered. The following examples are provided, but more should be generated by the Referee to cover the wide range of possibilities in the universe.

**Ravines and Precipices:** The party has encountered unexpected geographic features, which will retard progress by one day if travel is overland. If the encounter occurs at close range (to a party on foot), the lead member of the party will probably fall (make Dexterity check to avoid

falling), receiving 1d6 x10 in Stamina damage, and 2d6 in Lifeblood damage. If this event occurs at close or short range to a party in a land vehicle, it will topple (make a driving skill check to avoid, DC12); modifier of -1 per 10 kph of speed), inflicting 1d6 x5 Stamina and 1d6 Lifeblood damage to each person in the vehicle.

**Seismic Quake:** A seismic disturbance occurs. Each adventurer must make a Strength check to avoid being thrown to the ground and taking 6d6 Stamina damage (a successful Dexterity check to halves this damage).

**Meteor Shower:** Possible only on airless worlds or in asteroid belts, the meteor shower can puncture vacc suits or vehicles. Throw 2d10 to determine the size and strength of the shower. The result indicates the number of adventurers hit; each one hit must make a Reflex save (DC = size of the shower) to avoid a vacc suit puncture. If the size of the shower is 10+, the shower may puncture a vehicle on a basic check against a DC equal to the strength of the shower. If it does, those inside must roll for injuries as above.

**Storm:** A violent rainstorm occurs abruptly, forcing the band to stop and seek shelter, or to continue the journey with increased danger. See Weather Hazards, pg. 385 for more information.

**Animals:** Distantly viewed (or heard) animals.

**Plants:** Animated vines, tangled underbrush, fire hazards, hallucinogenic (or allergenic) pollen.

**Terrain:** Bad water, radiation areas, ruins or statues or other lost civilization artifacts.

## DETERMINING ANIMAL CATEGORY

Roll on the appropriate Animal Encounters table from Setup Step B above, to determine category type of animal encountered. For example, using the 2d6 based encounter table you roll a 9 on 2d6 to determine that the new animal is a Carnivore. If we used the 1d6 table instead and had rolled a 5, the animal would be an Omnivore instead.

## 2) ANIMAL SUBSPECIES

Animals which are encountered may be classified into various categories and types, and specific attack and defense mechanisms determined. The resulting description indicates the actions an animal will take without resorting to such confining labels as 'bear' or 'tiger'. While a Referee may well elect to use such names, this system also allows the players freedom to encounter truly alien beasts as well.

Within each animal category, a variety of animal subspecies exist, based on specific feeding/hunting habits; examples of this concept are grazers, chasers, and pouncers. The following definitions more fully detail the meanings of the descriptive terms used for animal categories, types, and events.

## HERBIVORES

Herbivores are of three types:

**Grazers:** Animals that devote most of their time to eating are termed grazers. They may be solitary or grouped in herds. Their primary defense is flight, although such action may result in stampedes that could endanger adventurers in their path. When forced to fight, they will fight fiercely until killed or routed. Typical Terran grazers are the antelope and the moose. The whale (which scoops krill from the sea as it swims through it) is also a grazer.

**Intermittent:** Herbivores that do not devote full time to eating are termed intermittents. They tend to be solitary. Intermittents usually freeze when an encounter occurs, fleeing if attacked by a larger animal. There is some potential that an intermittent will attack to protect territory or young. Typical Terran intermittents are the chipmunk and the elephant.

**Filters:** Herbivores that pass the environment through their bodies are termed filters. Unlike grazers, which move to food, filters move a flow of water or air through themselves in order to gain food. Generally, filters suck, trip, push, or pull anything (even animals) at close range into a digestive sac, inflicting automatic wounds of 3d6 Stamina per 50 kg or less of animal mass (wound alteration should be ignored for filters). Filters are often solitary and generally slow-moving. They will attack reflexively (as indicated above), succeeding against adventurers with a normal attack. Prompt struggle by adventurers will secure an escape with a Strength check (DC 11), a modifier of +2 for each companion at close range assisting. Throw once per combat round, beginning on the round following the attack. A filter can absorb an animal up to twice its own weight. Terran filters are generally aquatic, such as the barnacle.

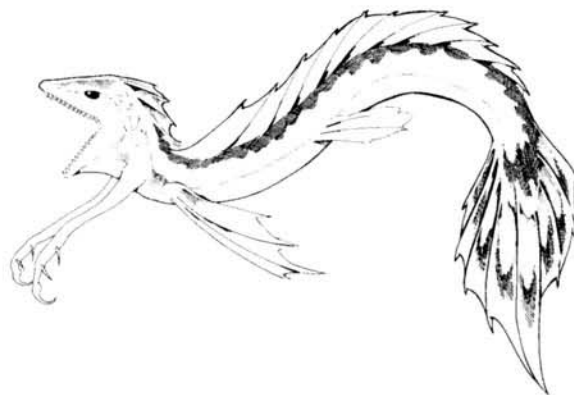
## OMNIVORES

Omnivores are of three types: gatherers, hunters, and eaters.

**Gatherers:** Animals that display a greater tendency toward herbivorous behavior are termed gatherers. In most respects, they are similar to intermittents. Typical Terran gatherers are the raccoon and the chimpanzee.

**Hunters:** Animals that display a greater tendency toward carnivorous behavior are termed hunters. In most respects, they are similar to small or inefficient chasers. Typical Terran hunters are bears or humans.

**Eaters:** The true omnivore (in the sense that it will eat anything and everything) does not distinguish its food, consuming all that it confronts. Eaters present considerable danger in that they will not avoid adventurers when encountered. A typical Terran eater is the army ant (when an entire swarm is considered to be one organism).



*Zettill's Cuss, page 425*

## CARNIVORES

Carnivores are of five basic types: pouncers, chasers, trappers, sirens, and killers.

**Pouncers:** Animals that kill their prey by attacking from hiding or by stalking and springing are termed pouncers. Because of the difficulty of coordinating such attacks, pouncers are usually solitary animals. In an encounter, pouncers which have achieved surprise have succeeded in their basic aim and will attack regardless of range. If they do not have surprise, they will sometimes still attack. They will flee if they themselves are surprised. Typical Terran pouncers are cats.

**Chasers:** Animals that kill their prey by attacking after a chase are termed chasers. They tend to be pack animals. Typical chasers are wolves.

**Trappers:** Animals that passively allow their prey to enter a created trap wherein they are killed and then eaten are termed trappers. Trappers tend to be solitary and slow, but will attack any animal that enters their trap (treat as the Entangle special ability). Companions are subject to capture by the trap while providing assistance. Usually, a trap will not wound or damage a character, but will tend to hold

the adventurer to allow the trapper to attempt to kill him. A typical Terran trapper is the spider; less typical is the ant lion.

**Siren:** Distinct from the trapper, which creates a trap for its prey, a siren also creates a lure to draw prey to the trap. The trap is treated in much the same manner as that of the trapper, but the lure entails additional consideration. In most cases, the lure will be specific to some animal, but will be unnoticed by humans. In rare

cases (roll vs. DC18) the lure will be universal, perhaps a smell or scent, or a mirage or beautiful configuration, which will attract characters into a vulnerable position. Very rarely, the lure will be psionic in nature. Typical Terran sirens are the angler fish (its mouth is the trap) and the Venus Flytrap.

**Killers:** Certain carnivores devote much attention to killing, sometimes apparently for the sake of it. The normal reason for killing other animals (such as territorial defense) are replaced by bloodlust or a raw killing instinct. Attacks by killers are fierce and violent. Killers will generally disregard the defender's size as a factor. The typical Terran killer is the shark.

## SCAVENGERS

Scavengers are of four types: intimidators, hijackers, carrion-eaters, and reducers.

**Intimidators:** Scavengers that establish their claim to food by frightening or threatening other animals are termed intimidators. Their standard procedure is to approach a kill and force other animals away by appearing to be a threat. A typical Terran intimidator is the coyote.

**Hijackers:** Scavengers that establish their claim to food by simply taking it are termed hijackers. They rely on their superior strength or size to allow them to hijack food because the other animals present cannot effectively object. A typical Terran hijacker is the lion or the Tyrannosaurus Rex.

## ANIMAL SUBSPECIES

Die	Herbivore	Omnivore	Carnivore	Scavenger
0	Filter (1d6)	Gatherer	Siren	Carrion-eater (1d6)
1	Filter	Gather	Pouncer	Carrion-eater (2d6)
2	Filter	Eater	Siren	Reducer (1d6)
3	Intermittent	Gatherer	Pouncer	Hijacker (1d6)
4	Intermittent	Eater (2d6)	Killer (1d6)	Carrion-eater (2d6)
5	Intermittent (1d6)	Gatherer	Trapper	Intimidator (1d6)
6	Intermittent	Hunter	Pouncer	Reducer
7	Grazer	Hunter (1d6)	Chaser	Carrion-eater (1d6)
8	Grazer (1d6)	Hunter	Chaser (3d6)	Reducer (3d6)
9	Grazer (1d6)	Gatherer	Chaser	Hijacker
10	Grazer (1d6)	Eater (1d6)	Killer	Intimidator (2d6)
11	Grazer (1d6)	Hunter (1d6)	Chaser (2d6)	Reducer (1d6)
12	Grazer (1d6)	Gatherer	Siren	Hijacker
13	Grazer (1d6)	Gatherer	Chaser (1d6)	Intimidator (1d6)

Roll 2d6 to determine the subspecies based on the category of the animal.

Table Modifiers:

\* Apply any Subspecies modifiers from the Terrain Type table.

**Carrion-Eaters:** Scavengers that take dead meat when it becomes available (often waiting patiently for all other threats to disperse before beginning) are termed carrion-eaters. Most typical of Terran carrion-eaters is the vulture.

**Reducers:** Scavengers that act constantly on all available food are termed reducers. They eat the remains of food after all other scavengers are finished with it, consuming bone and other leavings. Terran reducers are all microscopic, such as bacteria.

## DETERMINING ANIMAL SUBSPECIES

Roll 2d6, adding any terrain type modifiers for subspecies, and consult the Animal Subspecies table above. This will determine the exact type of animal encounters based on its category. For example, having already determined that a new animal is a herbivore, we roll 2d6 for a total of 8, subtract -3 for broken terrain, for a final roll of 5. Looking on the Animal Subspecies chart under Herbivore we see that 1d6 Intermittents have been encountered.

## 3) SPECIAL ATTRIBUTES

Animals which adventurers will encounter will tend to be walkers, but may be flyers, swimmers, amphibians, or even triphibians. Four special attribute types are possible on the table that follows.

**Flyers:** Animals capable of flying through the use of wings, levitating gas sacs, or other mechanisms.



## ANIMAL SPECIAL ATTRIBUTES

Die	Beach	Marsh	River	Sea	Swamp	Other
2	Swimmer (+1)	Swimmer (-6)	Swimmer (+1)	Swimmer (+2)	Swimmer (-3)	-
3	Amphibian (+2)	Amphibian (+2)	Amphibian (+1)	Swimmer (+2)	Amphibian (+1)	-
4	Amphibian (+2)	Amphibian (+1)	-	Swimmer (+2)	Amphibian (+1)	-
5	-	-	-	Amphibian (+2)	-	-
6	-	-	-	Amphibian	-	-
7	-	-	-	Swimmer (+1)	-	-
8	-	-	-	Swimmer (-1)	-	-
9	-	-	-	Triphibian (-7)	-	-
10	-	-	-	Triphibian (-6)	-	-
11	Flyer (-6)	Flyer (-6)	Flyer (-6)	Flyer (-6)	Flyer (-6)	Flyer (-5)
12	Flyer (-5)	Flyer (-5)	Flyer (-5)	Flyer (-5)	Flyer (-5)	Flyer (-3)

Roll 2d6 and compare to the appropriate terrain type.

### Table Modifiers:

- If the world size is 9 or larger, subtract -1 from the roll.
- If the world size is 4 or 5, add +1 to the roll.
- If the world size is 3 or smaller, add +2 to the roll.
- If the local atmosphere is rated 8 or higher, add +1 to the roll.
- If the local atmosphere is rated 5 or less, subtract -1 to the roll.

**Swimmers:** Animals living in liquid and swimming through the use of fins, flippers, jets, or other mechanisms.

**Amphibians:** Animals living in liquid, but capable of emerging onto land.

**Triphibians:** Animals living in liquid, but capable of walking on land and flying in the air.

### DETERMINING SPECIAL ATTRIBUTES

Roll 2d6 and cross-reference the roll result with the appropriate terrain type. Certain entries on the table are followed by a parenthetical modifier that must be applied to the animal size roll; its general effect is to make flyers smaller and swimmers larger. Note the special attribute (if any) on the blank encounter column being filled in. Record any size modifier temporarily for use in step 4 (Animal Size).

### 4) ANIMAL SIZE

Animals range in size from tiny (massing about 270 grams) to colossal (massing 113 metric tons or greater), and their size determines a variety of their characteristics:

**Size:** The creature's standard d20 size designation.

**Weight:** The average weight of the creature in kilograms.

**Str, Dex, and Con:** These columns list the dice rolls

used to determine the Strength, Dexterity, and Constitution ability scores for the creature. No creature will have a Str, Dex, or Con score of less than 1 regardless of the rolled result.

**Stamina Dice:** This column gives the number of Stamina Dice the creature. The type of dice used to determine a creature's stamina total is based on the animal type:

*Carnivore:* d10

*Scavenger:* d8

*Omnivore:* d6

*Herbivore:* d4

**Damage:** This column shows the damage each of the creature's natural attacks deals.

### DETERMINING ANIMAL SIZE

Roll 1d20 and consult the Size, Weight, Str, Dex, Con, and Stamina Dice columns (rolling only once for all seven). If the result is (+6), roll again and add +6 to the result before consulting this table again.

## TABLE MODIFIERS:

- Apply and size modifiers based on the Terrain Type or Special Abilities.
- If the size of the planet is 8 or larger, subtract -1 from the roll.
- If the planet size is 4 or smaller, add +1 to the roll.
- If the creature is a Carnivore, add +4 to the final Dex score.
- If the creature is an Omnivore, add +2 to the final Dex score.
- If the creature is a Herbivore, subtract -2 from the final Dex score (min. 1).
- If creature is an infant, reduce the result by -5.
- If the creature is a child, reduce the result by -3.
- If the creature is a young adult, reduce the result by -1.
- If the creature is middle-aged, reduce its Str, Dex, Con, Stamina, and Damage result by -1 row.
- If the creature is old, reduce its Str, Dex, Con, Stamina, and Damage result by -2 rows.
- If the creature is venerable, reduce its Str, Dex, Con, Stamina, and Damage result by -3 rows.

## 5) NATURAL ATTACKS, ARMOR, AND SAVES

Most creatures have some form of natural weapons with which to defend themselves, be they teeth, claws, stingers, or other form of attack. Some creatures have developed a type of natural armor to help protect them from predators and hostile terrain.

**Natural AR:** This column gives the creature's natural armor rating (AR) bonus (if any). Roll 1d20 to determine the result.

**Natural Weaponry:** This line gives the creature's natural physical attacks. If a weapon is followed by an asterisk (\*), the weapon is venomous, automatically giving the creature the poison special attack (see Special Attacks, pg. 397).

Natural weapons have types just as other weapons do. The most common are summarized below.

**Bite:** The creature attacks with its mouth, dealing piercing, slashing, and bludgeoning damage.

## ANIMAL SIZE

1d20	Size	Average Weight	Str	Dex	Con	Stamina Dice
1	Diminutive	Less than 1kg	1d6-2	3d6	1d6-2	1 point
2	Diminutive	1kg	1d6-1	4d6	1d6-1	1/4 die
3	Tiny	2 kg	1d6	4d6-1	1d6	1/2 die
4	Tiny	3 kg	1d6	4d6-2	2d6-1	1 die
5	Small	6 kg	2d6-1	3d8	2d6-1	1 die
6	Small	12 kg	2d6	3d8-1	2d6	1+1 dice
7	Small	25 kg	2d6	3d8-2	3d6-2	2 dice
8	Medium	50 kg	3d6-2	3d6+2	3d6-2	2+2 dice
9	Medium	75 kg	3d6-1	3d6+1	3d6-1	3 dice
10	Medium	100 kg	3d6	3d6	3d6	3+1 dice
11	Medium	150 kg	3d6+1	3d6-1	3d6+1	3+2 dice
12	Medium	200 kg	3d6+1	3d6-2	3d6+2	4 dice
13	Large	400 kg	4d6	3d6-2	3d6+2	4+2 dice
14	Large	600 kg	4d6+1	3d6-2	3d6+3	5 dice
15	Large	800 kg	4d6+2	3d6-2	3d6+4	6 dice
16	Large	1200 kg	4d8	3d6-4	4d6	8 dice
17	Large	1600 kg	4d8+1	3d6-4	4d6+1	10 dice
18	Huge	3200 kg	4d8+2	3d6-4	4d6+2	11 dice
19	Huge	6000 kg	4d10	2d6	4d8	12 dice
20	Huge	12,000 kg	4d10+1	2d6	4d8+1	13 dice
21	(+6)	(+6)	(+6)	(+6)	(+6)	(+6)
22	Gargantuan	24,000 kg	4d10+2	2d6-1	4d8+2	14 dice
23	Gargantuan	30,000 kg	4d10+4	2d6-1	4d8+4	16 dice
24	Gargantuan	36,000 kg	4d10+6	2d6-2	4d8+6	18 dice
25	Gargantuan	40,000 kg	4d10+8	2d6-2	4d8+8	20 dice
26	Gargantuan	44,000 kg	4d10+10	2d6-3	4d8+10	25 dice
27	Gargantuan	50,000+ kg	4d10+12	2d6-3	4d8+12	30 dice

**Claw or Rake:** The creature rips with a sharp appendage, dealing piercing and slashing damage.

**Gore:** The creature spears the opponent with an antler, horn or similar appendage, dealing piercing damage.

**Kick, Slap or Slam:** The creature batters opponents with an appendage, dealing bludgeoning damage.

**Sting:** The creature stabs with a stinger, dealing piercing damage. Stings are usually (75%) venomous (see Special Attacks: Poison).

**BAB:** The BAB column determine the base attack bonus the creature has when using any natural weaponry. Carnivores add +2 to this result, omnivores add +1 to the result, and herbivores halve the result.

**Saves (Fort, Reflex, and Will):** The animal's basic saving throw bonuses (if any).

## ANIMAL ATTACKS, ARMOR, AND SAVES

1d20	Natural AR	Natural Weaponry	BAB	Dmg	Fort	Saves Reflex	Will
1 or less	(+6)	Gore and Kick	-2	1	+0	+18	+0
2	-	Gore	-1	1	+0	+16	+0
3	-	Kick and Bite	-1	1d2-1	+1	+14	+1
4	2	Kick	0	1d2	+1	+12	+1
5	-	Gore and Bite	0	1d2	+1	+10	+1
6	-	Slap or Slam	0	1d3-1	+2	+8	+2
7	-	Claw and Bite	1	1d3	+2	+6	+2
8	-	Bite*	1	1d3	+2	+6	+2
9	-	Claw	2	1d4	+3	+6	+3
10	2	Claw	2	1d6	+3	+5	+3
11	-	Slap or Slam	3	1d8	+3	+5	+3
12	1	Claw and Bite	3	2d4	+4	+5	+4
13	2	Claw	4	2d4	+4	+4	+4
14	3	Sting*	4	1d10	+4	+4	+4
15	4	Claw and Bite	5	1d12	+5	+4	+5
16	5	Bite	5	2d6	+5	+3	+5
17	6	Spit*	6	3d4	+5	+3	+5
18	7	Claw and Sting*	7	2d8	+6	+3	+6
19	8	Bite	8	4d4	+6	+2	+6
20	9	Bite and Slap	10	3d6	+6	+2	+6
21	(+6)	-	(+6)	(+6)	(+6)	(+6)	(+6)
22	10	-	12	1d20	+8	+2	+8
23	11	-14	2d10	+10	+1	+10	
24	12	-	16	5d4	+12	+1	+12
25	13	-	18	2d12	+14	+1	+14
26	14	-	20	3d8	+16	+0	+16
27+	15	-	22	4d6	+18	+0	+18

Roll once for each column in this table. If an asterisk (\*) follows a natural weapon, the creature also has the poison special ability with this weapon.

### Table Modifiers:

- If the creature is a carnivore, add +8 to the BAB roll, subtract -1 from the Natural AR roll, and add +2 to the Will roll.
- If the creature is an omnivore, add +4 to the BAB roll and add +1 to the Fort, Reflex, and Will roll.
- If the creature is a scavenger, add +1 to the Natural AR roll and add +2 to the Fort roll.
- If the creature is a herbivore, subtract -3 from the BAB roll, add +2 to the Natural AR roll, and add +2 to the Reflex roll.
- If creature is an infant, reduce the BAB and Save results by -5.
- If the creature is a child, reduce the BAB and Save results by -3.
- If the creature is a young adult, reduce the BAB and Save results by -1.
- Add the creature's size modifier to the Damage roll (Diminutive -4, Tiny, -2, Small -1, Large +1, Huge +2, Gargantuan +4).



**DETERMINING NATURAL ATTACKS,  
ARMOR, AND SAVES**

Roll 1d20, once for each column, to determine any natural armor, what type of natural attacks the creature has, how well it attacks, the damage it may inflict, and its saving throw modifiers. If the roll results in (+6), roll again and add a modifier of +6 to the roll. If (+6) is rolled again, just reroll without the +6 modifier. If the creature possesses more than one form of natural weaponry, roll on the damage column once for each type of weapon to determine its specific damage.

**6) SPECIAL ATTACKS**

To determine if a creature has a special form of attack, roll 1d20. Add +2 to the roll for each size category the creature is below medium (Small +2, Tiny +4, Diminutive +6). If the result is 20 or greater, the creature has some form of special attack.

**Blindsight:** Some creatures have the ability to use a non-visual sense (or a combination of such senses) to operate effectively without vision. Such sense may include sensitivity to vibrations, acute scent, keen hearing, or echolocation. This ability makes darkness irrelevant to the creature, and operates out to a range specified in the creature description. Blindsight never allows a creature to distinguish color or visual contrast, which means that it is not possible to read with blindsight.

Deafening or sonic attacks thwart blindsight if it relies on hearing. Blindsight works underwater but not in a vacuum.

**Cold Resistance:** A cold resistant creature may always make a Fort save against any type of damage due to low temperatures. It will take no damage upon a successful save, and only half-damage on a failed save. It takes double damage from heat based energy weapons (lasers, plasma or fusion guns, some types of radiation) or other high temperatures, unless the situation allows a saving throw for half damage, in which case it takes half damage on a successful save and double damage on a failed save.

**Constrict:** The creature crushes the opponent, dealing its listed damage, after making a successful grapple check. The amount of damage is given in the creature's entry. If the creature also has the improved Grab ability, it deals constriction damage in addition to damage dealt by the weapon used to grab.

**Darkvision:** Darkvision is the extraordinary ability to see with no light source at all, out to a range specified for the creature, but such vision is only in black and white. Darkvision does not allow creatures to see anything that they could not see otherwise. The presence of light does not spoil darkvision.

**Entangle:** Similar to a constriction attack, but an

entangle attack does not cause damage. It instead immobilizes the target while the grapple is held.

**Evasion & Improved Evasion:** If subjected to an attack that allows a Reflex save for half damage, a creature with evasion takes no damage on a successful save. Because it is a reflexive ability, the creature need not know that the attack is coming to use evasion.

As with a Reflex save for any creature, it must have room to move in order to evade. A bound creature or one in a completely restrictive area (crawling through a 2 1/2-foot-wide shaft, for example) cannot use evasion.

Improved evasion is treated like evasion, except that even on a failed saving throw the creature takes only half damage, provided it has the room to evade at all.

**Fast Healing:** At the beginning of each of the creature's turns, it heals a certain number of points (defined in its description). Unlike regeneration, fast healing does not allow a creature to regrow or reattach lost body parts. This healing is applied first against any Stamina damage the creature may have, with any remaining healing applied against Lifeblood damage.

Fast healing does not restore Stamina or Lifeblood lost from starvation, thirst, or suffocation.

**Fear:** Certain creatures can affect characters with fear. In most cases, the character makes a Will saving throw to resist this effect, and a failed roll means that the character is shaken, frightened, or panicked.

- **Shaken:** Characters who are shaken suffer a -2 morale penalty to attack rolls, saves, and checks.

- **Frightened:** Characters who are frightened are shaken, and in addition they must flee from the source of their fear as quickly as they can, although they can choose the path of their flight. Other than that stipulation, once they are out of sight (or hearing) of the source of their fear, they can act as they want. However, if the duration of their fear continues, characters can be forced to flee once more if the source of their fear presents itself again. Characters unable to flee can fight (though they are still shaken).

- **Panicked:** Characters who are panicked are shaken, and in addition there is a 50% chance that they will drop what they are holding and run away from the source of their fear as quickly as they can. Other than running away from the source, their path is random. They flee from all other dangers that confront them rather than facing those dangers. Panicked characters cower helplessly if they are prevented from fleeing.

**Becoming Even More Fearful:** Fear effects are cumulative. A shaken character who is made shaken again becomes frightened, and a shaken character who is made frightened becomes panicked instead. A frightened character who is made shaken or frightened becomes panicked instead.

**Heat Resistance:** A heat resistant creature may

always make a Fort save against any type of damage due to high temperatures. It will take no damage upon a successful save, and only half-damage on a failed save. It takes double damage from the effects of cold unless the situation allows a saving throw for half damage, in which case it takes half damage on a successful save and double damage on a failed save.

**Frightful Presence:** This ability makes the creature's very presence unsettling to foes. It takes effect automatically when the creature performs some sort of dramatic action (such as charging, attacking, or snarling). Opponents within range who witness the action may become frightened or shaken.

This ability affects only opponents with fewer Stamina Dice or levels than the creature has. An affected opponent can resist the effects with a successful Will save with a DC of  $10 + 1/2$  frightful creature's SD + frightful creature's Charisma modifier. An opponent who succeeds at the saving throw is immune to that creature's frightful presence for one day.

**Improved Grab:** If the creature hits with a melee weapon (usually a claw or bite attack), it deals normal damage and attempts to start a grapple as a free action without provoking an attack of opportunity. No initial touch attack is required, and Tiny and Small creatures do not suffer a special size penalty. Unless otherwise stated, improved grab works only against opponents at least one size category smaller than the creature. The creature has the option to conduct the grapple normally, or simply use the part of its body it used in the improved grab to hold the opponent. If it chooses to do the latter, it suffers a -20 penalty to grapple checks, and can use its remaining attacks against other opponents.

A successful hold does not deal any additional damage unless the creature also has the constrict ability. If the creature does not constrict, each successful grapple check it makes during successive rounds automatically deals the damage listed for the attack that established the hold. Otherwise, it deals constriction damage as well (the amount is listed in the creature's descriptive text).

When a creature gets a hold after an improved grab attack, it pulls the opponent into its space. This act does not provoke attacks of opportunity. The creature is not considered grappled while it holds the opponent, so it still threatens adjacent squares and retains its Dexterity bonus. It can even move (possibly carrying away the opponent), provided it can drag the opponent's weight.

**Low-Light Vision:** Creatures with low-light vision can see outdoors on a moonlit night as well as they can during the day.

**Poison:** If a creature with the poison special attack makes a successful attack with its venomous weapon, the target must make a Fort save or suffer the initial effects of

the poison. Even if successful, the target must make a second Fort save a minute (10 rounds) later or suffer the secondary effects of the poison.

Unless the poison's damage is noted as permanent (Referee's choice when designing a poison), a character will heal one ability point lost to the poison per day of rest.

## TYPES OF POISON

Type	Ability Affected
Muscle	Str damage
Necrotic	Con damage
Neurological	Dex damage
Hallucinogenic	Wis damage

## POISON STRENGTH

Strength	Damage		DC
	Initial	Secondary	
Very Weak	1	1d3	10
Weak	1d3	1d4	12
Mild	1d4	1d6	14
Moderate	1d6	2d6	16
Potent	2d6	3d6	18
Highly Toxic	3d6	3d6	20

**Poison Immunities:** Lifeforms with natural poison attacks are immune to their own poison. Lifeforms without metabolisms are always immune to poison. Oozes, plants, and certain kinds of lifeforms are also immune to poison, although conceivably special poisons could be concocted specifically to harm them.

**Regeneration:** Creatures with this extraordinary ability recover from wounds quickly and can even regrow or reattach severed body parts.

All Lifeblood damage dealt to the creature is treated as Stamina damage, and the creature automatically cures itself of Stamina damage at a fixed rate. Severed parts die if they are not reattached.

Certain attack forms, typically fire and acid, deal damage to the creature normally; that sort of Lifeblood damage doesn't convert to Stamina damage and so doesn't go away. The creature's description includes the details. Regeneration does not restore Stamina or Lifeblood lost from starvation, thirst, or suffocation. Attack forms that don't deal Stamina or Lifeblood damage (for example, most poisons) ignore regeneration. An attack that can cause instant death, such as a coup de grace, or an assassin's death attack, only threatens the creature with death if it is delivered by weapons that can deal it normal damage.

**Resistance to Energy:** A creature with resistance to energy has the ability to ignore some damage of a certain type (such as cold, electricity, or laser fire) each round, but it does not have total immunity. Each ability is defined by

what energy type it resists and the amount of damage it can absorb from that type of attack before being affected. The creature still makes saving throws normally. Count the creature's resistance from the start of its turn to the start of its turn the next round. Its resistance "resets" on its turn.

This resistance does not stack with the resistance provided by worn armor, such as ablat or reflec, might provide.

**Scent:** This extraordinary ability lets a creature detect approaching enemies, sniff out hidden foes, and track by sense of smell.

The creature can detect opponents by sense of smell, generally within 30 feet. If the opponent is upwind, the range is 60 feet. If it is downwind, the range is 15 feet. Strong scents, such as smoke or rotting garbage, can be detected at twice the ranges noted above. Overpowering scents, such as skunk musk, can be detected at three times these ranges.

The creature detects another creature's presence but not its specific location. Noting the direction of the scent is a standard action. If it moves within 5 feet of the scent's source, the creature can pinpoint that source.

The creature can follow tracks by smell, making a Wisdom check to find or follow a track. The typical DC for a fresh trail is 10. The DC increases or decreases depending on how strong the quarry's odor is, the number of creatures, and the age of the trail. For each hour that the trail is cold, the DC increases by 2. The ability otherwise follows the rules for the Track feat. Creatures tracking by scent ignore the effects of surface conditions and poor visibility.

Creatures with the scent ability can identify familiar odors just as humans do familiar sights.

Water, particularly running water, ruins a trail for air-breathing creatures. Water-breathing creatures such as sharks, however, have the scent ability and can use it in the water easily.

False, powerful odors can easily mask other scents. The presence of such an odor completely spoils the ability to properly detect or identify creatures, and the base Survival DC to track becomes 20 rather than 10.

**Sonic Attacks:** Unless noted otherwise, sonic attacks follow the rules for spreads; the range of the spread is measured from the creature using the sonic attack. Once a sonic attack has taken effect, deafening the subject or stopping its ears does not break the effect. Stopping one's ears ahead of time allows opponents to avoid having to make saving throws against mind-affecting sonic attacks, but not other kinds of sonic attacks (such as those that inflict damage). Stopping one's ears is a full-round action and requires wax or other soundproof material to stuff into the ears.

**Swallow Whole:** The creature can swallow opponents it holds (see Improved Grab, above). If it makes a second successful grapple check after a grab, it swallows its prey.

Unless otherwise noted, the opponent can be of a size up to one size category smaller than the swallowing creature. Damage is usually bludgeoning, often accompanied by acid damage from the creature's digestive juices. The consequences of being swallowed vary with the creature and are explained in its descriptive text.

**Trample:** The creature may run over an opponent at least one size category smaller than itself as a standard attack each round. This type of attack inflicts the creature's normal damage rating, multiplied by the number of leg pairs the creature possesses. For example a four-legged creature would inflict x2 damage, a six-legged creature would inflict x3 damage, etc.

**Tremorsense:** A creature with tremorsense locates other creatures by sensing vibrations in the ground. It will automatically sense the location of anything that is in contact with the ground, moving, and within range. If no straight path exists through the ground from the creature to what it is sensing, then the range defines the maximum distance of the shortest indirect path.

The sensing creature itself must be in contact with this ground for this special ability to work. As long as the other creatures are taking physical actions, they are considered to be moving; they don't have to move from place to place for a creature with tremorsense to detect them.

## 7) ANIMAL CHARACTERISTICS

Because animals have predispositions to attack or to flee, these details must be noted on your animal encounter table for each specific type presented. These characteristics are noted in the form of three codes in the table: A for Attack, F for Flee, and S for Speed and is followed by a number or letter as defined below:

### ATTACK

When an encounter with an animal first occurs, the Referee uses this characteristic to determine if the animal attempts to attack.

**AS:** The animal will attack only if it has surprised one or more targets.

**A+:** The animals will attack if they outnumber their prey.

**AP:** The animal will attack if at all possible, even if outnumbered.

**A(0-20):** If the Referee rolls this number or higher on 1d20, the animal will attack if at all possible, even if outnumbered. If the value is 0, this is a special case and will be spelled out in the description of the creature (Referee's choice).

### FLEE

If a creature has not already committed to attack when an encounter first occurs, it must be checked to see if it



will flee instead. If the value is 0, this is a special case and will be spelled out in the description of the creature (Referee's choice).

**FS:** If the animal is surprised, it will attempt to flee if possible.

**F(0-20):** If the Referee rolls this number or higher on 1d20, the animal will flee if at all possible.

## SPEED

The speed of a creature will be needed whenever an encounter occurs, whether the creature attacks, flees, or stands its ground.

**S(0-99):** This number is the speed of the creature in meters per round. A creature with a speed of 0 is immobile (like a rooted plant) and cannot move from its present position.

## DETERMINING ANIMAL CHARACTERISTICS:

Find the appropriate animal type and subspecies on the Animal Characteristics table. Note the result for each characteristic; Attack, Flee, and Speed. If the result is a die roll, make the roll and note the result.

## USING ANIMAL CHARACTERISTICS:

When determining the reaction of herbivores, always check to see if they flee, and if they do not, then check to see if they will attack. For all other types (omnivores, carnivores, and scavengers) check to see if they attack first and if not then check to see if they flee. If neither occurs, the creature will stand its ground and not move away.

## 8) OTHER ANIMAL ABILITY SCORES

The remaining ability scores for animals (INT, EDU, WIS, CHA, and SOC) are based on the animal type as determined from the table below:

### OTHER ANIMAL ABILITY SCORES

Type	INT	EDU	WIS	CHA	SOC
Herbivore	1d3	n/a	3d6	1d6	n/a
Omnivore	1d4	n/a	2d6	2d6	n/a
Carnivore	1d3+1	n/a	1d6	2d6	n/a
Scavenger	1d4	n/a	2d6	1d4	n/a

**Skill Points:** Animals will generally have 5 + 1d10 + Int modifier in skill points that may be applied to any of the following skills: Balance, Climb, Hide, Intuit Direction,

## ANIMAL CHARACTERISTICS

Category Type	DC To Attack	DC To Flee	Typical Speed x3 meters
Herbivores			
Filter	If possible	2d6	1d4-1 (min. 0)
Intermittent	2d6+2	2d6+2	1d4
Grazer	2d6	1d8	2d8
Omnivores			
Gatherer	2d6+2	2d6	1d6
Hunter	1d8	2d6	1d4
Eater	1d8	2d6+2	1d6
Carnivore			
Pouncer	If surprise	If surprised	1d4
Chaser	If more	2d6+2	2d8
Trapper	If surprise	2d6	1d4-1 (min. 0)
Siren	If surprise	2d6+2	1d6-2 (min. 0)
Killer	1d8	2d6+2	1d6
Scavenger			
Hijacker	1d10	2d6	1d4
Intimidator	2d6	1d10	1d4
Carrion-Eater	2d6+2	2d6	1d6
Reducer	2d6+2	2d6	1d4

Jump, Listen, Move Silently, Spot, Survival, Swim, Tumble

**Feats:** A creature will have a number of feats equal to 1d6 - its INT modifier. If the creature is a herbivore, subtract -1 from the result, if it is an omnivore add +1 to the result, and if it is a carnivore add +2 to the result. If the final number of feats is less than or equal to zero, the creature will have no feats.

These feats may be selected from among the following standard feats:

*Acrobatics, Alertness, Dodge, Endurance, Great Fortitude, Improved Initiative, Improved Zero-G/Low Gravity Adaptation, Lightning Reflexes, Mobility, Run, Spring Attack, Stealthy, Toughness, Zero-G/Low Gravity Adaptation, Weapon Specialization.*

In addition, a creature may choose to take an additional special ability (see step 6 above) in place of a feat, or they may select any of the following specialized animal feats:

## FLYBY ATTACK

Aggressive flying animals will often have this specialized animal feat.

**Prerequisite:** Must be a Flyer.

**Benefit:** When flying, the creature can take a move action (including a dive) and another partial action at any point during the move. The creature cannot take a second move action during a round when it makes a flyby attack.

**Normal:** Without this feat, the creature takes a partial action either before or after its move.

### MULTIATTACK

This feat is often found with creatures that have more than one natural form of attack.

**Prerequisite:** Two or more natural weapons.

**Benefit:** The creature's secondary attacks with natural weapons suffer only a -2 penalty.

**Normal:** Without this feat, the creature's secondary natural attacks suffer a -5 penalty.

### MULTIDEXTERITY

This feat is used for animals in place of the standard Ambidexterity feat.

**Prerequisite:** Dex 15+, two or more arms.

**Benefit:** The creature ignores all penalties for using an off hand.

**Normal:** Without this feat, a creature that uses an off hand suffers a -4 penalty to attack rolls, ability checks, and skill checks. A creature has one primary hand, and all the others are off hands; for example, a four-armed creature has one primary hand and three off hands.

### MULTIWEAPON FIGHTING

This feat is used for animals in place of the standard Two-Weapon Fighting feat.

**Prerequisite:** Two or more hands.

**Benefit:** Penalties for fighting with multiple weapons are reduced by 2.

**Normal:** A creature without this feat suffers a -6 penalty to attacks made with its primary hand and a -10 penalty to attacks made with its off hands. (It has one primary hand, and all the others are off hands.)

### REFEREE'S ADDITIONS

Animals may be provided with more complex motivations than the simple dice rolls for attack and flight. The descriptions of the animal categories and subspecies under steps 1 and 2 will prove helpful. Carnivores will base their decisions on the sizes of the party and of individuals; humans may resemble a carnivore's natural prey, and so on. Large herbivores will be less likely to flee than small ones, tending to ignore a party unless it gets too close. Any animal may attack if the party threatens its young, nest, territory, meal, etc.

Other responses are possible beyond attack or flight. A carnivore may stalk a party, hoping to attack an

isolated member. An armored animal may curl up into a ball or withdraw its extremities into its shell. There may be responses analogous to those of the opossum or skunk. An animal may be friendly or want to play it might even mistake a party for members of the opposite sex.

**Common Sense:** Airless worlds will almost never have life of any consequence on them; if they do, animal life will still tend to follow the same broad outlines given above. Still, flyers and liquid breathers will be almost nonexistent.

The Referee should always be prepared to alter or restrain prescribed procedures if it is felt that they contravene logic or reason.

## INDIVIDUAL CREATURE DESCRIPTIONS

Name

Size:

Type:

Stamina

Lifeblood:

Initiative:

To Attack:

To Flee:

Speed:

AC:

AR:

Attacks:

Damage:

Saves:

Abilities:

Skills:

Feats:

Special Abilities:

Climate/Terrain:

Organization:

**Name:** This is the name by which the creature is generally known.

**Size:** Information on the creature's base size.

**Type:** The following definitions more fully detail the meanings of the descriptive terms used for animal categories and types.

**Stamina Dice:** This line gives the number and type of Stamina Dice the creature has and any bonus hit points. A parenthetical note gives the creature's average stamina points. A creature's Stamina Dice total is also its rate of natural healing, and its maximum ranks in a skill.

**Lifeblood:** A creature has a number of Lifeblood points equal to its Constitution ability score.

**Initiative:** This line shows the creature's modifier to initiative rolls. A parenthetical note tells where the modifier comes from.

**To Attack:** The chance of the creature attacking when encountered. Always check to see if a herbivore will flee first, only checking to see if it attacks if it fails to flee immediately. Roll 1d20, if the result equals or exceeds the To Attack value, the creature will attack.

**To Flee:** The chance of the creature fleeing when encountered. Always check to see if any creature other than a herbivore will attack first, only checking to see if it flees if it fails to attack immediately. Roll 1d20, if the result equals or exceeds the To Attack value, the creature will attack.

**Speed:** This line gives the creature's tactical speed. If the creature wears armor that reduces its speed, this fact is given along with a parenthetical note indicating the armor type; the creature's base unarmored speed follows.

**Armor Class:** The Armor Class line gives the creature's AC for normal combat and includes a parenthetical mention of the modifiers contributing to it (usually size, Dexterity, and natural armor).

**Attacks:** This line gives all the creature's physical attacks, whether with natural or manufactured weapons. The first entry is for the creature's primary weapon. The remaining weapons are secondary and have -5 to the attack bonus, no matter how many there are. Creatures with the Multiattack feat suffer only a -2 penalty to secondary attacks.

Unless noted otherwise, natural weapons threaten critical hits on a natural attack roll of 20. Unless noted otherwise, creatures deal double damage on critical hits.

**Damage:** This line shows the damage each of the creature's attacks deals.

If any attacks also cause some special effect other than damage (poison, disease, etc.), that information is given here.

Natural weapons have types just as other weapons do. The most common are summarized below.

**Bite:** The creature attacks with its mouth, dealing piercing, slashing, and bludgeoning damage.

**Claw or Rake:** The creature rips with a sharp appendage, dealing piercing and slashing damage.

**Gore:** The creature spears the opponent with an antler, horn or similar appendage, dealing piercing damage.

**Slap or Slam:** The creature batters opponents with an appendage, dealing bludgeoning damage.

**Sting:** The creature stabs with a stinger, dealing piercing damage. Stings are usually venomous.

**Saves:** This line gives the creature's Fortitude, Reflex, and Will save modifiers.

**Abilities:** This line lists the creature's ability scores. Str, Dex, and Con scores are determined via the Animal Sizes and Weaponry table. All animals have an Int score of 1-2, an Edu score of 0, and a Soc score of 0. Wisdom and Charisma are determined by rolling 2d6.

**Skills:** This line lists all the creature's skills by name along with each skill's score. An animal has anywhere from 10-15 (9 + 1d6) skill points

**Feats:** The line lists all the creature's feats by name.

**Special Abilities:** Any special abilities the creature might have. If it has no special abilities, this line does not appear.

**Climate/Terrain:** This entry describes the locales where the creature is most often found.

**Cold:** Arctic and subarctic climes. Any area that has winter conditions for the greater portion of the year is cold.

**Temperate:** Any area that has alternating warm and cold seasons.

**Warm:** Tropical and subtropical climes. Any area that has summer conditions for the greater portion of the year is warm.

**Aquatic:** Fresh or salt water.

**Desert:** Any dry area with sparse vegetation.

**Forest:** Any area covered with trees.

**Hill:** Any area with rugged but not mountainous terrain.

**Marsh:** Low, flat, waterlogged areas; includes swamps.

**Mountains:** Rugged terrain, higher than hills.

**Plains:** Any fairly flat area that is not a desert, marsh, or forest.

**Underground:** Subterranean areas.

**Organization:** Animals are found individually, in small groups (1d6), medium groups (2d6) or large groups (3d6+)

## REFEREE'S NOTES

Initially, the Referee must prepare a blank encounter column for each terrain type on the world. The terrain modifiers chart indicates the general types of terrain which might be expected on the worlds to be visited. The Referee should determine if the encounter table will use one die or two; two dice tables are more complex, and should be selected for terrain or worlds that will be frequently used, while one die tables are for Worlds or terrain types which do not merit detailed representation. The examples of encounter tables shown indicate the predetermined sequences of animal categories should be used in most cases; these sequences varied by the Referee to fit specific situations or world conditions.





A campaign is a linked series of adventures featuring (more or less) the same characters. Playing in a campaign allows for greater continuity and (often) better characterization. Many players like to see their character develop (in terms of persona as well as experience points). Campaign play also allows the background to be explored in more detail than a series of unconnected quick adventures.

A campaign may be planned years in advance, with a grand sweeping story arc and recurring villains. Alternatively, each episode may be created out of thin air by the Referee minutes before the game - or even during it. Most campaigns mix both approaches, especially if the players have a habit of wandering off at tangents whenever something interesting presents itself.

However, many players like to play a variety of characters, and to shift the style and setting of the game. A series of short minicampaigns may suit such players better. There is really no difference between planning a long, open-ended campaign and a short one with a definite end point, except that the expected time frames are shorter in terms of time spent playing; a minicampaign may still span years of game time.

Many long campaigns are subdivided into minicampaigns in a manner similar to an ongoing television series which features apparently unrelated episodes along with some that are critical to the meta-plot. Each series ends with a suitable finale, perhaps with just a few loose threads hanging over. Next series, the characters face new challenges and the return of some old adversaries. And so it is with a good Traveller campaign.

## CREATING A TRAVELLER CAMPAIGN

The first question to ask when creating a campaign is - will the campaign tend more towards the Heroic or the Gritty style of play? That is, will the characters hurtle through freewheeling epic adventures where the stormtroopers always miss and the epic threats to galactic stability just keep on getting bigger, or will every tussle with the opposition be a scary and memorable event, with a serious chance of fatal injury?

Heroic and Gritty are opposite ends of a spectrum that allows infinite variation. Any given group of players will have their own preferences about where on this spectrum they like to be. The downside of a gritty campaign is that action scenes can be lethal, and can take out a critical character - or even the entire group! On the other hand, a game where heroes die and guns are deadly forces players to think more. They must consider ways of avoiding combat and of stacking the odds when they do fight. And

of course, heroic actions mean a lot more where there is a very real chance of death than in a universe where characters have "plot immunity".

The other spectrum is detail - fine or coarse? Some players love to "live" the lives of their characters and vicariously experience the worlds they visit, spending hours haggling over a cargo of frozen prawns with Honest Akram while trying to make ends meet in a ramshackle free trader. Others like to gloss over the details and get on with the action. Again, a sensible balance must be struck. Ideally, there should be more detail presented to the players than just what's relevant to the plot. This not only keeps them guessing about what's important and what's merely colorful 'filler', but it makes the game experience richer too. And passing details can sometimes lead to new subplots or interesting diversions.

A campaign may well vary considerably in style and tone from episode to episode. Variety can keep a campaign fresh and exciting far beyond the point when players would have become burned out and lost interest in ever-more-titanic epic quests.

Next there is the question of advancement. Will the characters be generously rewarded with prestige and power (and experience points!) or will they develop slowly? A sensible balance needs to be struck here. Many players particularly like seeing their characters progress and will become bored if they feel they are stuck at whatever level of power they started with. There is always a skill or feat that a player wishes he or she had taken at character generation. Trying to attain it will motivate the player. Feeling it is unattainable will cause disaffection. On the other hand, if characters progress too fast then the experience is cheapened. If it is easy to obtain a patent of nobility, a small starship and a few million Credits - or twentieth level - then these things become worthless.

Some things should be hard to attain. Working out which ones simply requires a look at the game setting. What possessions or titles are rare, or considered impressive in the setting? What amount of money constitutes "rich"? A character may be able to achieve one of these things after a great deal of effort. A very experienced character may have two or even three of them (especially if she started with one of them). But it should not be possible for every character to have all the trappings of wealth and power. It is suggested that each of the following are considered as the mark of impressive success, and should be achievable by a character who works hard and takes a few risks - but they should not be achieved too quickly.



STEVE  
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- Military Rank: Major, Colonel
- Naval Rank: Commander, Captain
- Civil Rank: Senior Civil Servant or Diplomat
- Small starship: Yacht, Free Trader, Scout/Courier
- Bank Balance: 1 Million Credits
- Minor Noble Title: Knight, Baron
- Scientific Recognition: Doctorate, Professor

The following are much more difficult to attain and should be life goals requiring either very high-level starting characters or long periods of smart play to achieve.

- Military Rank: General
- Naval Rank: Commodore, Admiral
- Civil Rank: Senior Ambassador, Powerful governmental official
- Military Starship: Patrol Cruiser or Similar
- Civilian Starship: Liner or similar
- Bank Balance: 20 Million Credits
- Major Noble Title: Marquisate, Count
- Scientific Recognition: Interstellar recognition as field leader

Character level and skills should also be carefully considered. Characters leaving generation at level 5-7 are already fairly exceptional individuals with either very high specialist skill levels or a broad range of competences. There is no reason why a talented character, after some experience and study, should not be better than a typical soldier at fighting, and yet also a learned scholar capable of holding his own in a debate with doctors and professors on at least one subject, or have truly amazing ability in a narrow field. If however, the party's computer geek is an Olympic fencer, has galaxy-class interpersonal skills and is renowned throughout Charted Space for her epic poetry - and has learned to do these things as a sideline to her main job as a hacker par excellence, then the level of character skills is too high.

A good rule of thumb is to compare the party to "expert" level NPCs. Each character should have a field where she will be respected by (but is not necessarily better than) the experts, or several fields where he is about as skilled as someone who does that thing for a living. This reflects the nature of player-characters, who are unusually talented people - but not superheroes.

Unless, of course, the needs of the campaign require a team of "better than the best of the best" superheroes. In which case, go for it!

## CAMPAIGN TYPES

Some character types do not fit well with some styles of campaign, so it is important to choose a style that will suit the players, or is general enough to allow any character

type. It is possible to work most character types into a campaign with a bit of imagination, however.

The four most common types of Traveller campaigns are listed below, with their basic requirements.

## FREE TRADER

Probably the most popular (and flexible) Traveller campaign. Player-characters form some or all of the crew of a small merchant starship. Such vessels are usually old, and may be in poor repair or heavily modified. The crew is likely to comprise a diverse group of individuals. The only real requirement is that the characters must be able to operate their ship (perhaps with some help from NPCs). Some characters may be working passage or may be passengers aboard the ship, though as the campaign unfolds the team will usually find reasons to stick together.

Some bookkeeping is necessary for this kind of campaign. Usually one of the players (the one whose character is owner, captain or purser of the ship are logical choices) can be detailed to keep track of the ship's finances. A Free Trader must of course make ends meet, so it is usual for the characters to engage in a lot of trading. This can be glossed over using the trade rules or can give rise to many roleplaying opportunities.

Of course, Free Trader crews are renowned for getting into trouble. The need to make a living from trade is an excellent driving force, and the requirement for some hard-to-obtain spare - or the chance of scoring a large profit - can be used to tempt or drive the players into an adventure. Free Traders hear all the portside scuttlebutt, and may choose to chase down rumors or become engaged in illegal activity such as smuggling.

Just because the characters have a ship does not mean that they have to spend all their time aboard it. While the ship is in port awaiting cargo delivery or routine maintenance, the characters have a chance to explore the worlds of the charted space, and have no end of planet-based adventures.

It is best if the Referee prepares a few starport rumors and has some data handy about the nearby worlds. This makes choosing speculative cargo more realistic, and really brings the universe to life.

**Character Skills:** Starship Crew, Mercantile.

**Adventure Hooks:** Callup as naval auxiliary. Only ship in port at time of crisis. Rumor. Distress signal. Component failure needs rare spare part. Lucrative trade opportunity. Ship charter by individual with a mission.

**Hazards:** Piracy, Customs inspection, Local disturbance on-planet, Rival vessel, Conflict with larger corporate concern.

## MILITARY

The military campaign is very popular with Traveller fans. Characters are usually ex-military personnel or "freelance



security experts", selling their skills and weaponry for a price. It is possible to run such a game with the characters as part of an organised military unit (perhaps even the Marines or Navy) but more commonly the players are part of a small merc outfit fighting other people's wars. Some of those wars can be very dirty indeed.

There are many, many opportunities for mercenary work in Charted Space. Commissions can be quite varied, ranging from training up the local militia or guarding a mining installation to launching a surgical strike on a rival corporation's base. The range of character types is of course rather limited in the type of campaign, and it will not suit all players. However, a fair amount of variation is possible, especially where the campaign features a "team of experts" rather than an army unit.

Military campaigns require rather less bookkeeping than Free Trader games, but they do require that the Referee understand how military operations are conducted in order that the opposition has a fair chance but still reacts realistically. There is no need to generate large areas of space, but details of the political and military situation are required. It is not usually enough to note down what forces the opposition has available; the Referee must take into consideration the political and social effects of any combat. Enemies will learn from defeat or become

overconfident; they will obtain better weapons or run out of ammunition. Local people may rise up against their government, or may turn out as militia to aid it.

Military campaigning can be quite subtle. Adventures may focus on the politics of peacekeeping, or the difficulty of keeping a remote outpost supplied. Military personnel may be called in to help with disaster relief. A particularly interesting twist is to have a military team suddenly presented with an alien site or with a situation where they have to cooperate with the enemy in order to survive.

**Character Skills:** Military, Weapons, Leadership.

**Adventure Hooks:** Protect threatened civilians, Surgical strike against state preparing for war, Hostage rescue, Deal with riots, Disaster relief, Bodyguard/installation security, Supply arms or training to local forces.

**Hazards:** Government intervention, Natural disaster, Hostile locals, Faulty intelligence, Equipment breakdown, Flying lead.

## INTRIGUE/POLITICAL

Some players like to play in campaigns where they must make decisions that affect the political situation surrounding them. This style of play does not suit everyone, since there tends to be more talk than action, and much of the action is actually carried out by subordinates.

The most obvious idea for a political campaign gives the players one or more nobles and the senior members of the nobles' entourage as characters. These characters may be involved in political maneuvering within the governmental system, perhaps in conflict with a rival noble house, or they may have been sent on a mission for the government, perhaps acting as a diplomatic "fire brigade" in a subsector. Their task in this case will be to deal with the many crises occurring within the campaign area. These can be varied - war, economic disaster, piracy, labor disputes, missing liners full of rich passengers, corruption in the system, etc. The characters will be quite powerful in this case, capable of calling in the Marines or the Navy at need - but also answerable for doing those things.

However, there are other ways to run a political campaign. The characters may be corporate officials or freelance advisors-for-hire working for a planetary government. They might be the senior officers of a Navy starship, perhaps also holding noble rank. Such individuals are charged with defending and maintaining the stability of the government, and have a great deal of responsibility. Direct firepower solutions are rarely the answer, so other means must be found.

The political campaign can be integrated with other types. For example, players may have two sets of characters - powerful government figures who make the big decisions and attempt to sell diplomatic solutions at formal receptions, and a team of sneaky spies or daring mercs to carry out the dirty work.

An intrigue campaign depends more on hints and role-playing than on direct action. The Referee must prepare the "big picture" and keep track of who is doing what. A shifting web of alliances and conflicting influence is difficult to keep track of, but worth it. Who has how many of their fingers in which pie must be determined and updated as the campaign progresses.

**Character Skills:** Diplomacy, Leadership, Interpersonal

**Adventure Hooks:** Assassination, Trade dispute, Territorial claim, Offworld investment, Riots, Threat of war, Sudden diplomatic visit, Ally needs help, Market crash, Terrorist action.

**Hazards:** Government intervention, Assassination, Loss of position, Devaluation of holdings, Lynching by mob.

## ADVENTURING

Many Traveller games follow the classic "adventuring" campaign model. The player-characters are a team of freelance experts or just a group of friends who travel from place to place having adventures. The group, or at least some of its members, must have a

reason to visit each place they go to. Adventures can be quite varied.

The party may or may not possess a starship. If they do, it is likely to be a noble's yacht or a Scout ship. Free Traders also work well for this kind of campaign, of course. It is quite possible to disregard the whole trading system and assume that the characters make enough by trade to run their ship, but must engage in adventuring to gain any money for themselves.

A team of freelancers might spend some of their time in speculative operations, perhaps chasing rumors of alien relics or searching for a lost bullion-crammed liner. At other times they may be hired for mercenary, consulting or troubleshooting work by local governments or commercial concerns. They may occasionally be pressed into service by the authorities to help with some crisis.

An Adventuring campaign can be very varied. The characters could compete in an All-Terrain-Vehicle race one week, sneak into corporate offices to find evidence of corruption the next. For example, a mercenary job to protect a vital mining installation might be followed by an attempt to smuggle gemstones off planet.

**Character Skills:** Absolutely anything, but some combat skills desirable.

**Adventure Hooks:** Terrorist action, Bodyguard duty, Corporate intrigue, Ancient ruins, Service reactivation, Old friend or comrade needs help, Unmissable opportunity, Rumor.

**Hazards:** Hostile people/animals/plants, Environmental hazards, Almost anything.

## THE TRAVELLER CAMPAIGN

A *Traveller* campaign can incorporate elements of all the above types. What follows is a brief outline for a campaign that would suit almost any taste.

### CAMPAIGN CONCEPT

This campaign incorporates elements of the four major types. Depending upon how much the players like starship economics, trade and commerce may be integral to the game or might be assumed to be going on in the background. ("Okay, you made enough on that trip to earn you 500 Credits apiece and keep the backers happy. While Maran-the-NPC-Purser is handling cargo unloading, you hear these rumors...."). Adventure leads will take the characters to interesting places and the occasional firefight.

### BACKGROUND

The Free Trader Hazard to Navigation is an elderly ship, and not in the best of working order. However, she is spaceworthy and, more importantly,





paid for. The Hazard is owned by a fledgling shipping company grandly titled *Interstellar Commerce, LIC*. She was acquired as part of a job lot of vessels (some of which were fit only for breaking for spares) and refitted to an acceptable standard with parts from some of the others.

*Interstellar Commerce LIC* began as a joint venture between three successful free trader captains and *Hiller Yards LIC*, a private refit-and-maintenance outfit. The line now operates six vessels; four on regular routes and two on speculative trade throughout the *Ley Sector* region. All vessels return to *Hiller Yards* for refit and annual maintenance. So far, the venture has been modestly successful.

*Hazard to Navigation* is the sixth vessel to enter service with *IC*. Her rebuild was fairly inexpensive as these things go, since parts were available from the derelicts and labour carried out between jobs at the yards. However, even without a bank mortgage to

pay, it is about time she got out there and began making a profit.

*Hazard to Navigation* already has a captain (ex-first officer of one of the other *IC* ships) and a chief engineer (a talented Second Engineer promoted from another ship). These can be player-characters. The rest of the crew must be recruited from PCs and NPCs.

*Hazard to Navigation* has no expensive bank mortgage to pay, but her owners need to make their money back. To this end they have made available a sum of money to engage in speculative trade. To keep overheads down, the captain and crew have not been offered standard salaries. Instead they are entitled to a percentage of the ship's net profits at the end of each month. The ship's life support provides basic needs while in space of course, and is paid for out of the ship's overheads. But if the crew want to actually make any money they'd better get to work.



## CHARACTERS

The ship is going to need a pilot, astrogator and engineer (the first two can be the same person) and whatever other crew are deemed necessary. A medic is required if passengers are to be carried, and gunners might be an idea. Characters with no shipboard skills might be hired as cargo handlers, security, stewards or maintenance technicians. The captain and engineer are assumed to be loyal to the parent company, and should have appropriate skills.

The big carrot here is the ship itself. It is owned by IC, but if the characters are successful, it is possible that they will be taken on as permanent crew and maybe even become partners in the firm, with the ship as their property.

The crew have a relatively free rein, so long as they make a profit for their parent company. That might mean charter or freighting work, passengers or speculative cargo. It certainly does not preclude side trips to undertake

adventuring, but - of course - the ship must make a profit or a new crew will be recruited and the characters fired.

## CAMPAIGN OUTLINE

The first cruise of the Hazard to Navigation is already planned out. She will make a circuit of the local star cluster, shaking down her crew and systems while hopefully turning a modest profit. The trip will visit seven worlds, taking roughly three to four months. Crew performance will be evaluated at the end, to see who gets kept on and who doesn't.

The seven worlds to be visited are worked up by the Referee, who makes a few brief notes about culture, conditions and local places of interest. If the players think to ask in the right places, they can learn a few facts about the worlds along the way that might help them buy and sell at a greater profit.

The majority of the campaign (actually, this is a mini-campaign serving as an introduction to a longer campaign

if the players wish it.) is about the life of a merchant crew. The characters will interact with one another and with NPC crewmembers while in jump, collect information in starport bars, and deal with the business of finding and buying appropriate trade goods.

Along the way, the characters will almost certainly want to get out of the ship whenever they are in port. (Starships are small and cramped, and characters are cooped up in them with the same people for weeks at a time.) In some cases, this means sampling the local cuisine and culture in restaurants, or visiting interesting places on-planet. This gives the Referee a chance to show the players that there is more to the Traveller universe than starports and the inside of a space vessel. Some of the local encounters will be more significant, however.

As the cruise progresses, various adventures take place.

- The Hazard to Navigation is diverted to join a search-and-rescue operation for a distressed freighter.
- A drive failure strands the ship for two weeks, during which time the crew are offered work carrying out mineral surveys in a remote area.
- A navigation error brings the ship out of Jump well off established routes. The crew detects a rogue asteroid and investigates, finding artifacts from the Rule of Man period in a small mining outpost.
- Terrorists attack the restaurant the characters are eating in.

There will be minor (and semi-random) obstacles along the way. Picky customs officials, unusual local laws, and the occasional brawl with local toughs or drunken spacers, will crop up from time to time. The ship has a number of minor (and a few serious) faults that will require the occasional stopover or emergency repair session. These will serve to divert and perhaps confound the characters.

The main story behind this mini-campaign will not be immediately apparent to the players. However, as their adventures continue they will start to hear rumors that will lead them into the story and to a final showdown. The opposition in this case is a rival free trader starship, the Bad Penny, which serves the same cluster of worlds. The Bad Penny is in deep financial trouble and has turned to illegal means to make a profit and to gain an edge over the competition.

At first the illegal activities of the Bad Penny and her skipper, Paulus Likhsaamsi, were limited to under declaration of customs fees and a little smuggling. As times have grown even worse, the crew have stooped to sabotaging other ships' operations in order to reach market first, and have finally made a deal with an organised crime group on one of the worlds in the cluster.

Early in the campaign, the characters should encounter the Bad Penny behaving like a normal Free Trader, which at that point she is. However, the characters should become suspicious when dock workers and local thugs are bribed to rough up other Free Trader crews, sabotage their ships and otherwise delay them (though all of these activities will be non-fatal at first). The crew of the Bad Penny may contrive to look like victims themselves, which may throw the characters off the scent. The deal is lucrative for the ship and for the gang, and for a time remains only slightly illegal.

But eventually, the deal goes sour. The crime gang decides to try its hand at piracy. The Bad Penny has a long history as a legitimate merchant, which makes her an ideal vessel - other Free Traders are not likely to suspect her until she opens fire. The crew are forced to operate their vessel by armed thugs put aboard for the purpose. After a Free Trader is taken in deep space (and her crew murdered) and a couple of outsystem installations are taken by surprise and plundered, the gang decided to make a last big raid with the ship before the authorities get wise.

Unfortunately for them, one of the crew has managed to escape. Having refused to work the ship after the first raid, the second engineer was shot and left for dead by the thugs. Somehow managing to survive and reach help, he contacts the crew of the Hazard to Navigation in port. The characters have been badly done-to by the Bad Penny crew, but may agree to help. If they don't, the engineer is sure (and he's correct) that the crew will be murdered to cover the gang's trail.

The engineer knows where the gang intends to strike next. A small mining outpost in the outsystem builds up quite large stockpiles of gold and platinum between monthly visits from the bulk freighters. The gang plan to approach the installation feigning distress, then take out the crew and clean the place out.

The characters have a difficult problem - how to stop the raid without killing the crew of Bad Penny (for some groups this may be less of a consideration than for others). Staging an ambush at the mining outpost is one option, though they will have to talk the miners into helping. One thing is certain. There is too little time to call in the authorities. The characters must act immediately or not at all.

Hopefully, the thwarting of the raid and rescue of the Bad Penny crew will make a dramatic finale to the mini-campaign as well as providing some answers as to why so much went wrong on the early cruise.



The heart of any Traveller game is adventures. Good ones will captivate the players and stick in their memories. Mediocre ones will be quickly forgotten, and bad ones... well.

## CREATING TRAVELLER ADVENTURES

The key to creating good adventures is preparation. This does not necessarily mean having reams of notes - in fact that can be counterproductive. Preparation in this case simply means being ready to run the game. At a minimum, the Referee should:

- Know the system well enough that the game flows without rules-consultation pauses.
- Have some idea about characters' surroundings and what is going on in them
- Have some interesting NPCs or situations for the characters to interact with

How much of the adventure is scripted in advance, and how much is created on the fly in response to what the players do is up to the Referee to decide. It is certainly impossible to predict every possible move the characters may make. A good way to get around this is to write adventures in the form of "scenes" or "nuggets" rather than a linear plot. Adventures in this style (and this is by no means the only way to do Traveller adventures) have the following components:

- Background information on the world and setting
- A loose timeline of events
- Details of critical scenes
- Stats for the opposition
- Relevant maps

A map of the surrounding stars and some data on the worlds there is also a good idea. The players may choose to have their characters look up library data on neighbouring planets, or may simply head for the starport and travel to another world.

Using the above format, the Referee knows what is going on around the characters and what the opposition is up to. Character actions may influence the order in which things happen, but some scenes will happen anyway. Whatever the characters choose to do on Twoday, they are going to find themselves in the middle of the "Hurricane hits the Starport" scene if they are around at the time. Even if they're in a nice coffee shop across town, they are still going to experience the hurricane.

However, less widespread events may simply not happen to the characters (though they may hear about or be affected by them later). If the characters are exploring the North Pole at the time, they are not going to experience the "Bank robbery on Fourday" scene at firsthand. The events still happen, but the characters are elsewhere (and the Referee is going to have to deal with what they do at the North Pole that day on the fly.).

Some scenes can be shifted so that the characters DO experience them. This is especially important for plot-critical events. It probably doesn't matter if the characters were caught in the hurricane and/or the bank robbery, so long as those things happen. But if "Boris intimidates the characters on Fiveday" doesn't happen, this may derail the plot. A loose format allows Boris to appear as and when he can. It seems a bit unlikely that Boris and his henchmen will come jumping out of an igloo as the characters take photos of the polar ice-sheet, so the event will have to be rescheduled for when the characters are available for intimidation.

This format is flexible and easily adaptable, but is by no means the only way to do things.

## STYLE AND TONE

*Traveller* is a hard-science game, which means that so far as possible, realism should be maintained. Objects and the setting itself should obey consistent physical laws. People and animals should also behave realistically. This does not mean that the fantastic has no place in Traveller. Far from it - it is this very grounding in the ordinary that makes the extraordinary so wondrous in Traveller. Some SF settings are so filled with the bizarre and unearthly that they dull the imagination. Not so Traveller. When a shadow falls over the characters and they look up to see an entire city floating overhead on antigrav modules, the event will have greater impact if the players understand that this really is an impressive achievement. Cities don't normally do that! If they do, the setting loses something.

Aliens, weird ecosystems and strange human societies should be tempered with a healthy dose of reality. "Psionics" or "Ancient Devices" can explain only so many bizarre occurrences. Similarly, however odd a society or ecosystem may be, it should still obey its own internal logic, even if it seems incomprehensible to the players.

Comedy is a difficult issue. All games benefit from light relief, but self-parody is a bad idea as pretty soon the whole game becomes a parody of itself and impossible to take seriously. The occasional "silly" adventure as a one-off is a reasonable idea, but care should be taken that events from the comedy game do not become in-jokes in the serious sessions. Better to avoid outright comedy altogether, or play an entirely different game for those silly sessions.





## OPPOSITION & DANGER

Without some kind of conflict or danger to the characters, adventures will tend to be rather boring. The most obvious source of opposition is NPCs actively opposed to the characters, or hostiles encountered randomly. However, there are more ways to confound the adventurers that just shooting at them.

The *Traveller* universe is - more or less - civilized, with laws and bureaucracy to contend with. Stubborn customs officials or tortuous local laws can present the characters with a major obstacle, which must be got around with good roleplaying or some sneaky maneuvering. Simply shooting the customs clerk is rarely an answer, as this kind of behavior usually leads to consequences of an unpleasantly fatal sort.

The environment around the characters can present all manner of danger. Adventures often take place in difficult environments: underwater or in hard vacuum; in the arctic or desert; up a mountain or in deep jungle. Troublesome animals can be shot, but an avalanche cannot. A torn vacc suit is a major crisis, which can turn a simple repair task into a dramatic rescue.

The Referee is encouraged to present a range of challenges to the players in this manner. Physical obstacles, environmental hazards and direct (shootable) threats can all be combined with one another and with relatively mundane activities such as driving an ATV or changing a coolant cylinder on the contragrav lifters to give the players a variety of hard times.

Bear in mind also that actions have consequences. Adventurers are bound by local laws, wherever they are, and some activities are illegal most anywhere in charted space. Players who use strongarm tactics all the time are going to get into trouble. Sometimes it may be possible to hide the evidence, but tech level 15 forensics as used by advanced investigation teams are pretty good - and several corpses in an unmarked grave are the sort of thing that will prompt a government to investigate.

Characters who flout local laws will run afoul of law enforcement. Depending upon local law levels, this will most likely just be a couple of police officers with sidearms. However, major crimes (shooting at the local police is often considered one!) will trigger a robust response from the equivalent of SWAT teams, militia, army units or even a team of Marines from the starport protection force. This is not to say that characters will go to jail for firing their guns. Self-defense is usually considered acceptable so long as locally-legal weapons are used. Many incidents (especially on frontier worlds) are never investigated at all.

If characters commit a crime on one world and manage to get off-planet, they may well escape justice. They will remain wanted on that world for the crime, and in some cases "unofficial" retribution may be attempted in the form of bounty hunters or "free police agents" sent out to harm or capture the characters and return them for trial. However, in most cases, local crimes can be left behind. This is not true of "high crimes" such as deliberate murder, which are illegal on most worlds. Such crimes will usually result in a warrant being issued.

The important consideration here is simply that pointlessly violent characters will eventually end up being pursued by legal agencies, and if the Ministry of Justice or the Imperial Marine corps is your enemy, you've had it.

## RANDOM ENCOUNTERS

Adventurers, as they travel about on planets, also have random encounters with an unpredictable variety of individuals or groups. Such individuals will be engaged in performing various tasks which may complement, supplement, oppose, or be irrelevant to the goals of the adventurers themselves.

Some 'random' encounters are mandated by the Referee. For example, a band may encounter a guard patrol at a building while in the course of visiting (or burglarizing) it. The Referee is always free to impose encounters to further the cause of the adventure being played; in many cases, he actually has a responsibility to do so. Other random encounters are dictated by the random encounter process. Usually, a random encounter point with humans will occur once per day. There is a one third chance that a group will be met (throw one die: a result of 5 or 6 indicates an encounter). Encounters with persons are independent of the procedure for encounters with animals described in the animal encounter section.

If a random encounter occurs, consult the person encounter table to determine the identity or occupation of the person or group encountered. Throw two dice consecutively, and index the result to the table. Indicated on the table are a basic description or identity for the encountered individuals, a dice throw to determine their number, an indication of their vehicle, if any, and a description of their weaponry and armor.



## RANDOM ENCOUNTERS

Die	Type	Qty	V	Weaponry	Armor
11	Peasants	1D	-	Clubs and cudgels	-
12	Peasants	2D	-	Clubs and cudgels	-
13	Workers	2D	-	Clubs	-
14	Rowdies	3D	-	Clubs	-
15	Thugs	2D	-	Daggers	-
16	Riotous mob	4D	-	Clubs and daggers	-
21	Soldiers	2D	-	Rifles and bayonets	Cloth
22	Soldiers	2D	V	Carbines	Mesh
23	Police patrol	1D	V	Automatic pistols	Cloth
24	Marines	2D	V	Revolvers and cutlasses	Mesh
25	Naval security troops	3D	V	Carbines	-
26	Soldiers on patrol	2D	V	Submachineguns	Jack
31	Adventurers	1D	-	Swords	-
32	Noble with retinue	2D	-	Foils	-
33	Hunters and guides	2D	-	Rifles and spears	Jack
34	Tourists	2D	V	Cameras	-
35	Researchers	2D	V	-	-
36	Police patrol	1D	V	Revolvers	-
41	Fugitives	1D	-	Clubs	-
42	Fugitives	2D	V	Blades	Jack
43	Fugitives	3D	-	Revolvers	-
44	Vigilantes	2D	V	Rifles and carbines	Jack
45	Bandits	3D	-	Swords and pistols	-
46	Ambushing brigands	3D	-	Broadswords and pistols	Cloth
51	Merchant and employees	1D	-	Daggers	-
52	Traders	2D	V	Blades	-
53	Religious group	2D	-	-	-
54	Beggars	1D	-	-	-
55	Pilgrims	5D	-	-	Jack
56	Guards	3D	-	Halberds and daggers	Jack
61					
62					
63					
64					
65					
66					

## ADDITIONAL WEAPONS

1	2	3
1	Laser rifle	Shotgun
2	Auto rifle	Carbine
3	-	Revolver
4	-	Halberd
5	-	Cutlass
6	-	Foil

### Notes to Random Person Encounters

The code V in the V column indicates that the group has a vehicle appropriate to the technology of the world and the terrain of the area.

Group numbers and their weaponry should be adjusted for law level, tech level, and balance where necessary.

After determining the number in the group, assign appropriate characteristics to the individuals. Generally, it may be assumed that most individuals in an encountered group have the same characteristics. Leaders may have somewhat higher skill levels or attributes.

In addition to the weapons indicated on the table, there is a possibility that one of the group's members will be armed extraordinarily. Consult the additional weapons table: throw 1d6 for column 1. If a weapon is shown, one person is armed with it; if a dash is shown, re-roll on column 2. If a weapon is shown, one person is armed with it; if a dash is shown, re-roll on column 3. If a weapon is shown, one person is armed with it; if a dash is shown, no extraordinary weapons are present.

Six entries in the person encounter table are left blank; initially, they may be interpreted as no encounter. Later, they may be filled in by the Referee for specific situations, as necessary.

Once an encounter occurs, a determination of attitude is made using the reaction table (later in this section). Combat may ensue. After an encounter has been resolved, there is the potential for small amounts of money to be on the persons (or bodies) of the vanquished. It is also possible to loot the vanquished of their equipment, vehicles, weapons, or armor.

## PATRON ENCOUNTERS

1	2	3	4	5	6
1 Arsonist	Cutthroat	Assassin	Hijacker	Smuggler	Terrorist
2 Crewperson	Peasant	Rumor	Clerk	Soldier	Shopkeeper
3 Shipowner	Tourist	Merchant	Police	Scout	Rumor
4 Diplomat	Courier	Spy	Scholar	Governor	Administrator
5 Mercenary	Naval	Marine	Scout	Army	Mercenary
6 Noble	Playboy	Avenger	Émigré	Speculator	Rumor

Note: Rumors are, in effect, absent patrons. They impart knowledge which may be acted on by characters if they so choose.

## PATRON ENCOUNTERS

One key to adventure in Traveller is the patron. When a band of adventurers meets an appropriate patron, they have a person who can give them direction in their activities, and who can reward them for success. The patron is the single most important NPC there can be.

A patron will, if he decides to hire a band of adventurers, specify a task or deed to be performed, and then finance reasonable expenses for the pursuit of that task. Some tasks may be ordinary in nature, such as hired guards or escorts; other tasks may be for the location and procurement of items of great value. Generally, a patron's agreement with a band of adventurers will specify that the patron will receive the item he is seeking while all other goods or items acquired will belong to the adventurers.

In a single week, a band of adventurers may elect to devote their time to encountering a patron. They may frequent bars, taverns, clubs, perhaps the Travellers' Aid Building, or any other likely places. One throw is allowed for the entire band: a result of 5 or 6 on 1d6 indicates a likely patron has been found. Two d6s are then thrown consecutively, and the Patron Encounter table is consulted to determine the general character of the potential patron. If necessary, the patron's personal characteristics are generated at this point. The band then meets with the patron, and an interview takes place. Throw two dice on the reaction table to determine if the patron concludes that the band will be suitable. The patron then discloses his task, and the adventurers may accept or reject the offer of employment.

Once the patron and the adventurers have met, the responsibility falls on the Referee to determine the nature of the task the patron desires, the details of the situation (perhaps a map or some amount of information), and the limits of the patron's resources in the pursuit of the task.

**Employees and Hirelings:** When PCs themselves require employees, for any purpose, they must find them in the course of their activities. This may require advertising,

visiting union hiring halls, or active efforts in barrooms or clubs. Hiring is done by stating a requirement to the Referee, who then describes any persons presenting themselves for employment. The interview consists of generating the person's characteristics and experience. While decisions to hire are made on qualifications, the number of persons applying for employment may be limited.

## DESIGNING PATRON ENCOUNTERS

A patron encounter is usually written as a short paragraph to be read to the players, which briefly details the information available to them. This might include the location, a description of the patron, his or her name, the task or job being offered, and the payment that will be rendered for completing the job. Details should also be added that help establish opinions in the minds of the characters about the patron and/or the job which may or may not be true.

A list of three to six possible outcomes or rationales for the situation should be drawn up (for example: the patron is lying, the patron is crazy, the patron has been swindled, etc.). The true outcome or rationale should then be picked by the Referee when the encounter occurs (or prepared before the game session). This allows a patron encounter to be used more than once with just a bit of changing and tweaking here and there.

A sample patron encounter follows on pg. 417.

## AMBER ZONES

Amber Zone is a travel zone code issued by the Travellers' Aid Society to warn individuals of dangerous worlds. This same term is used for situations that present a danger to characters and warn them to use caution. Amber Zone adventures do not need to take place on an Amber Zoned world - they may be used on any world, asteroid or orbital habitat. Amber Zones present a problem, task, or predicament to the players and typically include a general outline for the Referee to follow. The Referee must provide deck plans, maps, and other information where called for,

**SAMPLE PATRON ENCOUNTER****1. Mercenary, Courier****Required Skills:** None**Required Equipment:** None*Players' Information*

While hanging around the starport between jobs, the characters are approached by a smartly-dressed young man who identifies himself as Jayme Hewitt. Hewitt is, he says, a courier for Brightland Packages, a security firm specializing in delivery of small packages across the sector. A check will show that the firm is real, and has a good reputation for efficiency and remaining within the law.

Hewitt is on-planet to pick up a case of documents for a regular client (he will not say who). He's carried out similar transfers between his client's offices on various worlds several times. They transfer sensitive information in hard copy only, in tamper-proof attaché cases, in order to be certain of security.

However, there have been no less than five attempts to intercept couriers working for this client in the past six months. Hewitt is concerned that there may be an attempt to prevent this delivery, or to steal the case. With two of his colleagues dead and one permanently out of the business, he's not inclined to take chances. He is becoming convinced that someone is stalking Brightland agents, and that he is next on the list.

Hewitt proposes that the group help him to confuse the issue and fool anyone trying to set him up. He will make the pickup as planned, but before he can reach the port, he will be "ambushed" by the group. In the ensuing scuffle the case will be stolen and he will be "hospitalized" (this is already set up). The characters will then immediately depart on a starship with the case. At the other end of their trip the characters should watch the local data net for a certain coded signal, and keep their heads down until it comes.

After a couple of days pretending to be in critical trauma care, Hewitt will quietly leave the hospital and follow the characters to their destination, where he will signal them to meet him and they will hand over the case in return for Cr 2500 each. Liner fares and hotel bills will all be charged to Hewitt's "discretionary expenses" account. He adds (with a chuckle that) the characters' expenses will be costing the client, not him, and that they should be able to get

away with quite considerable (though justifiable) spending. He does suggest that the characters surrender their case if they do run into trouble - no fee is worth getting shot over.

*Referee's Information*

The situation is above board. Hewitt is pretty sure that someone will try to intercept him, and hopes either to evade interception or better still, to draw out his stalker (if there is one) and identify them. Of course, he is playing a double game, and the case he "loses" is not the real one. He doesn't think the characters will be in any real danger, since whoever is stalking him will not have time to switch targets.

The "ambush" goes well enough. Hewitt provides a couple of snub revolvers loaded with "stinger" training ammo; enough to burst the blood bag under his shirt but not sufficient to really hurt him. The characters can then snatch up the case and make for the starport.

Determine the outcome by rolling 1d6:

1. Everything goes well. Hewitt catches up to the group after a few days of hiding out. He expresses shocked disbelief at their expenses claims, but pays up.

2. As 1, but local law enforcement officials arrive on the scene as the characters grab the case. With no time to explain, the characters must flee.

3. The stalker is fooled, and follows the characters to their destination. He attempts to gain the dummy case by stealth. (He is alone, armed with a handgun and knives)

4. As 3, but the "stalker" is a team of thugs equal in numbers and armament to the characters. They attempt to take the case by force.

5. The stalker was partially fooled. Hewitt was murdered on the way to the hospital, and the stalker is now after the players, thinking that they have the real case. Subsequent events are up to the Referee.

6. The stalker was not fooled. Hewitt is dead, as in 5, and the stalker has the real case. He will not come after the characters, but they will not know that. Subsequent events are up to the Referee.

and must be prepared to deal with problems in background or reactions when it becomes necessary.

**SAMPLE AMBER ZONE**

Dismal Hole is an outsystem mining outpost situated on a gas giant moon, several days' travel from the main-

world. The moon has no air, no water, and little to recommend it but for some mid-level deposits of common metals such as iron and tin.

The outpost is run by several minor ore extraction and processing firms. A tiny spaceport serves the only community on-planet, numbering about 2000 people who mainly work in



the ore-processing and packaging works owned by Interstellar Minerals, LIC. The rest of the population work in service industries or at the spaceport as cargo handlers. About another 2-3000 miners and prospecting engineers work from temporary camps scattered about the planetary surface.

Dismal Hole is very much a frontier town, with little in the way of formal law or enforcement. Security personnel from the five mining companies and the processing works they all use keep order (in a fairly rough and ready way) and major issues are decided by a council of executives, one from each of the firms and a chairman, who represents the service workers.

The system is ad-hoc but it has always worked, at least until now. A major dispute has arisen, resulting in the processing works refusing to handle ore from Gashaskii Enterprises or Rockrip LIC. This will cripple the operations of these two firms unless the situation is resolved - and that seems unlikely. Fights between workers are becoming common, and the security personnel are being drawn in rather than remaining impartial.

In a bid to break the deadlock, Rockrip LIC has chartered a free trader ship to bring in a prefabricated ore-processing plant and to shuttle the ore back to the mainworld. This is an inefficient way to do things, but better than being choked out of business by the processing plant operators.

## Referee's Information

The dispute is the result of a deliberate attempt by Interstellar Minerals LIC to force the mining companies to agree to a higher fee for processing. Similarly, IM wants to control the port, thus gaining a monopoly on all operations on Dismal Hole. Three of the five mine companies have caved in, and are now being coerced into fighting IM's battles for it in return for minor concessions.

In just a few weeks, the pressure will be too great and the remaining mine corps will have to either agree to the new deal or pack up and leave. But Rockrip's plan might just derail the operation. Interstellar Minerals will not tolerate this, and plans to move directly against Rockrip if necessary.

The characters may become involved in this situation in several ways. They may be the free trader crew, innocently thinking that all they have to do is to deliver equipment and shuttle ore from a remote location. They might be engineers or miners, caught in the middle, or they might be freelance security professionals brought in by one side.

Whatever part the characters play, tensions will rise steadily, violence will increase, and IM will eventually learn where the ore processing plant has been set up (it's hard to hide such things). Attempts will be made first to sabotage it, and if that fails, a direct assault by security personnel (armed mainly with SMGs and shotguns) will be made using ATVs and mine buggies. The fight will be a very

nasty affair, fought in rugged airless terrain by vacc-suited miners and security personnel. Many improvised weapons such as seismic charges and laser drills can be brought into play.

Nobody will fight to the death, but there is a lot of anger on both sides, so the fighting will be very bloody.

Subsequent events are up to the Referee.

## SHORT ADVENTURES

Unlike patron encounters and Amber Zones, a short adventure is a fully detailed scenario restricted only by its length, that focuses primarily on a single interesting situation or location, and provides relatively detailed background and data that will be need to run the scenario. This would usually include complete maps or deckplans, descriptions, detailed situations, animal encounters, and other similar information.

## THE EPIC ADVENTURE SYSTEM

The problem with many adventures is that they are very 'linear' in design, in that encounter one typically leads to encounter two, which inevitably leads to encounter three, ad-nauseum. This is fine until you get player characters involved who always seem to want to go from encounter one, to encounter twelve, back to encounter three, then over the woods to an area you haven't developed yet, and general cause mayhem to the plot of an otherwise well-planned adventure.

The Epic Adventure System provides a new way to design and organize adventures, that allows the player characters the 'freedom to roam' without causing the Referee nightmares. An Epic Adventure is broken down into 6 parts:

## THE CAST OF CHARACTERS

**The Background** - The background provides the Referee with the information needed to prepare himself, and lay the groundwork for introducing this adventure to the players.

**Minor Scenes** - Minor Scenes (usually just referred to as 'Scenes'), are encounters or events that involve the player characters in some form. Many are directly related to the adventure, and may provide clues, equipment, or other information and materials needed to eventually complete the adventure. Others are merely to provide diversion and amusement. Scenes, unless noted in their descriptions, do not need to be played in any particular order, and may be sprung upon the player characters when the Referee deems appropriate.

**Plot Keys** - Plot Keys (or simply 'Keys'), make up the

heart of the storyline for the adventure. They contain critical pieces of the plot and must be played for the adventure to make any sense to the players in the end. You may play any number of Scenes before and after each Plot Key, but each Plot Key should eventually be completed in their proper order.

**Chapters** - A Chapter is made up of one or more Plot Keys, and probably one or more Scenes. They outline the plot to the Referee, and provide tips and information for playing the Scenes and Plot Keys that are contained in the Chapter. In order to complete a Chapter, each Plot Key within must be completed. Each Chapter must be played in order to successfully run the adventure.

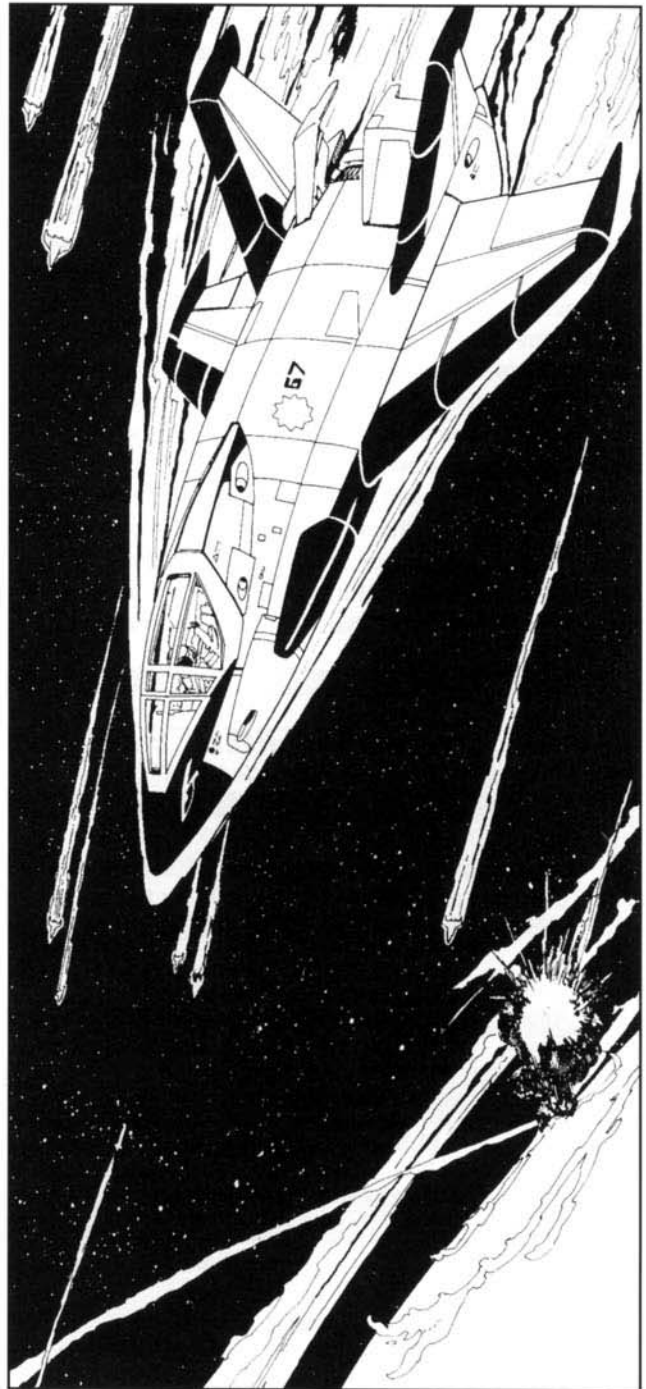
Because of the 'cinematic' nature of the Epic Adventure system, it is easy for the Referee to allow the characters to temporarily deviate from the current adventure storyline to follow a false lead or pursue another short adventure that has interested them. When the PCs are ready to return to this adventure plot line, simply pick up with the next Scene.

**Adventure Checklist** - The Adventure Checklist provides newer Referees a recommended guideline of the order in which various Scenes and Plot Keys in this adventure should be presented to the players. As the characters complete each Scene or Plot Key, the Referee simply checks it off the list. When every Plot Key in a Chapter has been played, that Chapter has been completed the Referee may begin the first Scene in the next Chapter.

You will note that not every Minor Scene is included in the Checklist. This allows Referees who would like to use the Checklist, but would like to change things a little bit to swap out scenes, or included their own custom scenes. If you feel comfortable in letting your characters stray from the order of the checklist, you may determine the 'cinematic' order of the scenes as you see fit, or use a weekly events chart like the one below to determine the course of events.

This weekly events chart has been created for an adventure in which the characters spend several weeks in the outback searching for lost ruins in the hope of finding historical artifacts.

2d6	Weekly Event
2-8	Play a Minor Scene/Find a Ruin
9-11	Starport Run. The Professor has some errand requiring the characters to go to the local starport for the week.
12	Plot Key



*Play a Minor Scene* - Select one of the Minor Scenes detailed later and run the scene as directed.

*Starport Run* - This is an excuse and an opportunity to bring in sideline encounters, patrons and scenarios unrelated to this adventure.

*Play a Plot Key* - Plots Keys should be played in the correct order for the adventure to make sense to the players. If you change the order of the Plot Keys, you should be

sure to adjust any of the other scenes to ensure the adventure flows properly and makes sense.

## REWARDS AND ADVANCEMENT

**Traveller** enemies rarely have boxes of Credits lying around their lair to be picked up by victorious adventurers. Valuables can of course be taken from defeated enemies, but Traveller characters generally earn their wealth in other ways. Commonly, this is payment for a task undertaken. Governments, corporations and affluent individuals often seek to hire experts to solve their problems, and are generally willing to pay well for expertise (or deniability) that would not otherwise be available.

Payment (or reward) for a task is not always in hard currency, of course. Characters may receive their reward in terms of useful information, a favour, a preferential fuel price or the cancellation of a legal penalty. Alternatively, payment can be in kind. Characters may find themselves

in part-ownership of a merchant cargo, entitled to a cut of the profits (if any). Shares or land deeds are not uncommon as rewards, too.

Finally, reward can take the form of positions and titles. The reward for a job well done may be a position as security advisor, or commander of a military unit. It may be a prestigious (but otherwise empty) title. Some worlds can grant characters titles within their local nobility, or a character may even be elevated to the Imperial nobility.

Naturally, the promised reward is not always delivered, nor is it always what was expected. That can spark a whole new adventure.

The other reward for success in the game is character advancement. Traveller does not reward 'hack & slay' adventuring and thus does not typically hand out experience points just for shooting people (however much they may deserve it).

The amount of experience earned by a party of characters upon completion of an adventure depends on the type of adventure and how difficult it was for the characters to complete it (successfully or unsuccessfully).

### EXPERIENCE REWARDS AND ADVANCEMENT

Adventure Type	XP Award
Random Encounter	100-600XP or the XP value of any creature(s) fought whichever is greater.
Patron Encounter	1,000XP x the average party level
Amber Zone	2,000XP x the average party level
Short Adventure	3,000XP x the average party level
Full Adventure	4,000XP x the average party level

Difficulty	XP Modifier	Example
Trivial	x1/4	The characters could have completed the adventure in their sleep.
Minor	x1/2	The worst that might have happened is a character lost the keys to the vehicle.
Average	x1	A few characters may have been injured, or the party ran into some other fairly minor difficulties in getting the job done.
Hard	x1.5	There were a couple of times during the course of events that posed real challenges for the characters to overcome.
Difficult	x2	One or more of the characters was seriously injured, died, or other major difficulties were run into during the adventure.
Impossible	x3	The characters barely survive the ordeal; those still standing are in a state of shock.

#### Other Experience Awards

**Per Week of Full-Time Work:** 20XP. If a character is spending the majority of their time using a skill or feat for gainful purposes during a given week, he or she is considered to have been working and earns 20xp. This does not include practicing, training, etc.

**Per Week of Part-Time Work:** 10XP. If a character uses a skill or feat for gainful purposes during a given week, he or she is considered to have been working and earns 10XP. This does not include practicing, training, etc.

**Per Week Not Working:** 5XP. If a character is specifically on shore leave, vacation, or otherwise does not use a skill or feat for gainful purpose during a given week they will earn 5XP.

**Good Roleplaying:** 10-50XP. At the Referee's discretion, he or she may award individual characters extra experience points (10-50) for good roleplaying on the part of the player.



# APPENDIX I: FRIENDS AND ENEMIES

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The d20 Game system requires a sizable number of stats for each character or creature during all combat encounters. This appendix provides referees with some sample/example stat blocks that they may use or reference, especially for encounters that occur "on the fly".

The character and animal stat blocks presented in this appendix are meant to be "Average". Each is therefore designed with average ability scores for race and average Stamina points for class. They may be adjusted as necessary for stronger or weaker encounters.

**NPC Stats:** Since the bulk of the NPCs that follow are human, most ability scores are set at either a 10 or 11 for first level and rise at the normal pace with experience levels. Non-humans' ability scores are adjusted by their race's ability modifiers, from the same base. For example, a human character at first level might be Str 11, Dex 11, Con 11 but a Vargr would be Str 9, Dex 13, Con 9 because of racial modifiers.

NPCs who have the Mercenary character class automatically have a starting Strength of at least 12. This is to comply with the entry requirements of the class. The examples of Imperial Marines given in the book have Str, Dex and Con of 12 each, due to the Marines' rigorous training regime and selective recruiting.

Because of the various possibilities for gaining experience, age has not been factored into the stats given for these characters. Furthermore, all the stats provided can be used for male or female NPCs interchangeably, except for the Aslan Marines who must be male for social and cultural reasons.

## READING THE STAT BLOCKS

Here is a sample of the sort of stat block used in the book:

**Main Block:** The main block will list the name of the NPC or creature, the type or class(es), and all pertinent combat related information the referee may need to use this NPC or creature during an encounter.

**Skill Line:** The next line contains all of the character's skills and the total skill bonus, including skill ranks, ability bonuses, racial bonuses, and the feat bonuses that always apply. For example, a Skill Focus in a skill will always be included in the total, but the bonus from EW specialist will not because it only applies in certain circumstances.

**Feat Line:** The complete list of all feats the character possesses. Vessel, Armor, and Weapon Proficiency feats are each grouped together; so Vessel (grav, wheeled, ship's boat) means the character possesses Vessel: Grav, Vessel Wheeled, and Vessel: Ship's Boat.

**Equipment:** The noteworthy equipment that the character carries. For weapons that require ammunition, military characters are assumed to have 6 magazines for each (high energy and lasers excepted), and non-military characters to be carrying 3 magazines. Characters with arrows or black powder weapons are assumed to have a load of 30 shots.

**Special Abilities:** List for animals only, and then only if the creature has some form of special ability or attack. Details for such abilities will normally be detailed in the text description of the creature itself.

**Climate/Terrain:** The most common natural environments these types of animals are found in. List for animals only.

**Organization:** Listing the numbers and type of groups the creature normally organizes into for protection and socialization.

## SECTION 1: CIVILIANS

The first section covers the non-military characters that the players might encounter on a world surface.

## BANDITS/GUERRILLAS

These characters represent the average foot soldiers in bands of rural robbers or bandits, the flunkies of tribal warlords, guerrillas and peasant revolutionaries.

**Regular Bandit:** Human Rogue 4/Mercenary 2; TL 5+; Init +0; AC 12 (+2 jack); AR 2 (jack); Spd 9m (6 sq); St/Lb 37/12; Atk +6 melee (fist 1d4+1/20), +5 melee (machete 1d6+1/19), +5 ranged (rifle 1d12/x3), +5 ranged (assault rifle 1d12/x2); SV Fort +5, Ref +4, Will +3; SZ M; Str 12, Dex 11 Con 12, Int 10, Wis 10, Cha 10, Edu 6, Soc 5.

**Skills:** Hide +11, Move Silently +11, Spot +11, P/Hunting +7, Listen +9, Driving +0

**Feats:** Vessel (wheeled), Weapons (marksman, combat rifleman, swordsman), Armor (light, medium, vac suit), Stealthy, Alertness, Tracker, Brawling, Spot Trouble, Sneak Attack (+1d6), Evasion, Point Blank Shot

**Equipment:** jack armor, rifle or assault rifle, machete.

## BARBARIAN WARRIORS

These NPCs are used for the typical low-tech tribesmen that the players inevitably meet at some point in their adventures. At tech level 0 they are unarmored and carry only a spear. At tech levels 1-3 they will have padded armor (unless in a tropical locale) and a large wooden shield and perhaps a sword or axe as well.

**Regular Barbarian:** Human Barbarian 6; TL 0-3; Init +0; AC 13 (+1 padded, +2 shield); AR 0; Spd 9m (6sq); St/Lb 47/13; Atk +7/+2 melee (spear 1d8+2/20x2), +6/+1 melee (sword 1d8), +6/+1 melee (axe 1d6), +7/+2 melee (fist 1d4); SV Fort +6, Ref +2, Will +3; SZ M; Str 11, Dex 11 Con 12, Int 10, Wis 10, Cha 10, Edu 4, Soc 10.

**Skills:** Hide +9, Move Silently +9, Spot +7, Listen +6

**Feats:** Armor (light, shield), Weapons (archer, swordsman, armsman), Weapon Focus: lt. spear, Weapon Specialization (lt. spear), Alertness, Brawling, Run, Toughness

**Equipment:** light spear and if TL 1-3: padded armor and large wooden shield, some have sword or axe as well.

## FUNCTIONARY

If 25 years of the unfolding of the Traveller experience has proven anything, it is that sooner or later somebody is going to try to shoot the clerk, kidnap the corporate official or beat the bureaucrat's head in. Here are the stats to help that process along. Most functionaries will be unarmed, but body pistol, sword and dagger stats are included in case they are needed. Mid-Tech functionaries will have Vessel (wheeled) and Driving skill, High-Tech functionaries will have Vessel (grav) and Pilot skill.

**Regular Functionary:** Human Professional 6; TL 5+; Init +0; AC 10; AR 0; Spd 9m (6sq); St/Lb 22/10; Atk -3 ranged (body pistol 1d6/20), -3 melee (sword 1d8/20x2), -3 melee (dagger 1d4/19), -3 melee (fist 1d3/20); SV Fort +2, Ref +2, Will +5; SZ M; Str 10, Dex 10 Con 10, Int 11, Wis 10, Cha 11, Edu 12, Soc 10+.

**Skills:** Pilot or Drive +9, P/Admin +13, Liaison +9, Appraise +9, T/Computer +10, T/Communications +10, K/Interstellar Law +12, Speak Language (choose).

**Feats:** Vessel (grav or wheeled), Armor (light), Connections (professional), Research, Barter, Trustworthy, Credit Line, Professional Specialty (choose), Carousing, Skill Focus Admin, Legal Eagle

**Equipment:** perhaps communicator, perhaps sword or dagger or body pistol

# APPENDIX I: FRIENDS AND ENEMIES

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## GUARDS (MIDDLE TECH)

These are typical security guards, bodyguards, starport guards and police patrolmen for tech levels 5 through 9. They are outfitted with flak jackets, as if expecting trouble, but this can be reduced to no armor in lower risk environments. Most will carry an auto-pistol and baton, but often will have a shotgun (riot gun) nearby as well.

**Regular Guard:** Human Mercenary 6; TL 5-9; Init +1 (+1 Dex); AC 15 (+1 Dex, +4 flak jacket); AR 4 (flak jacket); Spd 9m (6sq); St/Lb 33/11; Atk +7/+2 melee (baton 1d6+1/20), +8/+3 ranged (auto-pistol 1d10+2/20x2), +7/+2 ranged (riot gun 3d6/2d6/1d6/20), +8/+3 melee (fist 1d4+1/20); SV Fort +5, Ref +3, Will +3; SZ M; Str 12, Dex 12 Con 11, Int 10, Wis 10, Cha 10, Edu 10, Soc 10.

**Skills:** Driving +10, Listen +11, Spot +11

**Feats:** Vessel (wheeled), Armor (light, medium, vac suit), Weapon (marksman, combat rifleman, armsman), Evasion, Brawling, Alertness, Quick Draw, Defensive Roll, Weapon Focus: auto pistol, Weapon Specialization: auto pistol

**Equipment:** flak jacket, auto-pistol, baton, (access to riot gun).

## GUARDS (HIGH TECH)

These are typical security guards, bodyguards, starport guards and police patrolmen for tech levels 10 and beyond. Unlike their lower tech counterparts, high tech guards are required to have extensive training in various tech skills. As a result, they are multi-classed professional/mercenaries. They are outfitted in combat environment suits for dangerous duty. Each guard carries a shock baton, snub pistol and a variety of ammunition. Guards in higher-risk situations will carry a Snub SMG too. The guns will be fitted with a Heads-Up Display giving an included +3 to hit. In rural situations they will often have a light ACR with HUD display.

**Regular Guard:** Human Professional 3/Mercenary 3; TL 10+; Init +1 (+1 Dex); AC 17 (+6 CES, +1 Dex); AR 6 (CES); Spd 6m (4sq); St/Lb 26/11; Atk +7 ranged (snub pistol 1d10/20), +4 melee (shock baton 1d6+1d6+1/20), +7 ranged (snub smg 1d10/20); +7 ranged (light ACR 1d12/20), +5 melee (fist 1d4+1/20); SV Fort +4, Ref +3, Will +5; SZ M; Str 12, Dex 12 Con 11, Int 10, Wis 10, Cha 10, Edu 11, Soc 10.

**Skills:** Pilot +4, Spot +5, Listen +5, P/Security+6, T/Electronics +6, T/Communications +6, T/Computer +6, T/Sensors +6, K/Interstellar Law +8, P/Admin +8, Sense Motive +5

**Feats:** Vessel (grav), Armor (light, medium, vac suit), Weapons (armsman, marksman, combat rifleman), Alertness, Quick Draw, Professional Specialty (Security), Brawling, Interrogation, Legal Eagle, Skill Focus: Sense Motive

**Equipment:** Combat Environment Suit, Snub pistol with HUD, shock baton, access to Snub SMG with HUD or Light ACR with HUD.

## STREET THUGS

The selection of Average Street Thugs below are best used as petty muggers, paid "muscle", enforcers and gunmen of urban criminal gangs. These aren't the smugglers, con men or forgers, just the simple goons that the players always seem to wind up running afoul of. These stats can also be used for bodyguards and minor henchmen to master villains.

**Regular Thug:** Human Rogue 6; TL 5+; Init +5 (+1 Dex, +1 Improved Initiative); AC 13 (+2 jack, +1 Dex); AR 2 (jack); Spd 9m (6sq); St/Lb 32/12; Atk +5 melee (fist 1d4/20), +4 melee (dagger 1d4/19), +4 ranged (shotgun 3d6/2d6/1d6/20), +4 ranged (revolver 1d10/x2), +4 ranged (auto-pistol 1d10/x2), +4 ranged (SMG 1d10/x2); SV Fort +2, Ref +6, Will +2; SZ M; Str 11, Dex 12 Con

11, Int 10, Wis 10, Cha 10, Edu 6, Soc 5.

**Skills:** Driving +10, Innuendo +9, Intimidate +9, Listen +11, Spot +11

**Feats:** Vessel (wheeled), Weapons (marksman, swordsman), Armor (light, medium), Alertness, Toughness, Brawling, Improved Initiative, Spot Trouble, Quick Draw, Point Blank Shot

**Equipment:** jack armor and 1-2 of the following: revolver, autopistol, shotgun, SMG, dagger.

## SECTION 2: STARSHIP CREWS

The NPCs in this section are those likely to be found on the various types of starships and space vessels in the Imperium.

### BELTERS

These are rough-and-tumble asteroid miners and deep-space workers, ubiquitous across Charted Space. Most belter ships will have a few snub pistols, shotguns and carbines on board for security purposes, and beltlers are known for an almost pathological reluctance to remove their vac suits.

**Regular Belter:** Human Belter 6; TL 12+; Init +0; AC 13 (+3 vac suit); AR 3 (vac suit); Spd 6m (4sq); St/Lb 22/10; Atk +3 ranged (snub pistol 1d10/20), +3 ranged (shotgun 3d6/2d6/1d6/20), +3 ranged (carbine 1d10/20x2), +4 melee (fist 1d4/20); SV Fort +2, Ref +2, Will +6; SZ M; Str 11, Dex 11 Con 10, Int 10, Wis 12, Cha 10, Edu 10, Soc 10

**Skills:** Appraise +9, K/Mining +10, P/Prospecting +10, T/Engineering +9, Demolitions +9, Gunnery +6, K/Geology +5, Search +5, Pilot +4.

**Feats:** Vessel (grav, ship's boat, starship), Armor (light, vac suit), Weapons (marksman, ship's weapons), Zero-G/Low-G Adaptation, Improved Zero-G adaptation, Brawling, Geological Survey, 3-D awareness

**Equipment:** Vac Suit-12, Snub pistol or shotgun or carbine, tool kit

### VARGR CORSAIR CREW

These are the Vargr crewmembers of a piratical spacecraft.

**Regular Corsair:** Vargr Traveller 6; TL 12+; Init +1 (+1 Dex); AC 14 (+3 vac suit, +1 Dex); AR 3 (vac suit); Spd 9m (6sq); St/Lb 21/10; Atk +5 melee (claw 1d4-1/20), +5 melee (bite 1d6+2), +4 ranged (snub pistol 1d10/20), +4 ranged (laser carbine 3d8/20); SV Fort +2, Ref +4, Will +3; SZ M; Str 9, Dex 13, Con 10, Int 10, Wis 10, Cha 10, Edu 11, Soc 10, Pres 3.

**Skills:** Pilot +10, Gunnery +9, Gambling +9, Any 3 technical skills +9

**Feats:** Vessel (grav, starship, ship's boat), Weapon (marksman, laser, ship's weapons), Armor (light, medium, vac suit)

**Equipment:** laser carbine or snub pistol, vac suit TL-12, medium range communicator

### MERCHANT CREW

These are typical crewmen on merchant space vessels, be it free traders or corporate liners. They are presented equipped to "repel boarders" and so are in vac suits, carrying snub pistols and makeshift weapons. Additionally stats for a shotgun are provided for when the merchant crew turns out to be a bit more heavily armed. In the skill and feat list for each level, there are several choices: one for bridge crew, one for technical crew and one for trade crew; gunners should be taken from the Navy stats. Merchant crew can be used for the crew of smuggler ships and the "less professional" pirate ships. Note that a "lead pipe" is a representative weapon - any heavy blunt object found lying around will do in a pinch.

**Regular Merchant Crew:** Human Merchant 6; TL 12+; Init +0; AC

13 (+3 vac suit); AR 3 (vac suit); Spd 6m (4 sq); St/Lb 22/10; Atk +1 ranged (snub pistol 1d10/20), +2 melee (fist 1d4/20), +1 melee (lead pipe 1d4/20), +1 ranged (shotgun 3d6/2d6/1d6/20); SV Fort +3, Ref +2, Will +3; SZ M; Str 10, Dex 10, Con 10, Int 11, Wis 11, Cha 10, Edu 12, Soc 10.

**Skills:** all; Pilot +9, P/Merchant +9, K/Trade Law +10, Appraise +9, Gather Info +9

a) Bridge Crew: T/Astrogration +10, T/Computer +10, T/Sensor +10

b) Tech Crew: T/Engineering +10, T/Mechanical +12, T/Electronics +12

c) Trade Crew: Trader +11, Broker +11, Liaison +9  
**Feats:** all; Vessel (grav), Armor (light, vac suit), Weapons (Marksman), Barter, Brawling, Connections (merchant), Zero-G/Low-G Adaptation, First Aid

a) Bridge Crew: Vessel (ship's boat, starship), Hacker

b) Tech Crew: Jury Rig, Gearhead, Miracle Worker

c) Trade Crew: Steward, Calculating Eye, Chief Steward

**Equipment:** vac suit, snub pistol, lead pipe.

## NAVAL CREW

Here are the crewmen of Imperial, Subsector and Planetary Naval Ships. All are equipped for hazardous or security duties in their vac suits, carrying a semi-automatic snub pistol or a laser carbine.

For lower tech Planetary navies you can change the tech-14 vac suit for a lower tech model, but everything else would remain the same. Under skills and feats, there are 3 options provided for each level: Flight Crew, Engineering Crew and Gunnery crew (which includes security). Naval gunnery crew stats can be used for gunners on merchant ships as well. The stats for Naval crewmen are also useable for the crew on the better Star Merc and Pirate vessels.

**Regular Naval Crew:** Human Navy 6; TL 14-15; Init +0; AC 12 (+2 vac suit); AR 2 (vac suit); Spd 6m (4sq); St/Lb 22/10; Atk +6 ranged (snub pistol 1d10/20), +6 ranged (laser carbine 3d8/20), +4 melee (fist 1d4/20); SV Fort +2, Ref +2, Will +5; SZ M; Str 10, Dex 10, Con 10, Int 11, Wis 11, Cha 10, Edu 12, Soc 11.

**Skills:** all; Pilot +9, T/Computer +10, P/Administration +9, Liaison +9

a) Flight: T/Astrogration +10, T/Communications +10, T/Sensors+10,

b) Engineering: T/Engineering +10, T/Mechanical +12, T/Electronics +12

c) Gunnery: Gunnery +11, Forward Observer +10, T/Sensors +10

**Feats:** all; Vessel (grav), Armor (light, vac suit), Weapons (marksman, laser), Brawling, Zero-G/Low-G adaptation, Zero-G combat, First Aid

a) Flight: Vessel (starship, ship's boat), Ship's Tactics

b) Engineering: Jury Rig, Damage Control, Gearhead

c) Gunnery: Weapons (ship's weapons), Skill Focus:

Gunnery, Heavy Metal

**Equipment:** vac suit-14, combat snub pistol or laser carbine with HUD.

## SCOUT CREW

These characters represent the typical crews of courier, express boat and survey vessels. They can also be used for crewmen on private yachts, science vessels and for pirates. Aboard ship they likely will carry a laser pistol, but while exploring a planet surface they may also carry a carbine.

**Regular Scout:** Human Scout 6; TL 14+; Init +1 (+1 Dex); AC 13 (+2 vac suit, +1 Dex); AR 2 (vac suit); Spd 6m (4sq); St/Lb 34/11; Atk +5 ranged (laser pistol 2d10/20), +5 ranged (carbine

1d10/20x2), +6 melee (fist 1d4/20); SV Fort +2, Ref +4, Will +3; SZ M; Str 10, Dex 12, Con 11, Int 10, Wis 11, Cha 10, Edu 10, Soc 10.

**Skills:** Pilot +10, T/Engineering +9, T/Communications +9, P/Survey +5, Gunnery +4, Survival +5, Gather Info +4

**Feats:** Vessel (grav, starships, ship's boat), Armor (light, vac suit), Weapons (marksman, laser, ship's weapons), Brawling, Jack of All Trades, Zero-G/Low-G adaptation

**Equipment:** vac suit-14, carbine or laser pistol, communicator, hand computer

## SECTION 3: MILITARY

This section details the members of organized ground combat military forces.

### LOW TECH INFANTRY

Low Tech infantry are guards, retainers and soldiers found on tech level 1-4 planets. These NPCs can be used interchangeably for military, police and private guards at these tech levels. Swords, shields and studded leather armor are available at all the tech levels, but at tech levels 2-4, a bow, musket, crossbow or halberd can be substituted for the shield.

**Regular Trooper-Low Tech:** Human Army 6; TL 1-4; Init +0; AC 15 (+3 studded, +2 shield); AR 1 (studded); Spd 9m (6sq); St/Lb 29/12; Atk +5 melee (sword 1d8+3/20x2), +4 melee (halberd 1d10+1/19), +4 ranged (crossbow 1d10/19), +4 ranged (war bow 1d8/20x2), +4 ranged (musket 1d10/20x2); SV Fort +2, Ref +4, Will +2; SZ M; Str 12, Dex 11, Con 11, Int 10, Wis 10, Cha 10, Edu 8, Soc 10.

**Skills:** Spot +9, Ride +9, Gather Info +9, Survival +9, Gambling +9

**Feats:** Armor (light), Weapons (swordsman, armsman, archer or black powder), Weapon focus: sword Weapon Specialization: sword, shield proficiency, Mounted Combat, Toughness

**Equipment:** studded leather armor, large wooden shield, and sword. May replace shield with bow, crossbow, musket or halberd.

### MIDDLE TECH INFANTRY

These are typical army troopers for tech levels 5 through 8. They can be used for infantry troops, spotters, scouts or artillery gunners. These NPCs can be used as gunners in vehicles firing cannon, mortars or machineguns as well.

**Regular Trooper- Mid Tech:** Human Army 6; TL 5-8; Init +1 (+1 Dex); AC 15 (+4 flak jacket, +1 Dex); AR 4 (flak jacket); Spd 9m (6sq); St/Lb 26/11; Atk +5 ranged (assault rifle 1d12+2/20x2), +5 melee (bayonet 1d8/20x2), +5 melee (fist 1d4/20); SV Fort +2, Ref +6, Will +2; SZ M; Str 11, Dex 12, Con 11, Int 10, Wis 11, Cha 10, Edu 10, Soc 10.

**Skills:** Spot +9, Driving +10, Survival +9, Forward Observer +9, Gunnery +9

**Feats:** Vessel (wheeled), Armor (light), Weapons (marksman, combat rifleman, armsman, field artillery), Weapon Focus (assault rifle, bayonet), Weapon Specialization (assault rifle), Brawling

**Equipment:** flak jacket, assault rifle, 2 HEAP grenades, 2 fragmentation grenades, bayonet, medium ranged radio

### MIDDLE TECH VEHICLE CREW

These are typical army troopers assigned to ground or air vehicles for tech levels 5-8.

**Regular Crew- Mid Tech:** Human Army 6; TL 5-8; Init +1 (+1 Dex); AC 15 (+4 flak jacket, +1 Dex); AR 4 (flak jacket); Spd 9m (6sq); St/Lb 26/11; Atk +4 ranged (smg 1d10/20x2), +4 ranged (auto-pistol 1d10/20x2), +5 melee (fist 1d4/20); SV Fort +2, Ref



# APPENDIX I: FRIENDS AND ENEMIES

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+6, Will +2; SZ M; Str 11, Dex 12, Con 11, Int 10, Wis 11, Cha 10, Edu 10, Soc 10.

**Skills:** Spot +9, Driving +10, Pilot +10, Forward Observer +9, Gunnery +9

**Feats:** Vessel (wheeled, and tracked or aircraft (choose)), Armor (light), Weapons (marksman, combat rifleman, heavy weapons, field artillery), Brawling, Heavy Metal, Vessel Specialization (choose)

**Equipment:** flak jacket, SMG or auto-pistol

## SYDITE BRUTE SQUAD TROOPERS

Throughout the Trailing Frontier, Braknak Security LIC (a.k.a. "The Brute Squad") is famous for providing gunmen by the day, week or month in squads, platoons and companies. Recruited exclusively from the Sydite minor human race, these hulking four-armed humanoids are usually found working as guards and as light infantry on low to middle tech planets. Braknak arms its troops to TL-8 standards and so they pose no threat to Imperial interests, but are useful to corporations and local despots. On combat detail they usually are issued the heavy and intimidating Light Assault Gun with HE ammo, while on guard duty they are usually issued with military shotguns.

**Regular Brute:** Sydite Mercenary 6; TL 8; Init +2 (+2 Dex); AC 16 (+4 flak jacket, +2 Dex); AR 4 (flak jacket); Spd 9m (6sq); St/Lb 38/14; Atk +9/+4 melee (fist 1d4 +1/20); +8/+3 ranged (LAG-HE 3d10/20); +8/+3 ranged (shotgun 3d6/2d6/1d6/20); SV Fort +6, Ref +4, Will +1; SZ M; Str 13, Dex 14, Con 13, Int 8, Wis 8, Cha 8, Edu 8, Soc 9.

**Skills:** Driving +2, Spot +8

**Feats:** Vessel (wheeled, tracked), Armor (light, medium, vac suit), weapons (combat rifleman, marksman), Toughness, Point-Blank Shot, Brawling, Rapid Shot

**Equipment:** flak jacket, either light assault gun or military shotgun

## HIGH TECH ARMY TROOPS

These represent army troopers at TL12, but are only different in some equipment details for higher-level army troops. They are useable as infantry, vehicle or artillery troopers. Infantry will have a gauss rifle, with one PGMP-12 per squad, but vehicle or artillery troops will usually have a lighter Snub SMG instead.

**Regular Trooper- High Tech:** Human Army 6; TL 12; Init +1 (+1 Dex); AC 20 (+7 combat armor, +2 chameleon, +1 Dex); AR 7 (combat armor); Spd 6m (4sq); St/Lb 26/11; Atk +8 ranged (gauss rifle 2d12/20x2), +8 ranged (PGMP-12 6d12/18x2), +8 ranged (snub smg 1d10/20), +5 melee (fist 1d4/20); SV Fort +2, Ref +6, Will +2; SZ M; Str 11, Dex 12, Con 11, Int 10, Wis 11, Cha 10, Edu 11, Soc 10.

**Skills:** Pilot +10 T/Sensors +9, Spot +9, Gunnery +9, Forward Observer +9

**Feats:** Vessel (grav), Armor (light, medium, vac suit), Weapons (marksman, combat rifleman, field artillery, high energy, heavy weapons), Weapon Focus (gauss rifle and pgmp-12 or snub smg), Heavy Metal, Brawling

**Equipment:** Combat Armor 12 plus Chameleon-12, gauss rifle or pgmp-12 with HUD displays. Vehicle crews have snub SMG. Infantry troops will have 1-8 grenades too.

## VARGR MERCENARIES

These are typically encountered Vargr space mercenaries and can be used as the ship's troops on Vargr Corsair and merchant vessels as well as troops for hire throughout the Coreward areas of the Imperium.

**Regular Vargr Merc:** Vargr Mercenary 6; TL 12; Init +2 (+2 Dex);

AR 19 (+7 combat armor +2 Dex); AR 7 (combat armor); Spd 9m (6sq); St/Lb 28/9; Atk +11/+6 ranged (laser rifle 3d10/20), +11/+6 ranged (snub smg 1d10/20), +4/-1 melee (blade 1d6+1/19), +9/+4 melee (claw 1d4+1/20), +9/+4 melee (bite 1d6+4/20); SV Fort +4, Ref +4, Will +3; SZ M; Str 12, Dex 14, Con 9, Int 10, Wis 10, Cha 10, Edu 10, Soc 10, Pre 5.

**Skills:** Pilot +11, Gunnery +9

**Feats:** Vessel (grav), Armor (light, medium, vac). Weapons (combat rifleman, lasers, marksman, field artillery, heavy weapons), Zero-G Combat, Point Blank Shot, Evasion,

**Equipment:** Combat Armor-12, blade and Laser Rifle or snub SMG with HUD

## ASLAN SHOCK TROOPS

These are the shock infantry of Tech-12 Aslan clan and younger-son fleets. They can be seen guarding colonies, raiding their rivals and working as mercenaries throughout the Spinward Frontiers.

**Regular Aslan Trooper:** Aslan Marine 6; TL 12; Init +0; AC 19 (+7 combat armor, +2 chameleon); AR 7 (combat armor); Spd 12m (8sq); St/Lb 38/12; Atk +11/+6 ranged (gauss rifle 2d12/20x2), +10/+5 ranged (PGMP-12 6d12/18x2), +8/+3 melee (dewclaw 1d6+1/20); SV Fort +5, Ref +2, Will +4; SZ M; Str 13, Dex 10, Con 11, Int 10, Wis 8, Cha 10, Edu 10, Soc 10.

**Skills:** Spot +8, Demolitions +5, Pilot +4

**Feats:** Vessel (grav), Armor (light, medium, vac suit), Weapons (marksman, combat rifleman, swordsman, high energy), Weapon focus (gauss rifle), Zero-G Combat, Second Wind, Toughness, High Morale

**Equipment:** combat armor-12, chameleon-12, either gauss rifle or PGMP-12 with HUDS, personal medkit, communicator, 1-8 grenades.

## IMPERIAL MARINES

This is the players' worst nightmare - the Marines, loaded for bear. Unlike other "average" characters the marines start with STR, DEX and CON of 12. Those described here are infantry troops from a regular Line or Fleet unit, not battle-dress armored heavy strikers.

**Regular Imperial Marine:** Human Marine 6; TL 15; Init +1 (+1 Dex); AR 23 (+8 combat armor, +4 chameleon, +1 Dex); AR 8 (combat armor); Spd 6m (4sq); St/Lb 44/14; Atk +11/+6 ranged (gauss rifle 2d12/20x2), +10/+5 ranged (FGMP-15 9d20/18x2), +8/+3 melee (cutlass 1d8+1/18x2), +8/+3 melee (fist 1d4+1/20); SV Fort +6, Ref +3, Will +5; SZ M; Str 12, Dex 12, Con 13, Int 10, Wis 10, Cha10, Edu 10, Soc 10.

**Skills:** Spot +9, Demolitions +6, Pilot +5, Forward Observer +5, Survival +4

**Feats:** Vessel (grav), Armor (light, medium, vac suit), Weapons (marksman, combat rifleman, swordsman, high energy), Weapon focus (cutlass, gauss rifle), Brawling, Zero-G Combat, Second Wind, Toughness, High Morale

**Equipment:** combat armor-14, chameleon-14, either gauss rifle or FGMP-15 with HUDS, personal medkit, communicator, 1-8 grenades, cutlass.

## SECTION 4: ANIMALS TALKAN'S GRAZER

Talkan's Grazer is one of those unlikely-looking creatures that nevertheless has made itself a big success on many worlds. This large, normally docile grazer is found on many worlds, wherever it has been transplanted by colonists seeking a food animal. Somewhat larger than a Terran cow, the beast is little more than an eating machine. Its tubby body and short limbs are covered in dowdy gray fur, which is long and grows thickly, giving rise to the

nickname "Steakhamster" among colonists of Solomani descent. The neck is quite long (though its proportions are normally hidden by fur) and the pointed, slender face can reach up and into bushes and even small trees to find edible shoots.

Talkan's Grazer normally moves in herds of 8-12 beasts, of which all will be female or immature. Defense of the herd is normally accomplished by flight or by the younger females of the group, which dash in from the sides of a predator and bite its flanks.

A Steakhamster bite can seriously injure a human, though normally they are extremely docile and thus make excellent herd-beasts. Talkan's Grazer is an incredibly stupid beast, however, and will occasionally try to eat something wholly inappropriate (for example cables, brickwork, or a herder).

The male of the species is completely untameable. Thus any world that has wild or domestic herds of Talkan's Grazers also has the odd wild male. These are territorial and solitary, driving off or killing rivals in vicious battles. Occasionally a Steakhamster male goes rogue and attacks humans. Hunters are sent out to bring down the beast in this case; a necessary task but one despised by most professional hunters. Some say this is because they respect the wild nobility of the beast, but the real reason is that hunters get faintly embarrassed at the prospect of hunting (and perhaps being killed by) a gigantic long-necked, feral hamster with an attitude problem.

**Talkan's Grazer:** Medium (400kg) Herbivore/Grazer; Init +0; Flee 4+, Attack 4+, Speed 30m; AC 9 (-1 large); AR 0; St/Lb 12/15; Atk +3 melee (bite 2d8/20); SV Fort +6, Ref +4, Will -1; SZ L; Str 13, Dex 11, Con 15, Int 2, Edu -, Wis 3, Cha 4, Soc -.

**Skills:** Balance +3, Jump +4, Spot +0

**Feats:** None

**Special Abilities:** None

**Climate/Terrain:** Deserts, Plains, Grasslands

**Organization:** Herds of 8-12 creatures.

## AISK

The Aisk is a nasty little creature native to several worlds with a trace or very thin atmosphere. It resembles a large beetle (30-50cm long), with an armored shell. Within the shell are highly efficient lung/gasbags filled with a light gel-like substance.

The Aisk is a solitary scavenger, wandering its territory seeking organic matter to consume. Any kind of organic matter is acceptable - vegetable or animal, processed or raw. Thus careless travellers who throw trash about wherever they land may find one or more Aisk scavenging around their ship, or even trundling slowly up the boarding ramp in search of more edibles.

Aisk can survive quite extreme temperatures (high and low), but have little tolerance for pressure. Even a thin atmosphere will eventually kill one; standard and dense atmospheres will be fatal in a matter of hours.

Nevertheless, Aisk can and do get aboard ships and lay eggs, some surviving for several weeks on shipboard refuse. They can burrow into cable bundles and similar places, and their pinners can give a nasty nip if they are cornered. Aisk also pose two additional hazards - they are internally pressurized, and they burn well. If fire is used against one and its body is pierced, the gel from its lungs will catch fire and spurt out under pressure, turning the dying Aisk into a small ambulatory flamethrower. Treat as an area attack (3m radius) causing 1d6 Stamina and 1d4 Lifeblood damage to anything failing a Reflex save (DC15).

**Aisk:** Tiny (3kg) Scavenger/Reducer; Init +2 (+2 Dex); Attack 6+, Flee 7+, Speed 12m; AC 19 (+5 natural armor, +2 tiny, +2 Dex); AR 5 (natural armor); St/Lb 4/3 (1d8); Atk +2 melee (bite 1d3/20); SV Fort +0, Ref +16, Will -2; SZ T; Str 2, Dex 15, Con 3, Int 1, Edu -, Wis 5, Cha 2, Soc -.

**Skills:** Climb +4

**Feats:** None

**Special Abilities:** Fiery Death (see description)

**Climate/Terrain:** Any thin or trace atmosphere environment

**Organization:** Solitary

## ZETIL'S CUSS

This vicious and destructive aquatic beast is named for the xenobiologist who discovered it, and whose revulsion for such creatures is legendary. The Cuss is an eel-like creature, with manipulatory tentacles sprouting from under its "chin". It can grow to three or more meters long, though typical specimens are about a meter from jaw to tip of tail.

Cusses often swim in packs, and will chase down quite large prey (including humans), seizing their victim with teeth and tentacles before biting it to death. Packs often enter a feeding frenzy that becomes a berserk killing spree; long after the pack is sated its members will keep on attacking anything nearby, sometimes including one another.

There is no known reason for the mindless hostility of this creature. Travellers are advised to use extreme caution when in Cuss-infested waters.

**Zettil's Cuss:** Small (25kg) Aquatic Carnivore/Chaser; Init +2 (+2 Dex); Attack If more, Flee 10+, Speed 24m; AC 13 (+1 small, +2 Dex); AR 0; St/Lb 9/5 (2d10); Atk +6 melee (bite 1d4/20); SV Fort -2, Ref +14, Will +2; SZ S; Str 5, Dex 14, Con 5, Int 2, Edu -, Wis 5, Cha 4, Soc -.

**Skills:** Spot +1

**Feats:** None

**Special Abilities:** None

**Climate/Terrain:** Fresh or salt water coastlines

**Organization:** Packs of 3d4

## PSEUDOSAUR

The pseudosaur is named for its close resemblance to certain types of Terran dinosaur. It is an upright biped, standing 3 meters or so, with a powerful jaw and tearing claws. Pseudosaurs normally hunt in family groups of 3-5 individuals (including semi-mature and immature young). They are warm-blooded and can reach high speeds over a short distance.

Pseudosaurs are often hunted by people seeking a challenge; they certainly provide one. Pseudosaur hide is an expensive trade commodity, and is used to create impressive clothing items. The hide is dark, almost black, but possessed of a multicolored sheen in the right light. It is also extremely tough, and prized by some travellers for its durability in the field.

Pseudosaur hunting is not limited by any law save those of nature; the beasts are large, fast, and vicious, and many hunters do not come back.

**Pseudosaur:** Large (400kg) Carnivore/Killer; Init +1 (+1 Dex); Attack 4+, Flee 8+, Speed 15m; AC 12 (-1 large, +2 natural armor, +1 Dex); AR 2 (natural armor); St/Lb 24/12 (4d10+2); Atk +3 melee (claw 1d4/20), +10 melee (bite 2d8/20); SV Fort +3, Ref +7, Will -2; SZ L; Str 14, Dex 12, Con 12, Int 2, Edu -, Wis 5, Cha 11, Soc -.

**Skills:** Spot +1

**Feats:** None

**Special Abilities:** None

**Climate/Terrain:** Plains, Grasslands, Woodlands

**Organization:** Family groups of 3-5.

The NPCs presented in this appendix are taken from 76 *Gunmen*, a forthcoming issue in the *Traveller's Aide* PDF supplement series available through the *TravellerRPG.com* website. The *Traveller's Aide* is available for order as single issues, or may be obtained through a 6 or 12 issue subscription!

# APPENDIX II: GLOSSARY

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**2000 Worlds:** A major power in Charted Space, the 2000 worlds is ruled by the K'Kree. It lies to Trailing of the Imperium.

**Ability Check:** A check of 1d20 + the appropriate ability modifier vs. a DC.

**Ability Modifier:** The bonus or penalty associated with a particular ability score.

**Ablat:** Ablative anti-laser armor.

**AC:** Armor Class.

**Aca:** Academic.

**Ace:** Ace Pilot.

**ACR:** An Advanced Combat Rifle

**Advanced Combat Rifle:** A sophisticated but conventional projectile weapon built at high tech level. ACRs are capable of automatic fire.

**Air/Raft:** A small gravitic (grav) vehicle often used as personal transport.

**Agility:** Agility refers to a vessel's ability to make violent maneuvers while remaining under control of the operator.

**Aht:** Army, high-tech.

**Alt:** Army, low-tech.

**Amber Zone:** A world where greater than usual caution is advised. Reasons for Amber Zoning vary from natural conditions to war, famine or plague.

**Amt:** Army, mid-tech.

**Ancients:** A mysterious species that once ruled Charted Space. All that remains of them are artifacts and the occasional ruin.

**AP:** Armor Piercing ammunition. Improves the odds of a round penetrating any armor protecting a target if a shot hits.

**AR:** Armor Rating.

**Armed Merchant Cruiser:** A civilian vessel fitted with armament for some purpose. AMCs are sometimes used as commerce guards. They are no match for a real warship, but may be able to beat off corsairs.

**Armor Class:** A number representing a creature's ability to avoid being hit in combat. An opponent's attack roll must equal or exceed the target creature's Armor Class to hit it.

**Armor Rating:** A number representing the number of damage dice that will be reduced if hit in combat.

**Aslan:** A major race of Charted Space, named by early explorers for a vaguely leonine appearance.

**Aslan Hierate:** A major power in Charted Space, the Hierate lies to Spinward of the Imperium.

**Assault Rifle:** A lightweight mid-tech weapon developed from the autorifle.

**Assault Shotgun:** A heavy shotgun capable of full-automatic fire.

**Assault Transport:** A troop transport vessel designed to deliver ground troops straight into planetary combat.

**Attack of opportunity:** A single extra melee attack per round that a combatant can make when an opponent within reach takes an action that provokes attacks of opportunity.

**Attack roll:** 1d20 + base attack bonus + Dexterity modifier + size modifier + range penalty. The attack hits if the result is at least as high as the target's Armor Class.

**ATV:** All-Terrain Vehicle: A rugged tracked or wheeled vehicle capable of traversing a variety of terrain.

**Autopistol:** Also automatic pistol, self-loading pistol or just pistol: a handgun fed by a removable magazine.

**Autorifle:** A mid-tech weapon capable of fully-automatic fire.

**Auxiliary:** A merchant ship in use by the Navy, normally to undertake routine transport operations.

**Battlecruiser:** A heavily armed and fast but lightly protected vessel. In some ways an alternative to a battleship, but very vulnerable to spinal weapon fire.

**Battleship:** A very powerful warship capable of standing in the line of battle and destroying opposing vessels.

**Battle Dress:** Heavy powered personal armor. The ultimate in personal protection.

**Battle Rider:** A powerful non-Jump-capable warship designed to be carried into action aboard a Tender.

**Bayonet:** A blade, knife or spike designed to be fitted on the barrel of a longarm, creating a spear-like weapon. Bayonets can be used in the hand as a fighting knife or as a tool.

**Bbn:** Barbarian.

**Belter:** An asteroid miner.

**Bgh:** Big Game Hunter.

**Black Powder Weapon:** A handgun, musket, shotgun or rifle in which the propellant is loose black powder. Unreliable and inaccurate.

**Blade:** Any blades weapon may be referred to as a "blade". A Blade specifically is a heavy machete or short-swordlike weapon, uses as a fighting or survival tool

**Blinded:** Unable to see. A blinded character suffers a 50% miss chance in combat, loses any Dexterity bonus to AC, moves at half speed, and suffers a -4 penalty on Search checks and on most Strength- and Dexterity-based skill checks. Any skill check that relies on vision automatically fails. Opponents of a blinded character gain a +2 bonus to



their attack rolls, since they are effectively invisible.

**Blit:** Belter.

**Boat:** A small craft. Also, a small defensive spacecraft (as in System Defense Boat).

**Bombardment Ship:** A vessel deigned to undertake planetary bombardment. This is typically a "cruiser" role.

**Broadsword:** A sword weapon designed for use in both hands.

**Capital Ship:** A major warship, for example a battleship, battlecruiser, fleet carrier or dreadnaught.

**Carrier:** A naval vessel whose main striking power lies in subordinate craft (typically fighters) carried aboard.

**Centimeter:** A metric measurement of distance or length; 10 millimeters or 1/100 of a meter.

**CEV:** Combat Environment suit.

**Cha:** Charisma.

**Charisma:** An ability. Charisma measures a character's force of personality, persuasiveness, personal magnetism, ability to lead, and physical attractiveness. It represents actual personal strength, not merely how others perceive one in a social setting.

**Charted Space:** The region of space inhabited by humans and thousands of other races, both major and minor. Charted space encompasses 128 sectors and more than 80,000 worlds.

**Client State:** An independent political unit (one or more worlds) that has the patronage of a larger power. The relationship is usually beneficial and is normally economic in nature, though political and defensive arrangements will normally exist.

**Close Escort:** A very small naval vessel optimized for the protection of other vessels.

**Cloth:** Ballistic cloth; a type of bullet-resistant armor.  
cm: Centimeter.

**Combat Armor:** A sealed suit of heavy armor; the modern equivalent of plate armor. Very effective against weapons, and also provides protection against hostile environments.

**Comm:** A personal communicator. Many comms include other features like data and banking access facilities.

**Commerce Raider:** A legitimate warship attacking commercial traffic as part of military operations, and not for profit.

**Con:** Constitution.

**Constitution:** An ability. Constitution represents a character's health and stamina.

**Contragravity, CG:** The antigravity units used to life space vessels and grav vehicles.

**Coreward:** See Galactic Directions.

**Corsair:** A pirate vessel. Many Vargr consider piracy a

respectable trade, and use the term "Corsair" to refer to themselves and their vessels.

**Courier:** A small, fast vessel designed for carrying messages.

Cr: Imperial Credit.

**Cruiser:** A major warship, capable of carrying a powerful spinal mount weapon. Cruisers undertake many tasks. Various types exist: strike, armored, light, heavy and battle to name but five. Each has a particular role. Also, the Imperial Navy sometimes designates some very small vessels as "cruisers". This refers to the long cruises they undertake while on patrol rather than their capabilities.

**Cutlass:** A heavy, curved sword weapon used in one hand. The traditional dress weapon of the Imperial Marine Corps.

**Cutter:** A 50-ton small craft with a detachable module bay.

**Dazed:** Unable to act normally. A dazed character can take no actions, but can defend against attacks normally.

**Dazzled:** Unable to see well because of over stimulation of the eyes. A dazzled creature suffers a -1 penalty on attack rolls until the effect ends.

**DC:** Difficulty Class.

**Deafened:** Unable to hear. A deafened character suffers a -4 penalty to initiative, automatically fails Listen checks, and has a 20% chance of spell failure when casting spells with verbal components.

**Destroyer:** A small to medium sized warship designed for independent and flotilla operations. Destroyers normally protect larger vessels, but may sometimes undertake operations in their own right.

**Dewclaw:** a retractable claw found under the thumbs of an Aslan.

**Dex:** Dexterity.

**Dexterity:** An ability. Dexterity measures hand-eye coordination, agility, reflexes, and balance.

**Difficulty Class:** The target number that a player must meet or beat for a check or saving throw to succeed.

**Domain:** A region of space containing 4 sectors, administered by an Archduke.

**Downport:** A starport situated on-planet, or the ground components of a port with both orbital and ground facilities.

**Dreadnaught:** The newest and most powerful battleships are termed Dreadnaughts.

**Dromedary:** A naval supply ship capable of delivering both fuel and dry stores.

**Droyne:** A major race of Charted Space, Droyne are found on many scattered worlds but have no major interstellar polities.

**ECM:** Electronic Counter-Measures.

**Edu:** Education.

**Education:** An ability. Education represents the accumulated general knowledge accumulated over the life of the character, either through formal or informal education.

**Energy Points:** A measurement of the amount of energy that must be supplied to an object for it to operate, or the amount of energy that is supplied by a given type of power plant.

**Energy Weapon:** A ranged weapon that uses energy rather than physical projectiles to cause harm. Examples include lasers, plasma and fusion guns.

**Entangled:** Entanglement impedes movement, but does not entirely prevent it unless the bonds are anchored to an immobile object or tethered by an opposing force. An entangled creature moves at half speed, cannot run or charge, and suffers a -2 penalty to attack rolls and a -4 penalty to its effective Dexterity score.

**EP:** Energy Points.

**Escort:** A small naval vessel designed for the protection of other vessels, patrol work and similar light tasks. Escorts cannot survive in battle with a major combat vessel.

**Exhausted:** Tired to the point of significant impairment. A fatigued character becomes exhausted by doing something else that would normally cause fatigue. An exhausted character moves at half normal speed and suffers an effective ability decrease of -6 to both Strength and Dexterity. After 1 hour of complete rest, an exhausted character becomes fatigued.

**Far Trader:** A small merchant ship capable of Jump-2 or more.

**Fatigued:** Tired to the point of impairment. A fatigued character can neither run nor charge and suffers an effective ability decrease of -2 to both Strength and Dexterity. After 8 hours of complete rest, fatigued characters are back to normal.

**Feat:** A quality or special ability of a character.

**Fighter:** A small, maneuverable naval craft intended primarily for patrol and screening work.

**Flat-footed:** Especially vulnerable to attacks at the beginning of a battle. Characters are flat-footed until their first turns in the initiative cycle. Flat-footed creatures cannot use their Dexterity bonuses to AC or make attacks of opportunity.

**FGMP:** Fusion Gun, Man Portable.

**Foil:** A light cut-and-thrust weapon, somewhat similar to a rapier. The Foil is the traditional weapon of the nobility.

**Fortitude save:** A type of saving throw, related to a character's ability to withstand damage thanks to his physical stamina.

**Free Trader:** Any small merchant ship. Also a specific design of ship – small, with limited Jump capability. Personnel making their living aboard such a ship may also call themselves Free Traders.

**Freighter:** A large cargo-only starship. "Bulk Freighters" are characterized by very large cargo holds, and transport things like ore, grain etc.

**Freightliner:** A large mercantile vessel that carries cargo and passengers.

**Frightened:** Fearful of a creature, situation, or object. Frightened creatures flee from the source of their fear as best they can. If unable to flee, they may fight, but suffer a -2 morale penalty to all their attack rolls, weapon damage rolls, and saving throws.

**g:** gram.

**G:** Gravity.

**Galactic Directions:** North and South do not work when referring to direction within the galaxy. Instead, the following conventions have achieved widespread acceptance when referring to astrographic directions. Toward the galactic core is coreward; away from it, in the direction of the rim, is rimward. In the direction that the galaxy is rotating is spinward, while the opposite direction is trailing.

**Garden World:** An Earthlike planet where humans can thrive unaided.

**Gauss Weapon:** A pistol, rifle or support weapon in which a projectile is accelerated to extreme velocities by an electromagnetic field.

**Gas Giant:** A huge, Jumper-like planet.

**Gram:** A metric measurement of weight, 1/1000 of a kilogram. One pound (US) is equal to roughly 450 grams.

**Grav Vehicle:** A vehicle that uses contragravity lifters rather than wheels or tracks.

**Gravitics:** The science of manipulating gravity. Also the contragravity units of a vehicle may be referred to as "the gravitics".

**Gravity:** Use in reference to either the gravitational pull of a stellar body or the acceleration rate of a smallcraft or starship in normal space.

**Gunship:** A large craft, similar to an SDB, but carried aboard certain types of carrier or tender for offensive and escort operations.

**Handcomp:** A hand computer

**Handgun:** A revolver, autopistol, gauss pistol etc.

**HE:** High Explosive ammunition.

**HEAP:** High Explosive, Armor Piercing ammunition.

**HEAP:** High-Explosive Dual-Purpose (HE and fragmentation) ammunition.

**HEV:** Hostile Environment suit.

**High-Energy Weapon:** Particularly powerful energy weapons, such as Plasma and Fusion guns.

**Highport:** An orbital starport, or the orbital component of a starport with both orbital and ground facilities.

**Hive Federation:** A major interstellar power lying to rimward-trailing of the Imperium.

**Hivers:** A major race of Charted Space.

**Humaniti:** The current spelling of humanity, used when referring to humans in a general sense. The term refers to the human species and subspecies rather than the quality of being humane, which can be applied to any sentient species.

**Iceball:** A cold, normally airless world.

**Imperial Credit:** The mostly commonly used form of currency used in the Traveller universe.

**Imperium:** In the OUT, the main human interstellar civilization, the 3rd Imperium, is usually just referred to as the Imperium.

**Int:** intelligence.

**Intelligence:** An ability. Intelligence determines how well a character learns and reasons.

**IR:** Infrared.

**Jack:** A padded, resilient jerkin providing some protection against melee weapons.

**k:** Kilometer.

**K'Kree:** A major race of Charted Space. K'Kree are militant herbivores descended from herd animals.

**kg:** Kilogram.

**KCr:** Kilocredit. One thousand Imperial credits.

**Kilogram:** A metric measurement of weight; 1000 grams or approximately 2.2 pounds (US).

**Kilometer:** A metric measurement of distance or length; 1000 meters or approximately 0.62 miles (US).

**Kph:** Kilometers per hour.

**LAG:** A Light Assault Gun.

**Launch:** A 20-ton small craft used for passenger and cargo transfers, and as a lifeboat.

**LI:** Light Intensifying.

**Lifeblood:** A measure of the amount of lethal (impaling, cutting, etc) damage a character can take before dying.

**Lighter:** A large cargo transfer craft, normally or more than 100 tons displacement, may be termed a Lighter.

**Liner:** A large passenger vessel, which may sometimes carry a small amount of cargo in addition to its passengers.

**LMG:** A Light Machine Gun.

**Logistics Ship:** A transport vessel designed to carry dry stores for the support of ground or naval units.

**Longarm:** A firearm designed to be used in both hands.

**m:** Meter.

**Mar:** Marine.

**mm:** Millimeter.

**Mainworld:** The most important planet in a system, normally the source of the system name.

**Major Race:** A species that developed the Jump Drive independently; sometimes used to describe a powerful race that did not.

**MCr:** Megacredit. One million Imperial credits.

**Mct:** Merchant.

**Megacorporation:** A huge, Imperium-wide corporation. Megacorporations have their own private military forces and wield powerful political influence.

**Merchant Ship:** Any commercial starship.

**Mesh:** Metal or ceramic mesh woven into a tough garment, providing good protection against melee weapons.

**Meson Gun:** A powerful but short-ranged variant of the particle accelerator, often used as a main starship armament.

**Meter:** A metric measurement of distance or length; 100 centimeters or approximately 3 feet (US).

**Millimeter:** A metric measurement of distance or length; 1/1000 of a meter.

**Minor Race:** A race that did not develop the Jump drive independently but learned of it from outsiders (or has never achieved interstellar flight). Also, a race without any real power or influence.

**Monitor:** A large and powerful spacecraft designed for system defense.

**Mry:** Mercenary.

**Musket:** A low-tech smoothbore weapon muzzle-loaded with black powder and ball.

**Nauseated:** Experiencing stomach distress. Nauseated creatures are unable to attack, cast spells, concentrate on spells, or do anything else requiring attention. The only action such a character can take is a single move (or move-equivalent action) per turn.

**Nav:** Navy.

**Nbl:** Noble.

**Noble:** A member of the planetary or Imperial nobility.

**Nonintelligent:** Lacking an Intelligence score. Mind-affecting spells do not affect nonintelligent creatures.

**OTU:** An acronym for the Official Traveller Universe.

**Panicked:** A panicked creature must drop anything it holds and flee at top speed from the source of its fear, as well as any other dangers it encounters, along a random path. In addition, the creature suffers a -2 morale penalty on saving throws. If cornered, a panicked creature cowers and does not attack, typically using the total defense action in com-



bat.

**Paralyzed:** Unable to move or act physically. Paralyzed characters have effective Dexterity and Strength scores of 0 and are helpless.

**Particle Accelerator:** A powerful energy weapon with a longer range than a meson gun, often used as a main starship armament.

**Pinnacle:** An aerodynamic 40-ton small craft.

**PGMP:** Plasma Gun, Man Portable.

**Portacomp:** A powerful but portable computer unit.

**Prf:** Professional.

**Prone:** Lying on the ground. An attacker who is prone has a -4 penalty to melee attack rolls and cannot use a ranged weapon (except for a crossbow). Melee attacks against a prone defender have a +4 bonus, and ranged attacks against a prone character have a -4 penalty.

**Pres:** presence.

**Presence:** A special ability applied to Vargr only. Presence measures the status of a Vargr among their racial peer.

**PSI:** Psionic Strength.

**Psionic Strength:** The measure of a character's potential psionic ability. Normally unknown until tested at a Psionics Institute.

**Q-Ship:** An armed vessel disguised as a merchant or similar harmless craft.

**RAM:** Rocket Assisted, Multi-Purpose grenades.

**Red Zone:** A world to which access is prohibited for a variety of reasons. Examples include worlds under sanction, highly dangerous planets and prison worlds.

**Reflec:** Reflective anti-laser armor.

**Reflex save:** A type of saving throw, related to a character's ability to withstand damage thanks to his agility or quick reactions.

**Revolver:** A handgun fed from a revolving internal cylinder, typically containing six rounds.

**Rifle:** Any longarm with a rifled barrel is a "rifle". Specifically, a Rifle is a mid-tech bolt-action or semi-automatic weapon fed from an internal magazine, or loaded singly.

**Rifle-Musket:** A rifled black powder weapon; more accurate than a musket.

**Rift:** An area of space where stars are very sparse. Rifts can be major obstacles to navigation.

**Rimward:** see Galactic Directions.

**Rockball:** A planet that is little more than a ball of rock. Typically Rockballs have very thin, trace or no atmosphere, and no life. They may be hot or cold.

**Rog:** Rogue.

**Save:** Saving throw.

**Saving throw:** A roll made to avoid (at least partially) damage or harm.

**Sct:** Scout.

**Scout/Courier:** A small vessel designed for a variety of roles, including messenger and exploration craft.

**Sector:** A region of space 4 by 4 subsectors in size, normally forming an administrative region.

**Ship's Boat:** A small, fast 30t small craft used for personnel and cargo transfers.

**Shotgun:** A smoothbore weapon that normally fires pellets or flechettes. Various types exist but the standard is a pump-action weapon fed by a 6-round internal magazine.

**Shuttle:** Any cargo or passenger-carrying small craft can be termed a Shuttle, but the term is normally reserved for craft or around 100t.

**SI:** Structural Integrity.

**Sidearm:** A light weapon carried for self-defense. Typically a handgun but may also be a melee weapon.

**Skill:** an ability or area of knowledge or expertise which can be improved over time.

**Slow Boat:** A cheaper and less maneuverable version of the Ship's Boat.

**Slow Pinnacle:** A cheaper and less maneuverable version of the Pinnacle

**Smallcraft:** A small space-going that is not equipped with a Jump drive and is incapable of interstellar travel.

**SMG:** A Submachine Gun.

**Soc:** social standing.

**Social standing:** An ability. Social standing represents the status of a character in common society. A social standing score of 16 or higher is considered nobility.

**Sophont:** A sentient being.

**Solomani:** One of the races of Humaniti, originating on Terra. Also, a person from a culture strongly influenced by old Terran traditions.

**Solomani Confederation:** A powerful interstellar state lying to Rimward of the Imperium.

**Solomani Hypothesis:** The generally accepted idea that all Humaniti originated on Terra, and was transplanted throughout the universe by the Ancients, for reasons that remain unclear.

**Spacecraft:** Any vessel capable of interplanetary flight but not Jump. See also smallcraft.

**Spaceport:** A minor port that deals mainly with interplanetary rather than interstellar vessels.

**Speeder:** A fast version of the Air/raft.

**Spinal Mount:** A starship weapon mount running along the entire length of a ship, allowing for a very powerful weapon system to be installed.

**Spinward:** see Galactic Directions.

**Subsector:** A region of space 8 by 10 parsecs in size, normally forming an administrative region.

**Subsidized Merchant:** Any trade ship can obtain a subsidy and operate as a subsidized merchant, but the term normally refers to a specific type of vessel - a smallish starship carrying both cargo and passengers. "Subbies" normally ply a set route.

**Stamina:** Equivalent to Hit Points, Stamina is a measure of how much non-lethal damage a character can take before collapsing.

**Starport:** A port serving interstellar travel; also the main spaceport on a planet.

**Starship:** Any space-going vehicle of 100 tons displacement or greater, and equipped with a Jump drive.

**Startown:** The town, village or city adjacent to most starports. Startowns have a reputation for being somewhat rough and ready; not all of them deserve this.

**Str:** Strength.

**Strength:** Strength measures a character's muscle and physical power.

**Stunned:** A stunned creature can't take actions and loses any positive Dexterity modifier to AC. Each attacker gains a +2 bonus to attack rolls against that creature. In addition, stunned characters immediately drop anything they are holding.

**Sword:** Any bladed hilt weapon used in one hand; swords come in many specific types.

**System:** A star system includes one or more stars, orbited by other bodies including planets, asteroids and comets.

**Take 10:** To reduce the chances of failure on certain skill checks by assuming an average die roll result (10 on a 1d20 roll).

**Take 20:** To greatly reduce the chances of failure for certain skill checks by assuming that a character makes sufficient retries to obtain the maximum possible check result (as if a 20 were rolled on 1d20).

**Talent:** A specific Psionic ability.

**Tanker:** A naval vessel capable of skimming and refining fuel, and supplying it to other vessels.

**TAS:** Travellers' Aid Society.

**Tender:** A naval vessel designed to support the operations other vessels. Examples include Xboat Tenders, which support Jump-Capable express boats, and Battle Tenders, which transport Battle Riders into action.

**Tfr:** TAS Field Reporter.

**TH:** Thrust.

**TL:** Tech(nology) Level.

**Ton:** When used in reference to a smallcraft or starship,

this refers to displacement tonnage or roughly 14 cubic meters of space. When referencing weight, this refers to metric tonnage (1000kg) unless otherwise noted.

**Trailing:** see Galactic Directions.

**Traveller's Aid Society:** An organization that supports and assists Travellers in the Imperium and some neighboring regions. TAS offers news, information and discounted accommodation to its members.

**Travellers' Aide:** A regular gazette published by QLI, providing information on specific aspects of Travelling and Charted Space. Travellers' Aide has been the subject of some legal questions on the part of TAS, but has retained its distinct identity.

**Trv:** Traveller.

**USP:** Universal Ship Profile.

**UWP:** Universal World Profile. A shorthand notation of the raw basic details of a world.

**Vac Suit:** A sealed suit designed to protect the wearer from hostile environments or vacuum.

**Vargr:** A major race of Charted Space, Vargr are descended from Terran canines.

**Vargr Extents:** A region of space lying to Coreward of the Imperium, divided between several Vargr states.

**Vilani:** One of the races of Humaniti, originating on Vland. Also, a person from a culture heavily influenced by Vilani traditions.

**vl:** Volume.

**Volume:** A unit of measure used when designing vehicles and starships under the T20 rules.

**Will save:** A type of saving throw, related to a character's ability to withstand damage thanks to his mental toughness.

**Wis:** wisdom.

**Wisdom:** An ability. Wisdom describes a character's willpower, common sense, perception, and intuition. While Intelligence represents one's ability to analyze information, Wisdom is more related to being in tune with and aware of one's surroundings.

**Xboat:** An express message boat. Xboats have Jump but no maneuver drives, and rely on tenders to support and retrieve them.

**Zhodani:** One of the races of Humaniti, whose culture embraces psionics.

**Zhodani Consulate:** A powerful interstellar state lying to Spinward-Coreward of the Imperium.

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## EQUIPMENT CARRIED

Item	Location	Wt	Item	Location	Wt
Current Load			Total Weight Carried		

### OTHER POSSESSIONS

[illegible]

## FEATS & SPECIAL ABILITIES

This image shows a single page of white paper with horizontal blue or grey ruling lines. The lines are evenly spaced and run across the width of the page, leaving small margins at the top and bottom. There are no vertical margin lines, and the page is completely blank except for the lines themselves.

## CREDITS

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## EXPERIENCE

A diagram consisting of a large rectangle divided into two horizontal sections. The top section is labeled "Total Experience" and the bottom section is labeled "XPs Needed For Next Level".

## LANGUAGES

[illegible]

## BACKGROUND

[illegible]

## NOTES

[illegible]



PRIOR HISTORY WORKSHEET										
Service			Skill Points per Level			Terms Served		Years Served		
Discharge Age		Final Rank				XP Earned				
<input type="checkbox"/> Honorable Discharge? <input type="checkbox"/> Retired? Retirement Pay Cr _____ per year										
UNIVERSITY		<input type="checkbox"/> Admitted? <input type="checkbox"/> Graduated? (4000 XP, 12 EDU) <input type="checkbox"/> Honors Graduate? (1000 XP, +1 EDU)					YEARS	AGE		
NOTES										
GRADUATE		<input type="checkbox"/> Admitted? <input type="checkbox"/> Graduated? (2000 XP, 14 EDU) <input type="checkbox"/> Honors Graduate? (500 XP, +1 EDU)					YEARS	AGE		
NOTES										
DOCTORATE		<input type="checkbox"/> Admitted? <input type="checkbox"/> Graduated? (2000 XP, 16 EDU) <input type="checkbox"/> Honors Graduate? (500 XP, +1 EDU)					YEARS	AGE		
NOTES										
TERM 1		ASSIGNMENT					YEARS	AGE	RUNNING XP TOTAL	
<input type="checkbox"/> Survival (4000 XP) <input type="checkbox"/> Commission (2000 XP) <input type="checkbox"/> Promotion (1000 XP) <input type="checkbox"/> Decoration ( _____ XP)						RANK				
<input type="checkbox"/> Cash Bonus Cr _____ <input type="checkbox"/> XP Bonus (1d4 x 1000 XP, _____ XP)						DECORATION				
TERM 2		ASSIGNMENT					YEARS	AGE	RUNNING XP TOTAL	
<input type="checkbox"/> Survival (4000 XP) <input type="checkbox"/> Commission (2000 XP) <input type="checkbox"/> Promotion (1000 XP) <input type="checkbox"/> Decoration ( _____ XP)						RANK				
<input type="checkbox"/> Cash Bonus Cr _____ <input type="checkbox"/> XP Bonus (1d4 x 1000 XP, _____ XP)						DECORATION				
TERM 3		ASSIGNMENT					YEARS	AGE	RUNNING XP TOTAL	
<input type="checkbox"/> Survival (4000 XP) <input type="checkbox"/> Commission (2000 XP) <input type="checkbox"/> Promotion (1000 XP) <input type="checkbox"/> Decoration ( _____ XP)						RANK				
<input type="checkbox"/> Cash Bonus Cr _____ <input type="checkbox"/> XP Bonus (1d4 x 1000 XP, _____ XP)						DECORATION				
TERM 4		ASSIGNMENT					YEARS	AGE	RUNNING XP TOTAL	
<input type="checkbox"/> Survival (4000 XP) <input type="checkbox"/> Commission (2000 XP) <input type="checkbox"/> Promotion (1000 XP) <input type="checkbox"/> Decoration ( _____ XP)						RANK				
<input type="checkbox"/> Cash Bonus Cr _____ <input type="checkbox"/> XP Bonus (1d4 x 1000 XP, _____ XP)						DECORATION				
TERM 5		ASSIGNMENT					YEARS	AGE	RUNNING XP TOTAL	
<input type="checkbox"/> Survival (4000 XP) <input type="checkbox"/> Commission (2000 XP) <input type="checkbox"/> Promotion (1000 XP) <input type="checkbox"/> Decoration ( _____ XP)						RANK				
<input type="checkbox"/> Cash Bonus Cr _____ <input type="checkbox"/> XP Bonus (1d4 x 1000 XP, _____ XP)						DECORATION				
TERM 6		ASSIGNMENT					YEARS	AGE	RUNNING XP TOTAL	
<input type="checkbox"/> Survival (4000 XP) <input type="checkbox"/> Commission (2000 XP) <input type="checkbox"/> Promotion (1000 XP) <input type="checkbox"/> Decoration ( _____ XP)						RANK				
<input type="checkbox"/> Cash Bonus Cr _____ <input type="checkbox"/> XP Bonus (1d4 x 1000 XP, _____ XP)						DECORATION				
TERM 7		ASSIGNMENT					YEARS	AGE	RUNNING XP TOTAL	
<input type="checkbox"/> Survival (4000 XP) <input type="checkbox"/> Commission (2000 XP) <input type="checkbox"/> Promotion (1000 XP) <input type="checkbox"/> Decoration ( _____ XP)						RANK				
<input type="checkbox"/> Cash Bonus Cr _____ <input type="checkbox"/> XP Bonus (1d4 x 1000 XP, _____ XP)						DECORATION				
TERM 8		ASSIGNMENT					YEARS	AGE	RUNNING XP TOTAL	
<input type="checkbox"/> Survival (4000 XP) <input type="checkbox"/> Commission (2000 XP) <input type="checkbox"/> Promotion (1000 XP) <input type="checkbox"/> Decoration ( _____ XP)						RANK				
<input type="checkbox"/> Cash Bonus Cr _____ <input type="checkbox"/> XP Bonus (1d4 x 1000 XP, _____ XP)						DECORATION				
CASH BENEFITS		MATERIAL BENEFITS			DECORATION EXPERIENCE VALUES					
					Purple Heart ..... 1000 XP					
					Meritorious Conduct Under Fire, DC+ (MCUF) ..... 2000 XP					
					Medal for Conspicuous Gallantry, DC+5 (MCG) ..... 4000 XP					
					Starburst for Extreme Heroism, DC+10 (SEH)..... 8000 XP					
					NOTES					





# SUBSECTOR MAP

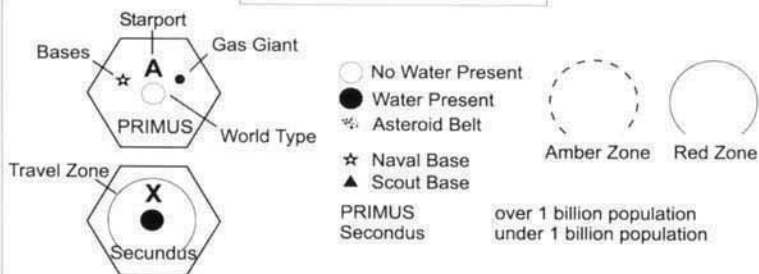
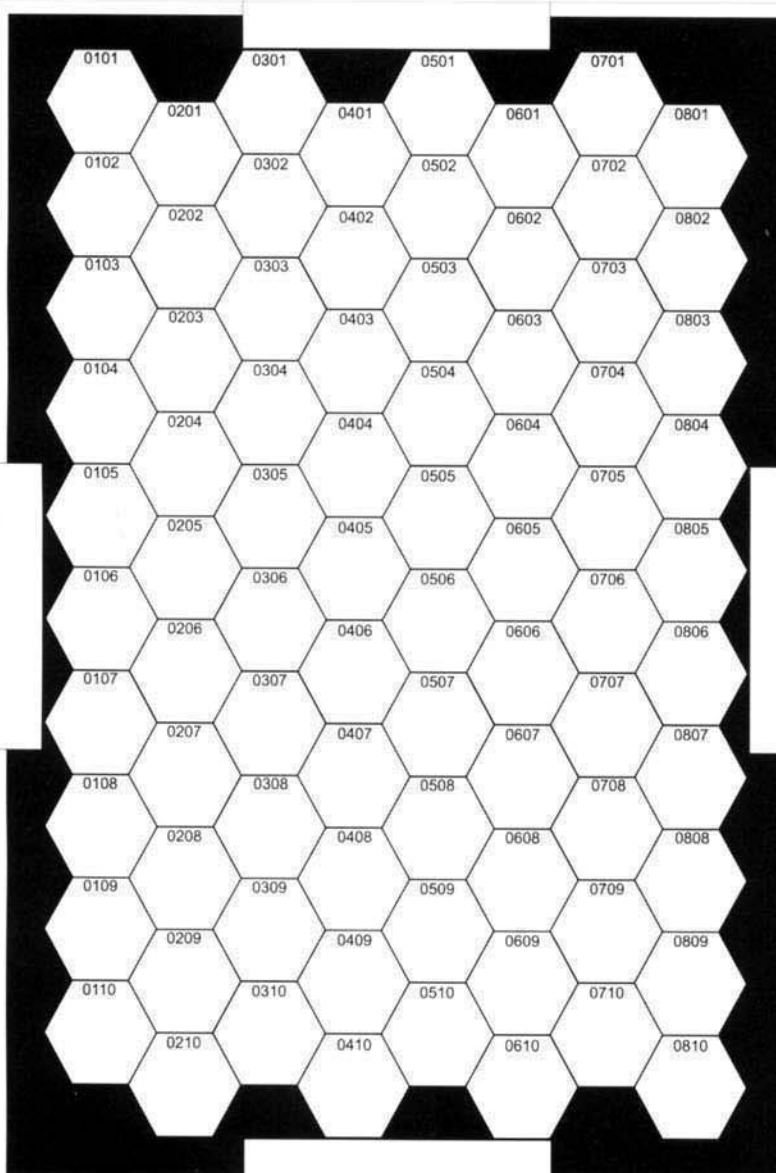
A	B	C	D
E	F	G	H
I	J	K	L
M	N	O	P

SUBSECTOR

Domain: \_\_\_\_\_

Sector: \_\_\_\_\_

WORLD UWP's



TAS Form 6.1

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Subsector Map



World Name					UWP				
Hex Scale in km									
11									11
10									
9									
8									
7									
6									
5									
4									
3									
2									
1									
1									1
2									2
3									3
4									4
5									5
6									6
7									7
8									8
9									9
10									10
11									11

Trade Classifications			Domain		Sector		Subsector		Hex		
Travel Zone Classification		Primary Star Type		Binary Star Type		Trinary Star Type		Orbit		Year Length	
Gas Giants		Planetoid Belts									
Starport Type						Bases Present					
Size						Gravity		Natural Resources			
Atmosphere						Climate		Max Temp.		Night Temp.	
Hydrographics						Biodiversity		Biodiversity			
Population						PopX		Total Population			
Government						World Trade Balance					
Law Level											
Tech Level											

SATELLITES


**IS Form 8.2**    **World Worksheet**

Description



## X-TEK Weapons Datafile

### "QuadPulse" Point Defence Laser System

The Quadpulse system consists of a small, 1/4 ton rapid pulse laser designed for point defense. These small lasers are often incorporated in clusters of 4 which fits into a standard turret socket. Up to 12 can fit into a single 1dt turret. The effect is a large number of small lasers discharging in a rapid cyclic rate to saturate an area with laser fire and destroy incoming missiles.

#### Statistics:

A single quadpulse unit is Mcr0.25 and requires 0.125EP. It takes up 1/4 the space of a laser in a 1dt turret.  
A cluster of 4 is Mcr1 and requires 0.5EP

Damage die: d4, critical 20 x1, Range: 4,500km.  
USP+1 @ TL13, USP+2 @ TL16

USP	1	2	3	4	5	6	7	8	9	10
# of single units	1	2	4	8	12	24	36	60	84	120
# of clusters			1	2	3	6	9	15	21	30
# of full turrets					1	2	3	5	7	10

## X-TEK Weapons Datafile

### Heavy Lasers

The Heavy Laser is quite simply a large pulse laser. The larger focal array and discharge energy is designed to punch through tough armour. Only one weapon of this kind can be mounted in a standard turret.

#### Statistics:

A heavy laser is Mcr2.5 and requires 3EP.  
Damage die: d12, critical 18 x2, Range: 45,000km.  
USP+1 @ TL13, USP+2 @ TL16

USP	1	2	3	4	5	6	7
# of units	-	1	2	3	5	7	10

Special: A Heavy Laser can punch through sand easier. In HG this is the same bonus as for an Energy(Plasma/Fusion) Weapon. +2DM. In T20, the heavy laser ignores 2AR values of sand. It also causes more internal damage. In HG the bonus is like a pulse laser (-2 on the damage table), in T20 add +5 to the Internal Damage roll.

## X-TEK Weapons Datafile

### Laser Bays

Laser bays are simply huge laser cannons. X-TEK produces lasers for all bay sizes from 10dt to 250dt. Damage and critical is same as heavy lasers( d12, crit. 18 x2). Damage is similar to a particle weapon without radiation effects, but lasers have a much longer range.

TL	7	13	16
250dt 250ep 90Kkm 100Mcr	10	11	12
100dt 100ep 90Kkm 80Mcr	9	10	11
50dt 50ep 75Kkm 60Mcr	8	9	10
25dt 25ep 75Kkm 40Mcr	7	8	9
10dt 10ep 75Kkm 20Mcr	6	7	8

## X-TEK Weapons Datafile

### Quad Laser Turret

Conceived and designed by Commander X Primus in Year 20 for use on the Delta class Fighter. While the rapid pulse and gatling style construction offered a good target saturation ratio and high accuracy, the moving parts and cooling system made it a costly investment. The weapon was discontinued in favor of the more solid state and efficient Heavy Laser Cannon, but not before the weapon was sold to outside firms. Today it is rare to see a ship armed with these weapons in the Imperium, although for some reason Vargr Corsair groups have been using them for their shock value.

#### Statistics:

Like the heavy laser, only one of these weapons can be mounted in a standard 1dt turret.

The weapon costs Mcr3.5 per turret and consumes 3EP of power.

Damage die: d8, critical 19 x2, Range: 30,000km.

USP+1 @ TL13, USP+2 @ TL16

Special: +1 Bonus to hit

USP	1	2	3	4	5	6	7	8
# of units	-	-	1	2	3	5	7	10

Gearheads will notice the USP progression is the same as that for a standard turret of 3 Beam Lasers.

The Special function of the Quad laser is its ability to hit due to high rate of fire.

For HG simply award a +1 to hit on the tables, but not to penetrating sand. Missiles attempting to penetrate a Quad laser suffer a -1DM. Damage is done normally.

For T20. To Hit Bonus is equal to USP+1, also used to hit a missile in PD fire. Damage is USP# of dice.

## X-TEK Weapons Datafile

### Multiple Missile Launchers (MSL)

Type/USP	Mcr	2	3	4	5	6	7	8	9	A
MSL-3 Shoots 3 missiles, room for 2 reloads.	2.5	1	2	3	6	12	18	30		
MSL-Hex Shoots 6 Missiles, 1 reload.	5.0		1	2	3	6	12	18	30	
MSL-X Shoots 10 Missiles, no reloads.	8.0			1	2	3	6	12	18	30

USP is shown for TL7 Missiles, add 1 @ TL13 and 2 @ TL16.

## X-TEK Weapons Datafile

### Heavy Missiles

Heavy Missiles are a bit bigger than standard missiles(75kg). They can still fit up to 3 in a standard turret, but the magazine capacity is reduced from 3 to 2. Missile storage magazines can hold up to 13 per displacement ton.

Standard Heavy Missiles: Dmg USPd8, Critical 18 x1. 7500cr

Nuclear Heavy Missiles: Dmg 7d6 + USPd6, Critical 17 x2, Radiation 2d12+ USPd12. 75,000cr

Laser Head Heavy Missiles: 1d8 hits from a pulse laser with missiles USP. 112,500cr

USP	2	3	4	5	6	7	8
Heavy Missile	1	2	3	6	12	18	30

USP is shown for TL7 Missiles, add 1 @ TL13 and 2 @ TL16. Cost per heavy missile rack is 1Mcr

## X-TEK Weapons Datafile

### Armour Piercing Missiles

These missiles are equipped with special armour penetrating warheads that rip through ship armour before detonating. A missile thus armed ignores a number of AR equal to its AP rating. AP rating is limited to TL/2. The most commonly used AP missile is the Type III as it is the least expensive. (AP3 150,000cr). Nuclear AP missiles also exist, but are available only to the Imperial Navy and are prohibitively expensive. A Type III AP Nuke costs the IN Mcr1.5.

Standard HE Missiles		
TL	AP rating	Cost
7	3	Cr150,000
8	4	Cr200,000
10	5	Cr250,000
12	6	Cr300,000
14	7	Cr350,000
16	8	Cr400,000

## X-TEK Weapons Datafile

### Mini-Bays

X-TEK has pioneered the use of smaller bay weapons, called Mini-Bays. 2 Variants exist. The half-bay or 25dt bay can be fit in ships 500dt or more and uses 5 Hardpoints. The 10dt mini-bay can be fit in ships 300dt or more and requires 3 hardpoints. These bays are usually mounted in the forward arc of the ship. A 25dt bay will cost Mcr0.25 and 10dt bay cost Mcr0.1

TL	15	16	17	18
<b>25dt Meson:</b> 30Mcr 50EP 30Kkm	1	3	5	7
<b>10dt Meson:</b> 15Mcr 25ep 3hp 30Kkm		2	3	4

TL	12	13	14	15	16	17
<b>25dt PAW:</b> 10Mcr 15EP 45Kkm	2	2	3	3	4	4
<b>10dt PAW:</b> 5Mcr 8EP 45Kkm		1	2	2	3	3

TL	7	8	9	10	11	12	13	14	15	16	17
<b>25dt Missile:</b> 8Mcr 90Kkm	5	5	5	6	6	7	7	8	8	9	9
<b>10dt Missile:</b> 6Mcr 90Kkm	4	4	4	5	5	6	6	7	7	8	8



## X-TEK Weapons Datafile

### Ultra-Bays

These nonstandard bays were introduced by Maximus Interstellar Defence Industries (MIDI) based in the Solomani Rim and a full partner with X-TEK. These 250dt bays are also known as mini-spinals, although they can be mounted elsewhere than the spine of a ship. The ship must be at least 3000dt and each Ultra-bay uses 30 hardpoints. Cost is Mcr3

TL	11	12	13	14	15	16
250dt Meson: 90mcr 400ep 30hp 45Kkm	3	5	9	11	13	15

TL	8	9	10	11	12	13	14	15	16
250dt PAW: 50Mcr 120ep 60Kkm	9	9	10	10	11	11	12	12	13

TL	7	8	9	10	11	12	13	14	15	16
250dt Missile: 35Mcr 90Kkm	9	9	9	10	10	11	11	12	12	13

### X-TEK High Performance Thrusters

"Thanks to X-TEK's research into drive technology we are proud to produce the Thrustmaster drive system. The Thrustmaster drive reduces the size of a standard drive improving efficiency. This added efficiency comes at added cost, 2x the price of a standard drive."

--- X-TEK Advertisement, c. 200

These high performance thrusters made their debut in the year 200. They were developed in secret in the late Juilan War period. Their high price prevented them from becoming mainstream items for ships until much later in history. Today they can be found on civil as well as military craft.

Type	TL	Cost	Size	EP
1G	10	Mcr0.5	0.5	0.5
2G	10	Mcr2	2.0	1.0
3G	11	Mcr3.5	3.5	1.5
4G	11	Mcr5	5.0	2.0
5G	11	Mcr6.5	6.5	2.5
6G	12	Mcr8	8	3.0
7G	12	Mcr9.5	9.5	3.5

Additional advancements would produce the UltramaX Drive system. These were introduced on fighters and escort craft during the Civil War/ 2nd Frontier War period. These drives were faster than anything produced before, but still prohibitively expensive. An UltramaX drive system that could reach 8G acceleration was developed during the last frontier war.

Type	TL	Cost	Size	EP
2G	13	Mcr3	1.5	0.5
3G	13	Mcr5	2.5	1.0
4G	14	Mcr7	3.5	1.5
5G	14	Mcr9	4.5	2.0
6G	15	Mcr11	5.5	2.5
7G	15	Mcr13	6.5	3.0
8G	16	Mcr15	7.5	3.5

## Meson Turrets

These weapons were developed in secret after the 5th Frontier War and are still a closely guarded secret. Only Naval vessels and special experimental craft will mount these weapons and only then will they be rarely encountered.

This secret weapon promises to create ships with the ability to disable any small ship that does not have a meson screen. This would be the ultimate weapon in Red-zone interdiction enforcement and piracy suppression. Fighters armed with such weapons could pinpoint and destroy ship systems instantly.

X-TEK as of 1110 has been secretly developing this weapon and has already released the meson barbette to the Imperial Navy. It has been incorporated in a handful of Fiery-class gunned escorts on a trial basis. It is expected that the IN will procure more of the secret weapon systems in the near future, after preliminary field testing is complete.

As of 1120 (MT and GT timelines), There is a special small force of Fiery variants called the Incinerator-class gunned escorts currently patrolling the coreward frontier of Deneb Sector against Vargr incursions. The IN has codenamed the operation "Sit Boy". It is rumored that the Commander himself has a large squadron of Warlock-class heavy fighters armed with the meson cannon on board his personal corporate flagship the Executor.

By 1200(TNE timeline). The regency is beginning to use the meson cannon on RQS ships. The ability to ignore armour and radiation effects are quite effective against vampire ships. X-TEK is currently working on the TL-17 Meson turret by this time.

### High Guard Statistics

For High Guard Stats, I simply used the stats for the PAW Barbette and Turret. The Meson Barbette is introduced at TL16 and the Meson Turret at TL17. Both use 3x the power as the PAWs (15EP) and the cost of the Mesons is doubled. The extended HG table would add the following:

USP	Meson Barbette	Meson Turret
1	1	-
2	2	1
3	4	2
4	6	4
5	8	6
6	10	8
7	-	10
TL	16	17
EP	15	15
Tons	5	3
Mcr	8	6

### T20 Stats:

Use the USPs above with standard damage and criticals for meson guns. The Range is 15,000km(1hex)

## Gamma Ray Lasers

Gamma Rays are the next level of electromagnetic radiation after the X-Ray. It is logical that a system that could project coherent streams of x-rays could do the same with gamma rays to produce a more advanced weapon system. Gamma rays would be able to penetrate through matter more easily than x-rays due to its wavelength properties. But it is that wavelength that has proven to be a problem for so long.

Current research into high energy containment has produced a viable solution, but it is necessary to rely on a primitive method to produce the high energy necessary for a gamma ray. That technology is that of the nuclear pump. Low tech societies often used a thermonuclear device to pump lasers, in this way was the X-Ray laser first developed. I understand that the Sword Worlders still use these weapons on occasion. This same method can be used to pump the necessary energy into a gamma ray lasing rod. There would be some side effects however. The weapon must be placed on a drone and sent to the target, where the drone would be susceptible to point defence fire. The weapon's range on such a drone would be severely limited. The return would be a laser weapon that would drastically improve penetration, making armour less effective. Future advancements will produce a turret mounted laser system.

As nuclear weapons are highly controlled, this weapon would be limited to the Imperial Navy Exclusively

### CT/MT/T20 Stats:

In these versions of Traveller, Gamma Ray lasers already exist in the form of TL-16 laser systems. Think of TL7 as Infrared, TL13 as X-Ray, and TL16 as Gamma Ray. This explains the + to USP at these TL. T20 already has Bomb-Pumped Missiles.

### X-TEK Disintegrator-A Spinal Mount

Working in secret at our special facilities with the 'you know what', we have produced a weapon that will tear matter apart. This weapon is the disintegrator. The weapon works similar to other particle throwers but unlike the meson that goes through matter, these particles actually disrupt the electron shells which hold matter together. The current prototype is designed to fit in the Particle R socket in the old Voroshiliev-class ships. Fitting and consequent testing will begin after the new year.

Anakai Kerenski, Chief of X-TEK R&D  
to The Commander  
312-1121

### TL-14 Disintegrator-A

1.6TJ output with 1/60 RoF (+7)  
Dmg: 7dx5000(100); 1/2d: 180,000mi(18); Max: 550,000mi(55)  
4,232dtons; 42,234stons; 9,772Mcr; 42crew

Construction is based on my own design and not from Vehicles 2nd Ed.  
Treat as a particle beam with the following changes:  
Introduction TL is 14  
Damage B = 3  
1/2d B = 20  
Cost = x3.5  
Armour Divisor 100

### HG/MT Statistics:

Megatraveller already has this weapon, this version was the base used for the GT conversion above. With some tweaking it can also be used in HG.

### T20 Statistics:

Disintegrator-A Spinal  
TL17, USP10, 4500dt, 2000EP, Mcr5000  
16d100 + 16d20 radiation, (crit. 10 x10), Range: 105,000km.  
Unlike the Meson gun, the disintegrator is degraded by armour rating (AR).  
Critical hits with a Disintegrator remove 2 AR instead of 1.



## Megathrusters

Megathrusters first appeared in the G:T setting as a GTL13 device (TTL16 or 17). Megathrusters allow for increadable speed with very little space and power. In the X-TEK campaign, the company has been developing these drives in secret by reverse engineering of an ancient starship in a classified location. This drive system may or may not exist depending on the time period. Such drive systems should be horrendously expensive.

### GURPS Stats:

The Megathruster module has been produced and will be available in GT:Starships.

### HG Stats:

Minimum size is 6G, 8Mcr per ton. Power plant needed is Drive Number/2. Available at TL16. Rarely seen in the Classic Timeline, only experimental in the MT timeline. Some Darrian pre-Maghiz ships may use these drives.

**volume = n-1**

**power = n/2 round up**

G	6	7	8	9	10	11	12
%dt	5	6	7	8	9	10	11
PP	3	4	4	5	5	6	6
TL	16	16	16	17	17	18	18

### T20 Stats:

Never seen in the M:1000 setting except as maybe an Ancient artifact.

They do not officially exist in the Classic or Megatraveller periods.

Become available to limited buyers in the GT timeline after about 1121, but still very rare and very expensive. In the TNE period they also become available to limited buyers.

Used by the Regency Navy and Quarentine Service on special elite forces.

Type	TL	Cost	Size	EP
6G	16	Mcr20	2.5	1.5
7G	16	Mcr24	3.0	1.75
8G	16	Mcr28	3.5	2.0
9G	17	Mcr32	4.0	2.25
10G	17	Mcr36	4.5	2.5
11G	18	Mcr40	5.0	2.75
12G	18	Mcr44	5.5	3.0

## Optional Vessel Modules

**Brig:** This is an ordinary stateroom equipped with reinforced walls and door, restraints, and a high security alarm and observation system. It normally holds 1-2 individuals. Up to 50 could be crammed in for a limited time. A ship or starport with one or two brigs will monitor them from the bridge. A larger number of brigs probably will have its own dedicated security station. Tonnage: 6 tons

**Bunkroom:** Bunks for 16 personnel, with life support, under very cramped conditions. Protocol is to load only four passengers per bunkroom, except for missions of very short duration or emergencies. Tonnage: 5 ton Note: Includes features standard to staterooms.

**Gym:** An exercise room. Several may be fitted together to form a single, larger facility. The standard gym can be used by four people at once. Military ship's usually have sufficient gym facilities to support 5% of the crew at once. Tonnage: 0.5 tons

**Hall, Bar, or Conference Room:** A large room with tables. Usable as a restaurant, bar, conference room, etc. It can comfortably accommodate 100 people per module (smaller lounges and conference rooms are included in stateroom volume). Weight and cost include furnishings. Tonnage: 0.25 tons

**Shooting Range:** A target practice facility, armored to protect the rest of the ship, and including pop-up targets and the like. Each module provides 50 downrange meters for eight shooters; several may be combined for longer ranges or more shooters. Tonnage: 10 tons

**Stage:** A 20'x20' stage area with high ceilings, usable for dancing, plays, nightclub acts, and so on. Includes sophisticated lighting and sound systems. Normally attached to a hall or theater containing the audience. Tonnage: 0.5 tons

**Theater:** A small auditorium with 100 roomy seats, a large holoprojector, and an operator's workstation. Can be used for entertainment or as a briefing or situation room. A stage is not included. Tonnage: 2.5 tons

**Basic Lab:** A simple general-purpose scientific laboratory. Comes in "modules" (or module-equivalents) of 10 dtons each, costing MCr5 per and requiring one scientist per module. No EPs are required.

**Advanced Lab:** A an advanced and heavily automated general-purpose scientific laboratory using state-of-the art equipment. Comes in "modules" (or module-equivalents) of 16 dtons each, costing MCr16 per and requiring two scientists per module. No EPs are required.

**Hydroponic Garden:** A hydroponic (that is, raising plants in water rather than in soil) garden intended for recreational and decorative use, as well as for limited life support and recycling applications. Includes various plants (ranging from grass to tree-like shrubs), as well as a small fish tank (fish are both decorative and edible) and some recycling equipment. Requires 20kg (Cr5,000) in additional nutrients per year and must be connected to an existing life support system. Though the Garden is not a fully contained life support system, it could still help in waste, water and air recycling and produce some food; therefore, each dton of Hydroponic Garden reduces the life support costs of 1 person by 20% (so the life support will cost Cr1,600 rather than Cr2,000 per person per week for these people). Costs MCr0.1 per ton; no EPs or crew required.

**Full Hydroponics:** A full, self-contained ecosystem containing hydroponics, yeast/algae/fish tanks as well as heavy recycling equipment, the Full Hydroponics are, theoretically self sufficient, though nutrient (and other resources) loss requires the addition of 5kg (Cr1,000) of replacements per year of use. Each Full Hydroponics Module (or module-equivalent) displaces 2 tons, costs MCr1 and could provide complete life support (except for heating and radiation protection provided by power-plant powered systems and the ship's hull, respectively) for one person for a practically infinite time (as long as nutrients are supplied and the power plant operates). No EPs or crew required. Note that for both Hydroponics systems, a single dton of cargo space could store 5,000kg of replacement nutrients/materials.

**Extended Medlab:** While each ship has a small medical facility subsumed in its stateroom cost and tonnage, some designers may wish to include a larger, better equipped medlab in their designs. An Extended Medlab holds hospital grade medical equipment and allows for complex medical procedures (such as extensive surgical operations) to take place; it requires one Medic and treats up to two patients per module, displaces 8 dtons and costs MCr8. No EPs are required. One module is required per every 100 staterooms.

**Machine Shop:** A small workshop capable of fabricating some types of spare parts and of repairing equipment; its exact capabilities and raw material requirements are left for the referee's discretion. A Machine Shop Module (or module equivalent) requires one skilled worker (with the appropriate skill to the item being produced/repared), masses 10 dtons and costs MCr5. No EPs are required.

**Factory:** A shipboard factory usually produced one product or a series of related products; the types and amounts of raw materials needed for production are left for the referee's discretion. A Factory Module requires 10 workers, displaces 100 dtons, consumes 1 EP and costs MCr50.

**Ore Processing Bay:** This huge refinery is capable of processing most compounds found in planetoids into semi-refined raw materials which could easily be shipped to other locations. It requires 40 workers, displaces 400 dtons, requires 10 EP and costs MCr250.

**Casino:** A luxury gambling hall. A shipboard casino requires three operators and may host 15 gamblers per module. Each module displaces 20 dton and costs MCr5; no EPs are required.

**Duty Free Shop:** A Tax-Free shop, selling various consumer goods to the passengers and the crew requires one salesperson, displaces 10 dtons and costs MCr2; no EPs are required.

**Grav-Ball Court:** An arena fit to play most Grav (or Zero-Grav) enhanced sports displaces 40 dtons and costs MCr2; no EPs are required.

**Karaoke Bar:** A Karaoke Bar requires one operator/bartender and may sit up to 16 persons (but usually this will be connected to a lounge). Each module displaces 8 dtons and costs MCr3; no EPs are required.

**High Class Kitchen:** A kitchen fit to serve rich or noble passengers requires one Chef and one Assistant Chef and may cook meals for up to 50 persons at once. Each module displaces 10 dton and costs MCr5; no EPs are required.

**Library:** A small library combining "hard-copy" and electronic texts as well as other forms of media requires one librarian, may seat up to 5 persons, displaces 10 dtons and costs MCr5; no EPs required.

**Restaurant (excluding kitchen):** A high-class restaurant requires 4 waiters and may seat up to 40 persons. Each module displaces 20 dtons and costs MCr5; no EPs are required.

**Vehicle Workshop (Full):** A workshop capable of performing virtually any kind of vehicle work (including overhauls, and turret or power plant replacement) requires two Mechanics, displaces 200% of the tonnage of the largest vehicle it could repair and costs 200%

of the price of the most expensive vehicle it could repair.

**Vehicle Workshop (Minimal):** A workshop capable of doing small-scale repairs to vehicles requires one Mechanic, displaces 110% of the tonnage of the largest vehicle it could repair and costs 110% of the price of the most expensive vehicle it could repair.

**Small-Craft Cabins:** Also known as small-craft staterooms, cabins are much like staterooms, but more basic and spartan-some would say cramped. Cabins are not considered suitable for passengers or crew on interstellar vessels due to the "cramped" conditions, but are often employed on interplanetary vessels and small craft. Tonnage: 2.5 tons

**Stateroom:** Staterooms are long-term quarters called for interstellar flight; they include 50% additional space for access and other facilities (galleys, rec areas, etc). Standard passenger comfort demands a certain level of amenity in the stateroom. In order to meet this standard, staterooms are self-contained living areas which need ever be left during a voyage. The stateroom contains a bed or two (plus an intercom and controls for heat & light), a fresher (multi-function shower, a toilet, a sink, and a small washer/dryer), entertainment consoles, a small kitchen (collapsible table for four people comfortably, storable chair(s). Meals must be delivered from the ship's galley; there is no automated delivery system. A small fridge stores snacks and a small quantity of food for immediate availability.), and miscellaneous furniture. All basic items in the stateroom retract into the floor, wall, or ceiling when not in use. Ship's crew and middle passengers often endure double-occupancy; high passengers and officers should have a room of their own. Tonnage: 5 tons and for every extra person, add 1 ton to the stateroom

**Offices:** Each office module holds four offices, with room for three visitors each, or 16 cubicles with no room for visitors. Includes space for conference rooms, office supply storage, etc. Tonnage: 5 tons

**Ship's Galley:** A compact food-preparation area, with usable space for the preparation of 28 meals at a time. Galley modules may be stacked to create a much larger facility. Tonnage: 2 tons

**Fresher:** A standalone-unit, only fitted with a collapsible toilet and sink, or with a washer/dryer if equipped as a laundry facility. Tonnage: 0.5 ton. These modules may be stacked to make a larger facility.

**Sickbay:** A module that is separate from a med-lab, that is used for a patient/recovery/intensive care ward, with a capacity for 10 people, or 4 intensive care patients. Tonnage: 7.5 tons

**Spa:** A smaller version of the swimming pool, the Spa requires two operators, may bath up to 15 persons at once, displaces 10 dtons and costs MCR5; no EPs are required.

**Swimming Pool:** An onboard swimming pool, including filtration systems and an airlock to prevent leaks in the event of shipboard gravity failure, displaces 12 dtons and costs MCR1; no EPs are required.

**Holoventure:** A 1,200 square-foot holographic zone with an operator's crew station. The computer terminal at the station runs holoventure programs on a dedicated mainframe computer. A military training version is outfitted with armored walls for live fire training. Tonnage: 4 tons/8.5 tons armored

**Housing Habitat:** This module contains one or more apartment buildings or a few dozen homes, plus grounds, walkways, etc., providing long-term accommodations for up to 100 people (half that many in luxury, twice that many in cramped conditions). Tonnage: 1,000 tons

**Factory Habitat:** A large industrial park capable of operating efficiently with a few dozen workers, or automated. Contains warehouses, minifacs, etc. Tonnage: 1,500 tons

**Farm Habitat:** An acre or so of open space with a few buildings devoted to agriculture and food processing. Up to 10 people can work it effectively; each worker can grow food to feed 10 people. Using crop rotation, the farm can serve as total life support for about 100 people. Tonnage: 750 tons

**Park Habitat:** A landscaped green space, possibly with entertainment or exercise facilities (pool, stream, playground, etc.). In a pinch, it can provide camping grounds for about 100 people. Tonnage: 500 tons

**Plaza Habitat:** A mall or concourse area with about a dozen medium establishments, plus open space for several hundred people to congregate. Tonnage: 500 tons

**Fuel Processor:** Purifies raw fuel (skimmed from a gas-giant atmosphere or from another source), turning it into refined fuel. Each module can process 10 tons of refined fuel per hour. Tonnage: 20 tons

**Extended Lounge:** While each ship has a small galley/mess hall subsumed in its stateroom cost and tonnage, this facility provides only minimal services fit for a military, exploratory or cargo ship but hardly enough for a luxury cruiser. A luxury lounge displaces 10 dton, costs MCR2 and may seat up to 20 persons per module; no EPs required.

**Lecture Hall:** A general-purpose hall that could seat up to 1,000 people for lectures, gatherings, concerts and/or 2D/3D cinema. Displaces 50 tons, costs MCR1. No crew (except for entertainers, if needed) or EPs are required.



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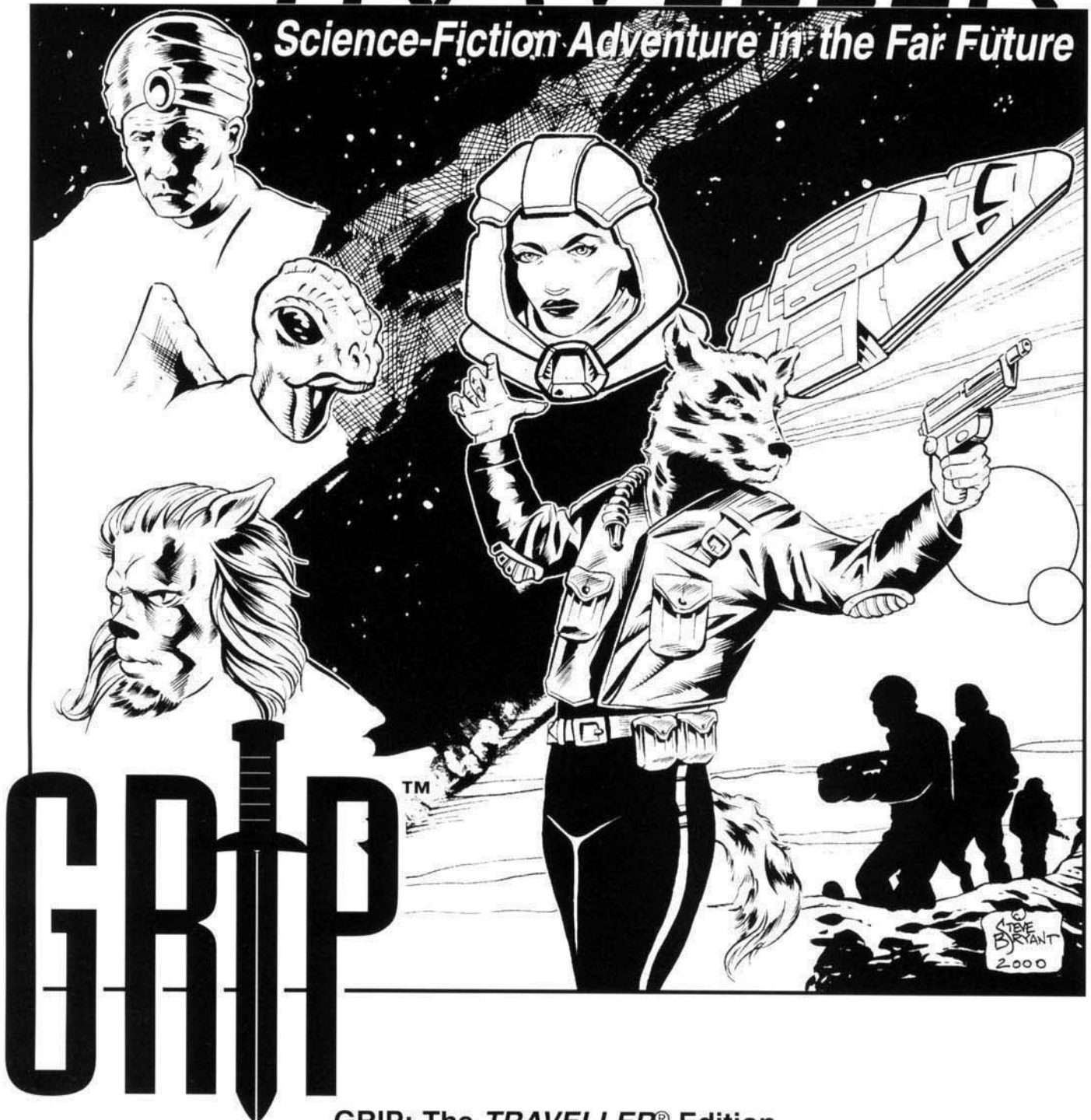
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- The Imperium is a government of men, not laws, and it rules space. Planets rule themselves.
- The lifeblood of the Imperium is commerce. Don't get in the way of the Imperium's lifeblood.
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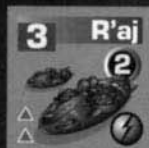
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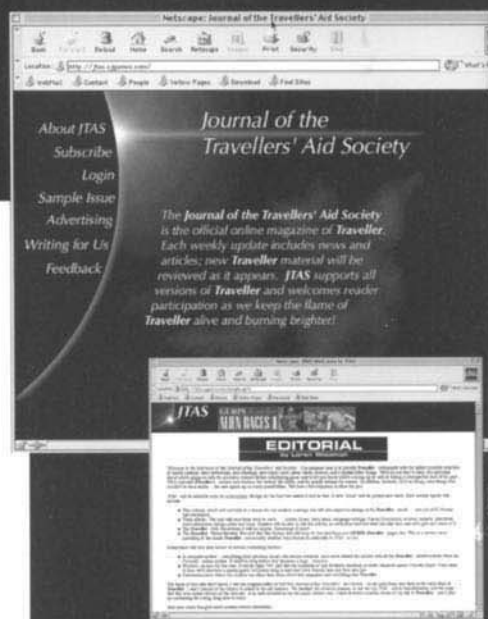


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The *Journal of the Travellers' Aid Society* was first published in 1979 by GDW, Inc. to provide additional material (rules, variants, adventures, equipment and background development) for *Traveller* and related products, and to keep *Traveller* fans informed on what was happening with the game.

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Requires the use of a Roleplaying Game Core Book published by Wizards of the Coast<sup>®</sup>

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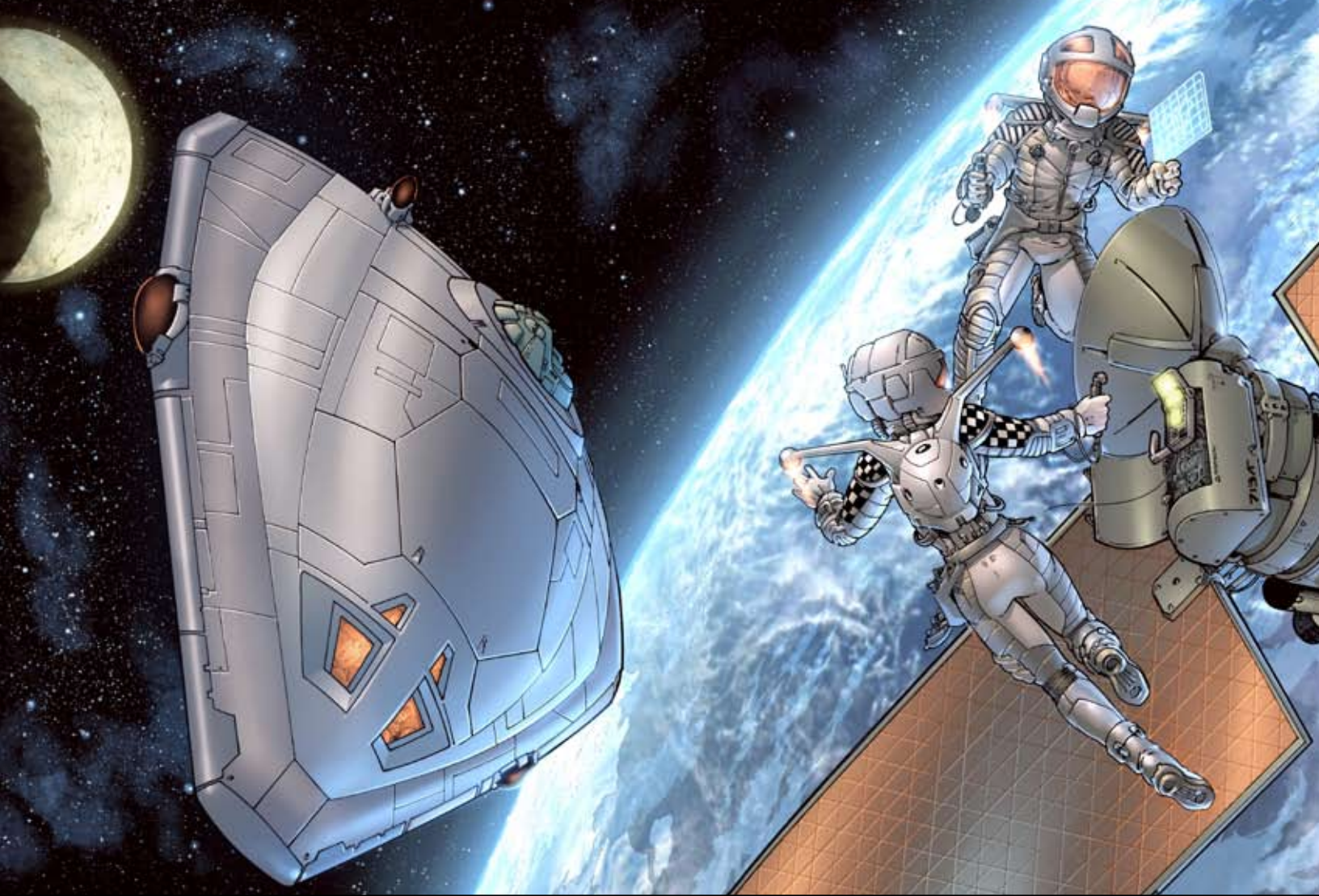
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# *The Traveller's Guidebook* for Players

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Science-Fiction Adventure in the Far Future





# THE TRAVELLER'S GUIDEBOOK

## for Players



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### DEDICATION

To those who came before. Without them there would be no Traveller and our lives might be very different.

### FOREWORD

I was taken rather by surprise when Hunter asked me to write the foreword for this book. He told me that my status as one of the few writers who has been published in every version of Traveller gave me a special cachet. If that is so, it makes me especially fortunate, since I have enjoyed every minute that I have worked with Traveller over the years, in every incarnation. The present version, in a way, has come full circle. Just under thirty years ago, we at GDW – Marc Miller, Frank Chadwick, Rich Banner, John Harshman and I – discovered a new form of game. This was a "roleplaying game" called Dungeons & Dragons, and came in the form of three small booklets in a cardboard box, covered with wood-grain paper and with a label pasted on the lid and back. We found the basic notion interesting, and soon produced a game of our own (En Garde), inspired by, but radically different from, D&D. In late 1976, Marc came to the rest of us with an idea for a science fiction roleplaying game, and a few months later, Traveller appeared. At that time, 27 years ago, none of us imagined that the game would still be in existence. The notion that a version of it would be played using a descendant of the D&D rule mechanics would have struck us as decidedly unlikely. Nevertheless, this is precisely what has happened. It indicates something that I have long believed: Traveller is more than a set of rules.

So, I asked myself, what is it that has made Traveller so popular, even with players who weren't born when the game was first published? I think the game has an approach that many find attractive: the future is good. This is something that got to be pretty rare for a while. For many years, science fiction stories reveled in the glories of the future, and the wonders that advances in science and technology would bring. Granted, writers set stories in a future where bad things happened – wars and other catastrophes were common, but the endings were always upbeat, and knowledge always triumphed – even though it might take some time. After WWII, the Cold War era made the threat of nuclear destruction of civilization all too real for my generation, and it seemed there would be no heroes to pull things back from the edge of the abyss. Science fiction stories became gloomy, moody warnings about a future where science and technology had turned evil, and the future seemed to have gone sour. Roleplaying games of the late 1980s and early 1990s reflected this. The background of one extremely popular gaming future was based on the fact that the universe must sacrifice millions of souls regularly in order to preserve its existence, and the players were soldiers of a vast interstellar empire tasked with defending the god-emperor as he performed his sacrificial duties. What were these soldiers defending against? The forces who wanted the universe to end. Frankly, as I read the background to this game (which was clearly intended to provide scenarios for endless battles against a faceless enemy), the more I found myself sympathizing with the "forces of destruction." When the universe is this soulless, it's time to put an end to it.

Traveller, on the other hand, was and is different. The game universe of Traveller is optimistic about the world to come. Like the best writers of science fiction, Traveller shows us that the future is a place we would want to live in, a place where space travel is commonplace, a place where science and advanced technology generally benefits Humanity. Knowledge is good. The future is not a bent, twisted dystopia. Life in the future is worth living and the universe is a wondrous place.

This book, and T20 (Traveller D20) in general, continue in that long tradition. The game universe has its dark portions, to be sure, but overall, the future as represented by the OTU (the official Traveller Universe) continues to be an exciting, optimistic setting. I'm pleased and honored to be associated with this, the latest version of Traveller.

– Loren K. Wiseman

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# INTRODUCTION



## ROLEPLAYING GAMES

A roleplaying game is a game in which the players each take on the roles of various characters in a fictional universe, much like the actors in a movie or a play. One player must be selected to take on the role of the Referee, which in many ways is similar to the role of writer and director in said play or movie. Together the referee and the other players can bring to life many exciting stories and adventures shaped by their own actions and designs.

### TRAVELLER

**TRAVELLER** is a specific type of roleplaying game geared toward the science-fiction genre. The rules presented in this book will enable you to design, create, develop, and equip almost any type of character you might encounter in a near or far future setting.

### The Referee

The referee is the player who creates and runs the adventures the other players' characters will participate in as well as designing the setting of the overall campaign. It is the referee's job to adjudicate the rules evenly and fairly as he or she is the final arbiter of the rules in this book. The referee also has the task of playing out the roles of the various non-player characters or NPCs that the player characters (or PCs) will encounter throughout the course of the adventure and overall campaign.

### Player Characters

Each player, other than the referee, will usually take on the role of a single character for the course of the adventure and will typically continue to play the same character from adventure to adventure during the course of the referee's campaign. Player's taking on the role of multiple characters is possible, but only recommended for experienced players and with the approval of the referee. Your character might be:

A burned-out Scout Service pilot on the edge of a breakdown.

A young medical student working passage aboard a Free Trader to earn enough for the rest of her medical degree.

A tough ex-Marine searching for his missing brother.

A smooth-talking merchant captain, charming but deadly with her twin gauss pistols.

An unappreciated genius, ridiculed by the scientific community but determined to vindicate himself.

An ex-Navy officer with a dark secret.

A professional adventurer doing it for the thrill of it all!

Or any other role or concept you can think of.

### Adventures

The referee will present the players with various adventures (either created by the referee or using a published adventure) that are designed to pose a challenge to the creativity, skill, and daring of the players' characters. During the course of the adventure the players, through their characters, will have to deal with the obstacles and situations posed by the referee in order to complete their task. Adventures are usually played over the course of one or more evenings, depending on the length of the adventure and the time available to play.

## Campaigns

A campaign is a series of adventures in which the players' characters gain experience and ability based on their exploits. Generally each player continues to play the same character from adventure to adventure, barring the death or incapacitation of the player's character.

## WHAT YOU NEED TO PLAY

Please note that this rulebook is not a standalone game system. It is intended to be used with the T20 Core Rulebook (The Traveller's Handbook). Possession of this Guidebook for players and the Traveller's Handbook is all that is required to use T20.

This book presents all the data a player needs to participate in a game of T20. In order to Referee T20 you will need at least the following items:

- The Traveller's Handbook, which contains full rules for combat, vehicle and starship design, world and star system design, trade and commerce, character progression and experience, and Refereeing notes allowing a full game to be run.
- One or more of each of the following types of dice: four-sided (d4), six-sided (d6), eight-sided (d8), ten-sided (d10), twelve-sided (d12), and twenty-sided (d20).
- Pencil (or pen) and paper for keeping notes about your character and the adventure. Graph paper is also recommended for making maps of places your character has visited.

## DICE

Dice rolls are described with expressions such as "3d4+3," which means "roll three four-sided dice and add 3" (resulting in a number between 6 and 15). The first number tells you how many dice to roll (adding the results together). The number immediately after the "d" tells you the type of die to use. Any number after that indicates a quantity that is added or subtracted from the result.

The following dice are commonly used in T20 games:

- **d4** A four-sided die.
- **d6** A six-sided die.
- **d8** An eight sided die.
- **d10** A ten-sided die.
- **d12** A twelve-sided die.
- **d20** A twenty-sided die.
- **d%** Percentile dice work a little differently. You generate a number between 1 and 100 by rolling two different ten-sided dice. One (designated before you roll) is the tens digit. The other is the ones digit. Two 0s represent 100.

## Rounding Fractions

In general, if you wind up with a fraction, round down, even if the fraction is one-half or larger.

*Exception:* Certain rolls, such as damage and hit points, have a minimum of 1.



## Multiplying

Sometimes a rule makes you multiply a number or a die roll. As long as you're applying a single multiplier, multiply the number normally. When two or more multipliers apply to any abstract value (such as a modifier or a die roll), however, combine them into a single multiple, with each extra multiple adding 1 less than its value to the first multiple. Thus, a double ( $\times 2$ ) and a double ( $\times 2$ ) applied to the same number results in a triple ( $\times 3$ , because  $2 + 1 = 3$ ).

When applying multipliers to real-world values (such as weight or distance), normal rules of math apply instead. A creature whose size doubles (thus multiplying its weight by 8) and then is turned to stone (which would multiply its weight by a factor of roughly 3) now weighs about 24 times normal, not 10 times normal. Similarly, a blinded creature attempting to negotiate difficult terrain would count each square as 4 squares (doubling the cost twice, for a total multiplier of  $\times 4$ ), rather than as 3 squares (adding 100% twice).

## THE CORE MECHANIC

Whenever you attempt an action that has some chance of failure, you must make a task check or simply a check. A check is made by rolling 1d20 (one twenty-sided die). The following steps are taken to determine if your character succeeds at a task:

- Roll a d20.
- Apply any relevant modifiers.
- Compare the result to a target number.

If the result equals or exceeds the target number, known as a Difficulty Class or DC, your character succeeds. If the result is lower than the target number, you fail.

## Difficulty Classes

Difficulty classes are assigned by the Referee whenever a character attempts a task, and range from 0 (easiest) to 45 (hardest).

Type	DC	Example
Simple	0	Walk across the floor
Very Easy	5	Climb a ladder
Easy	10	Climb a knotted rope
Average	15	Plot a course to a familiar star system
Hard	20	Jump a horse over an obstacle while riding
Difficult	25	Swim in churning, storm driven water
Formidable	30	Remove a bullet from a victim.
Challenging	35	Plot a course to an uncharted star, while under fire and without a computer.
Incredible	40	Convince the judge that a pardon scrawled on the back of a cocktail napkin really is from the planetary governor
Nearly Impossible	45	Perform brain surgery with a low-tech field surgical kit, under fire, in the rain, while wounded

## Degree of Success

A character's degree of success is determined by how much

better than the DC the roll turns out to be. With some specific checks or where the referee deems appropriate, better than average success or greater than average failure can result in increased reward or penalty.

DC-20 or lower	Incredible Failure
DC-10 or lower	Great Failure
DC or higher	Success
DC+10 or higher	Great Success
DC+20 or higher	Incredible Success

## Opposed Checks

An opposed check is used when another character or NPC directly opposes a check being attempted. For example a character attempting to Bluff her way past a customs officer would be an opposed skill check against the custom officer's Sense Motive check. The character makes her Bluff skill check roll and the Referee makes a Sense Motive skill check roll for the customs officer. If the character's Bluff skill check roll is higher than the customs officer's Sense Motive check roll, the custom officer believes the character's bluff.

In the case of a tie, the side with the higher appropriate ability scores for their skill wins. If there is still a tie, both sides roll the skill checks again.

## Retrying

In general, the character can try a check again if it fails, and can keep trying indefinitely. Some checks, however, have consequences of failure that must be taken into account. Some checks are virtually useless once a character has failed on an attempt to accomplish a particular task. For most checks, when a character has succeeded once at a given task, additional successes are meaningless.

If a check carries no penalties for failure, the player can choose to Take 20 and assume that the character keeps at it long enough to succeed eventually.

## Favorable and Unfavorable Conditions

Some situations may make a check easier or harder to complete, resulting in a bonus or penalty added to the modifier for the check or a change to the DC of the check.

The Referee can alter the odds of success in four ways to take into account exceptional circumstances:

1. Give the character a +2 bonus to represent circumstances that improve performance.
2. Give the character a -2 penalty to represent conditions that hamper performance.
3. Reduce the DC by 2 to represent circumstances that make the task easier.
4. Increase the DC by 2 to represent circumstances that make the task harder.

A bonus to the character's modifier and a reduction in the check's DC have the same result: they create a better chance that the character will succeed. But they represent different circumstances, and sometimes that difference is important.

## Time and Checks

Completing a check might take a round, take no time, or take several rounds or even longer. Most checks are standard actions, move-equivalent actions, or full-round actions. Types of actions define how long activities take to perform within the framework of a combat round (6 seconds) and how movement is treated with



respect to the activity. Some checks are instant and represent reactions to an event, or are included as part of an action. These checks are not actions. Other checks represent part of movement. The distance the character jumps when making a Jump skill check, for example, is part of the character's movement. Some checks take more than a round to use, and the descriptions often specify how long these skills take to use.

**Taking 10:** When the character is not in a rush and is not being threatened or distracted, the character may choose to Take 10. Instead of rolling 1d20 for the skill check, calculate the character's result as if the character had rolled a 10.

**Taking 20:** When the character has plenty of time (generally 2 minutes for a skill that can normally be checked in 1 round, one full-round action, or one standard action), and when the check being attempted carries no penalties for failure, the character can Take 20. Instead of rolling 1d20 for the check, calculate the character's result as if the character had rolled a 20. Taking 20 means the character is trying until he or she finally gets it right. Taking 20 takes about twenty times as long as making a single check would take.

## Combining Checks

When more than one character tries the same check at the same time and for the same purpose, their efforts may overlap.

**Individual Events:** Often, several characters attempt some action and each succeeds or fails on her own. An example of this would be a group of characters climbing up a rope. All are performing the same action at the same time, but each must make a separate Climb skill check to see if they succeed or fail.

**Teamwork:** Sometimes the individual PCs are essentially reacting to the same situation, but they can work together and help each other out. In this case, one character is considered the leader of the effort and makes a check, while each team member makes a separate check against DC 10 (Taking 10 is not permitted on this check). For each team member who succeeds, the leader gets a +2 circumstance bonus (as per the rule for favorable conditions). In many cases, a character's help will not be beneficial, or only a limited number of characters can help at once. The Referee may limit cooperation as seems fitting for the conditions.

**Skill Synergy:** It is also possible for a character to have two skills that work well together. In general, having 5 or more ranks in one skill gives the character a +2 synergy bonus on skill checks with its synergistic skills, as noted in the skill description.

## SPECIFIC CHECKS

There are several different types of checks that are commonly used when playing T20 and are explained here:

### Attack Rolls

Making an attack against a target is a form of check and called an attack roll. The attacker rolls 1d20, adds their Base Attack Bonus (BAB) and applies any other modifiers the referee specifies apply to the task. This total is compared to the target number, in this case the Armor Class (AC) of the target.

### Saving Throws

The referee may sometimes call on a character to make a saving throw based on Reflex, Fortitude, or Willpower, in order to avoid or reduce the effects of some action or event. A Reflex saving throw for example might be called for if a character were trying to cross an icy area without slipping and falling. A Fortitude saving throw might be required for a character to avoid being poisoned by something they ingested, inhaled or absorbed. A

character might need to make a Will save in order to avoid the effects of psionic influence.

A saving throw is made by rolling 1d20 and adding the character's appropriate Reflex, Fort, or Will saving throw bonus to the roll in addition to any other modifiers specified by the referee.

## Skill Checks

When a character attempts to accomplish a task involving a skill, a skill check is made. A skill check is made by rolling 1d20 and adding the character's skill rank in that skill, the appropriate ability modifier for that skill, as well as any feat modifiers that may apply. The referee is free to impose any other modifiers to the check that they feel are appropriate to the situation.

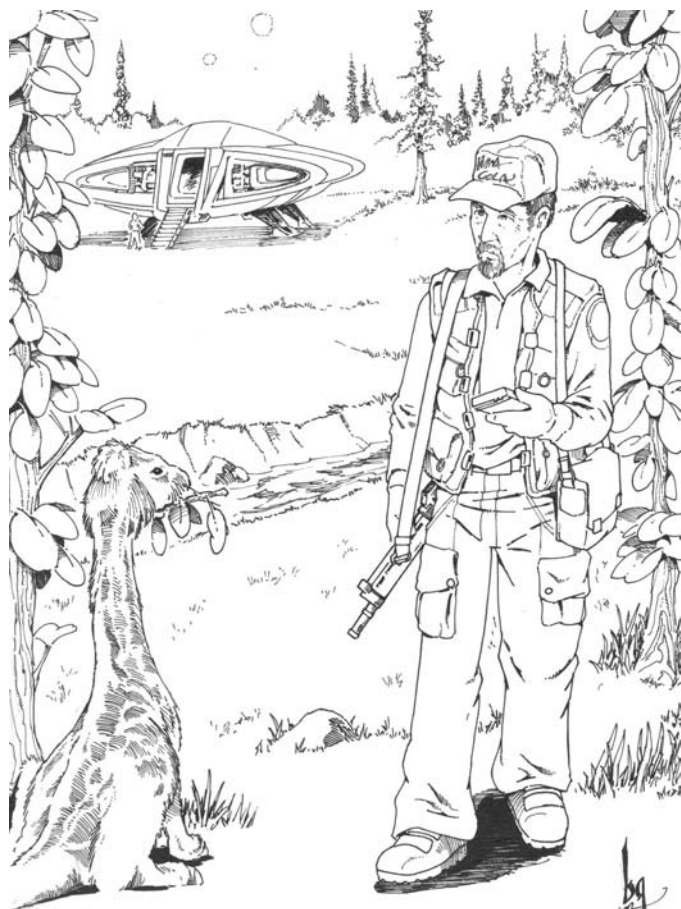
### UNTRAINED SKILL CHECKS

Generally, if a character attempts to use a skill they don't possess any skill ranks in, the character makes a skill check as normal. The character does get to add all modifiers other than skill rank though, such as the ability modifier for the skill's key ability.

However, many skills can only be used if the character is trained in the skill. Skills that cannot be used untrained are marked with a "No" in the "Untrained" column on Table: Skills.

## Ability Checks

Sometimes a character tries to do something to which no specific skill really applies. In these cases, the character makes an ability check. An ability check is the roll of 1d20 plus the appropriate ability modifier. Essentially, the character is making an untrained skill check. The Referee assigns a Difficulty Class depending upon the circumstances and the task being carried out.





# CHARACTER CREATION STEPS



This chapter is designed to give you an overview of the steps in further developing a character that will follow in subsequent chapters and how they work together. Using these steps and rules, it is possible to create a character with any level of experience desired from 1st level to 20th level.

## 1. ABILITY SCORES

Select one of the four options available for generating your character's ability scores. Each of these scores should be recorded on the appropriate location on your character sheet. Your character's initial Lifeblood and Stamina scores are also determined during this step and should be recorded on the character sheet as well.

## 2. CHOOSE RACE

Read over the descriptions of the various races available. Humans are the default race but you may select any race with the approval of your Referee. You should select a race that is appropriate to the type of character you want to play. Alien races often have certain advantages over Humans and other races, but they also tend to have offsetting disadvantages as well. Keep this in mind when selecting a race.

If you have selected to play one of the alien races available, apply any ability score modifiers to your character's ability scores as listed for the character's race. Be sure to also note down any special abilities or restrictions imposed by the race selected.

## 3. DETERMINE HOMEWORLD

Next you should determine the type of homeworld your character hails from, its technology level and trade classifications, and what automatic skills and feats your character will have picked up. These should be noted on your character sheet.

## 4. CHARACTER DEVELOPMENT

The most important step in creating a character is to determine how experienced you would like the character to be when it begins play. Some players prefer to start out with inexperienced (1st level) characters and watch them develop over the course of the game, while others prefer to start with a more experienced (2nd level or higher) character and go from there.

### 1ST LEVEL CHARACTER

If you prefer to begin play with a young, inexperienced, 1st level character you should follow these steps in creating your character:

#### I. Class and Level

Turn to the Classes and Levels chapter (5) and select one class that you feel suits the type of character you wish to play. Follow the rules there on taking a class level.

**A. Skills:** Select the appropriate skills for your character based on the class selected. See the Skills chapter (6) for more information.

**B. Feats:** Select the appropriate feats for your character based on the class selected. See the Feats chapter (7) for more information.

#### II. Muster Out

As a 1st level character without any Prior History behind you, you

begin with only the starting funds listed for the class you selected for your character. You may use these funds to purchase any equipment out of the Equipment chapter (8) that you can afford and is approved by the referee.

### III. Begin Play

Your character is now complete and ready to begin play in the game.

### 2ND LEVEL AND HIGHER LEVEL CHARACTERS

Creating an older and more experienced character using these steps and rules requires a bit more decision making and die rolling on the part of the player, but they deliver a much richer framework of the character's actual background history and important events as well as a more experienced and thus more capable character.

#### I. Prior History

Begin by selecting to spend this period in your character's prior history improving their education or earning experience by working.

**A. Employment:** Turn to the Employment Options section of the Prior History chapter and select one of the careers listed there that you feel suits the type of character you wish to develop.

**1. Serve Term:** Following the rules presented in The Employment Path section of the Prior History chapter, work your character through one term (4-years of the character's life) in that career.

**2. Reenlist:** Once you have completed a term in a career you must check to see if you must reenlist or continue employment for another term in that career, or if you are even offered any continued employment in that career at all. If you must or elect to serve another term, repeat steps 1 and 2 here under Prior History.

If you choose not to continue to service in your current career or if you are not allowed back in, you must move on to step II. Classes and Skills below.

**B. Education:** Turn to the Educational Options section of the Prior History chapter and select one of the educational opportunities listed there that you feel suits the type of character you wish to develop.

**1. Serve Term:** Following the rules presented in The Educational Path section of the Prior History chapter, work your character through one term in that educational setting.

**2. Reenlist:** There is no reenlistment during education, instead move on to step II. Classes and Levels below.

#### II. Classes and Levels

You will be required to take one or more levels in the class corresponding to the career you were working in, but any levels earned beyond these required levels may be used in developing one or more of a character's other classes (if any) or in taking levels in a completely new class.

Turn to the Classes and Levels chapter (5) and apply the levels earned by the character as per the Taking a Class Level section of that chapter.

**A. Skills:** Select the appropriate skills for your character based on the class being developed. See the Skills chapter (6) for more information.

**B. Feats:** Select the appropriate feats for your character



based on the class being developed. See the Feats chapter (7) for more information.

### III. Muster Out

Once you have applied any new levels earned by your character you may now 'muster out' of the career you were working in. Depending on how many terms you spent in the career, you will receive a certain number of benefit rolls that may be used to acquire cash and/or equipment for your character.

If this is the end of your very first career and you have selected your very first class during this period, you will also earn the listed Starting Funds for your first selected class.

See the Equipment and Starting Funds chapter (8) for more information.

### IV. Decision

At this point you have a character with at least some experience, and probably four years or more older than when you began. You must now decide if the character has earned enough experience and capability as you were seeking or if you feel the character needs a bit more 'seasoning' and will continue with further prior history development before beginning play.

**A. Prior History:** If you have chosen to enter another career or further your character's education return to step I. Prior History above and continue.

**B. Finish Up:** Your character is now complete and ready to begin play in the game.

### OPTIONAL FAST DEVELOPMENT

If you aren't interested in the extra background information and hooks the prior history system can lend to a character's development, you can forgo the prior history system and tailor the character to fit your needs.

#### 1. Determine Level

Determine the level you wish the character to be when you begin play and make sure it is ok with the referee.

#### 2. Select Classes and Apply Levels

Select the classes you wish the character to have experience; multiple classes are permitted. You may apply any number of levels to these classes as long as the total number of levels applied does not exceed the level of the character. For example a 7th level character may apply seven levels to one or more classes. They could have one 4th level class and one 3rd level class, a 3rd level class and two 2nd level classes, seven 1st level classes, or any combination that totals no more or less than seven levels in all.

Apply one character level at a time (1st level, 2nd level, etc.), determining and recording all improvements to stats and skills, new skills or feats, or any other changes to the character due to the level change that may apply.

#### 3. Money and Equipment

The character begins play with cash equal to their class level times the starting funds listed for that class. If a character has more than one class, figure the cash for each class and add them together to determine total starting funds.

In addition, the character has a 'credit' equal to one-half their starting funds that may be spent selecting equipment and/or weapons that might have been previously acquired during the character's past.

If a career normally has an opportunity of mustering out with a ship, discuss this with the referee and see if he feels a ship would be appropriate for the character and campaign at this point.

## 5. FINAL DETAILS

At this point you should take the time to jot down a brief background for the character, perhaps building off of the events of any prior history development. Of course you should also give the character a suitable name. Let the Referee take a look over the character sheet, and if the Referee approves, you are ready to play!



# BASIC ATTRIBUTES



## ABILITIES

**T20** uses nine character abilities (or “stats”), representing a person’s physical and mental capabilities. Each affects a different area of activity. For most characters, abilities range in score from 3-18, with human average about 10-11. Characters with an ability of 15 or above are fairly exceptional people; 5 or lower is most definitely sub-normal (though a character could still be entirely playable with one or more stats at 5 or lower). Characters can increase their abilities in the course of play, and can have them temporarily or permanently reduced due to major wounds, age, or other circumstances.

Note that abilities are not entirely either physical or mental. A high strength, for example, may not merely mean big muscles. It also represents body mass and the skill to bring strength to bear scientifically, using good technique, and the willingness to do so. A relatively lightweight character, who knows how to use her natural strength and who is willing to shove with heart and soul as well as muscle, might be rated just as high for strength as a hulk who just heaves with his arms.

A character’s abilities may determine aspects of his or her appearance and even personality, and also have associated bonuses and penalties affecting relevant activities.

The nine abilities used in **T20** are:

## STRENGTH

Strength (STR) is the ability to apply force. A strong character can pull, push, hit, twist or throw harder and further than a weaker one, and can carry more without being encumbered by his possessions. Strength is at least as much technique as raw power, though a strong character will normally have good muscle tone even if he isn’t a bulging bodybuilder. He or she will thus appear fit and healthy to an observer.

Strength bonus is added to:

- Damage rolls with a melee or thrown weapon.
- Physical skills requiring the application of physical power, e.g. Climb, Swim, Jump.

Note that STR does not apply to firearms and similar projectile weapons (e.g. crossbows). STR penalty (but not bonus) applies to bow or sling weapons. Weapons used in the off-hand gain only half the normal STR bonus to damage. 2-handed melee weapons gain one and a half times the character’s STR bonus.

## DEXTERITY

Dexterity (DEX) is a combination of manual dexterity, reflex speed, and physical agility. High-DEX characters hit more often with melee and missile weapons, and are better at avoiding being hit. DEX is at least half mental, and a character who is cool-headed and chooses the right reaction can actually react more quickly than someone who is merely fast but makes blind reflexive movements. High-DEX characters will normally move well, in balance. They often habitually display their DEX without thinking about it, catching things and moving around effortlessly aboard moving vehicles.

Dexterity bonus is added to:

- All attacks (melee and missile weapons) other than with

ship’s weaponry and artillery.

- Armor Class (AC), so long as the character has the opportunity to make herself a more difficult target by evading. DEX does not apply to attacks the character is unaware of.
- Saving throws to avoid hazards that require physical agility to escape, such as to avoid falling or to dive into cover from a grenade explosion. This is termed a Reflex Save.
- Skills that require little physical power but considerable agility or fine motor control, such as Move Silently, Pilot or Tumble.

## CONSTITUTION

Constitution (CON) is a measure of physical and mental toughness, fitness, and resilience. A tough character can take more punishment and keep going, but this is as much mental toughness as physical. High-CON characters are normally in at least reasonably good physical shape and don’t get sick often. Their determination and will to succeed are obvious to anyone who sees them undertake a difficult task.

Constitution bonus is added to:

- Each of a character’s Stamina dice.
- Saving throws to resist harm from poison, cold, and similar physical threats, where toughness is a factor. This is termed a Fortitude Save.
- Concentration checks when undertaking a complex task under trying conditions.

Constitution also determines a character’s Lifeblood score, which is equal to CON plus any bonuses from feats such as Toughness.

## INTELLIGENCE

Intelligence (INT) is a combination of smarts, reasoning ability, abstract thinking, imagination, memory, and the ability to make connections. High-INT characters gain extra skill points, since they grasp new concepts quickly, and relate them to what they already know in novel ways. One of the most important factors in intelligence is the understanding that there may be more than one way to deal with a problem. A smart character will often come up with “outside the box” solutions and new ways to do things.

Intelligence bonus is added to:

- The number of skill points gained at each new level.
- Skills requiring a character to think on his feet, such as Trader, Gambling, and Forgery.

## EDUCATION

Education (EDU) represents learning and knowledge rather than raw smarts. It is a measure of what a character has retained, rather than what he has studied. EDU can come from formal schooling, on-the-job training, a habit of watching educational vids or a liking for museums and art galleries. Many high-EDU characters possess a degree from a university, but this must be earned and is not automatic. A highly educated person can lack



common sense or even intelligence; EDU can represent rote learning with little understanding, or a broad knowledge base and the ability to correlate facts.

All creatures that can think and learn begin with 0 points of Education. A creature with no Education score is an animal, operating on simple instincts. It will automatically fail Education checks. An Education of 0 means that the character has absolutely no formal schooling or education.

### Education Scores

EDU	Equivalent Education Level
3	Elementary School
6	Middle School
10	High School
12	Bachelors Degree*
14	Masters Degree*
16	Doctorate Degree*

\* Equivalent for reference only, does not imply the character holds an actual degree.

Education bonus is added to:

- Skills requiring the recall of specific knowledge, such as Knowledge/Interstellar Law, or Technical/Engineering.
- General knowledge checks to see if a character recalls a specific fact.

## WISDOM

Wisdom (WIS) represents intuition, will, perception, and “common sense.” High-WIS characters are more “in tune” with the world and people around them, and often pick up subtle signals that others miss. They are also harder to influence than others, and are less prone to dumb mistakes due to failure to remember basic safety rules. High-WIS characters often seem “wise” or “smart,” even if they’re not actually that bright, since they make fewer dumb mistakes and generally behave in a sensible fashion rather than a highly imaginative but unwise manner.

Wisdom bonus is added to:

- Saving throws to avoid influence or mental control. This is termed a Will Save.
- Skills dependent upon perception and instinct, such as Spot, Sense Motive and Gunnery.
- Wisdom check to avoid making a dumb mistake that common sense would avoid (at Referee’s option).

## CHARISMA

Charisma (CHA) represents strength of personality, leadership potential and “magnetism,” plus a certain amount of physical attractiveness. A charismatic character might be a fast-talking weasel or a fiery orator – or a humble but wise and knowledgeable teacher. One person’s influence may be based on their looks; another’s on cynical manipulation, and yet another’s on a habit of saying things that make sense to the people around her. CHA is thus hard to define precisely. A high-CHA character will attract friendship and loyalty (often without meaning to) and often has a “habit of leadership,” taking charge of whatever situation arises without even thinking about it.

Charisma bonus is added to:

- Skills that influence others in some way, such as Perform, Bribery, and Intimidate.

## SOCIAL STANDING

Social Standing (SOC) denotes the social class and level of society from which a character (and his or her family) comes. A Social Standing of 16 or greater indicates a hereditary family title of nobility. However, a high-SOC character does not have a title of his own unless he has served in the Noble career, or the Referee determines that a title is held. Otherwise, he is a member of a noble family, and can use the courtesy title of “lord” before his name, but has no actual rank.

Any creature living as part of a larger civilization will usually have at least 1 point of Social Standing. Anything with no Social Standing is fairly isolated from civilization, an animal, or an automaton. A social standing of 0 means that the character is from the lowest levels of society.

### Social Standing Scores

SOC	Title or Likely Social Level
0	No contact with civilization
1	Felon wanted for particularly repulsive crimes
3	Very Poor or Criminal
5	Unskilled Laborer or Very Poor
7	Semi-Skilled or Poor
9	Skilled Worker
12	Educated Professional
14	Highly Respected Professional or Executive
15	Untitled member of Noble family, or close member of Noble household
16	Knight, Knightess, Dame
18	Baron, Baroness, Baronet
20	Marquis, Marquesa, Marchioness
22	Count, Countess
24	Duke, Duchess
26	Archduke, Archduchess
28	Crown Prince, Crown Princess
30	Emperor

**Using SOC:** SOC determines the level of society the character is used to operating in, and without special training the individual will lapse into the speech habits, slang, and general behavior associated with that group. This should be role-played; a poor laborer (SOC 6) will likely have no idea how to address a Knight, and will embarrass himself at court. Someone from a corporate executive (SOC 13) background will simply not be able to pass for a street gang member without specific coaching or experience (perhaps represented by Streetwise skill) in how to do it believably.

Generally, high SOC is useful in that officials tend to react better to high-status individuals (who may be perceived as powerful). High SOC also is required to gain access to the world of the nobility and important military and government officials, who simply “don’t deal with the proles.”

Some low-SOC people resent the higher-ups, while others are respectful or even obsequious. On the other hand, some high-SOC individuals are contemptuous of the “rabble” while others see themselves as serving the masses, and treat less privileged

individuals with courtesy and respect. This depends upon the individual and local conditions, and the Referee may choose to modify reaction rolls when individuals with very different SOC scores meet.

**Cost of Living:** A character must spend a minimum of Cr100 per point of SOC per month to maintain the standard of living required for his or her social status. This will cover the character's basic expenses such as food, minimal clothing, and adequate shelter for the period. For each month a character is not able to monetarily maintain his Social Status, his effective SOC ability score is temporarily reduced by 1. If the next month a character is once again able to maintain the normal Social Status, their effective SOC ability score is returned to normal (no matter how low it had dropped). See Subsistence on a Long Term Basis for more information.

Social Standing bonus is applied to:

- Some interpersonal skills instead of CHA, where the character's rank is more important than personality.

## PSIONIC STRENGTH

Exactly where a character's psionic strength (PSI) comes from, or what it is, is hard to quantify. Psi represents the ability to defend against psionic attacks or influence, and provides the power to use psionic skills if they are possessed. For non-psionics users, it is not necessary to generate Psi scores for characters until they encounter psionics use (which may be never). If Psi is generated for starting characters, record the initial value but note that the useable level of Psi declines as the character ages. Once a character is trained, Psi ceases to decline with age.

## GENERATING ABILITY SCORES

The character's nine abilities will shape his life to a great extent. They determine what he is best suited to do, and possibly bar him from some areas of activity. They also provide bonuses and in some cases provide raw capability. As a rule, adventurers are at least slightly above the norm for their species, and their stats should reflect this. A character who is weak in some areas is more interesting and believable than a superhero, but a truly ineffectual character is no fun to play and should be discarded.

The character's ability scores can be generated in a number of ways. Default is the Basic Option (below) but with the Referee's permission other methods can be employed.

### THE BASIC OPTION

Roll 4d6 nine times, each time discarding the low die, and record the scores. This gives nine stats in the 3-18 range, but skewed slightly towards mid-high values. Assign these results to abilities as desired. If the set of attributes is disastrously poor, for example if the highest stat is 13 or less or the average is 10 or less, it may be acceptable to discard the entire set. The Referee must define exactly what "disastrously poor" means, and his or her decision is final.

### THE RANDOM OPTION

Roll stats as per the basic option, but assign them in the order they are rolled. This will give characters whose strengths are not what the player had in mind, creating an interesting roleplaying situation.

### THE HEROIC OPTION

For high-powered games, choose three stats and roll them on 1d4+14. Roll the others on 1d10+8. This gives a higher average

all round and the potential for very high stats in critical areas. It is best used for "special forces" type games, where characters are better than the best of the best and the challenges are awesome. It is not recommended for standard **T20** games.

### THE POINT BUY OPTION

All abilities start with a base score of 8. The player has 32 points they can spend to improve one or more ability scores. Use the table below to determine the cost in points to raise an ability to a desired score.

Score	Cost	Score	Cost
9	1	15	9
10	2	16	12
11	3	17	15
12	4	18	19
13	5	19	23
14	7	20	28

### ALIENS

Most alien characters generate their stats like a human, and then modify them. In this case, generate raw stats using whatever method the Referee chooses, and apply racial modifiers. In the case of aliens that use a different system, the Referee may choose to bias the character's stats to reflect the higher averages of his or her human peers.

## ABILITY MODIFIERS

The character's ability scores will determine his or her modifiers. Calculate them now and note them, though they may change due to stat alteration in character generation.

Score	Modifier	Score	Modifier
0-1	-5	16-17	+3
2-3	-4	18-19	+4
4-5	-3	20-21	+5
6-7	-2	22-23	+6
8-9	-1	24-25	+7
10-11	+/-0	26-27	+8
12-13	+1	28-29	+9
14-15	+2	30-31	+10

## LIFEBLOOD AND STAMINA

There are two kinds of damage a character can take. **Stamina** damage represents general battering of a sort that is only life-threatening after a long period. Stamina is also reduced by the effects of cold and starvation, and similar hazards. Experienced characters tend to have a lot of stamina and are thus able to last quite a while before collapsing. A character's Stamina is determined by a number of "hit dice." A character gains one hit die per level in each class; the actual type of die rolled depends upon the class (e.g. Mercenaries will gain more Stamina than Academics), plus or minus any Constitution bonus.

Stamina is determined by the character's class levels. Each time the character gains a level, add one stamina die for that class (e.g. 1d6 for Travellers, 1d8 for Rogues), plus or minus any Constitution bonus, to the character's Stamina total.

**Lifeblood** represents a character's ability to survive attacks that are immediately life-threatening, such as knives and bullets. A character's Lifeblood is equal to his Constitution score, and rarely increases. Thus Lifeblood-affecting attacks can be very deadly. Experienced adventurers can slug it out with fists for quite a while but once someone produces a sword or submachine-gun, things get deadly – fast!

The character's starting Lifeblood score is equal to his or her constitution. It may change during character generation, but probably will not.

## ENCUMBRANCE

There is a limit to what a person or creature can carry and for how long. Obviously larger and stronger beings will be able to carry more than their smaller and weaker counterparts. The following rules will help you determine if your character is considered encumbered, and what penalties will apply under these conditions.

### WEIGHT

If you want to determine whether your character's gear is heavy enough to slow him down (more than his armor already does), total the weight of all his armor, weapons, and gear. Compare this total to the character's Strength on the Carrying Capacity table below to determine the character's load level. Consulting the Carrying Loads table shows how encumbrance will limit the character's DEX modifier, impose penalties on physical skill checks and reduce movement rate.

If your character is wearing armor, use the worst figure (from armor or from weight) for each category. Do not stack the penalties.

### LIFTING AND DRAGGING

A character can lift up to the maximum load (for his Strength) over his head.

A character can lift up to double the maximum load off the ground, but he can only stagger around with it. While overloaded in this way, the character loses any Dexterity bonus to AC and can only move 1.5 meters per round (as a full-round action).

A character can generally push or drag along the ground up to five times the maximum load. Favorable conditions (smooth ground, dragging a slick object) can double these numbers, and bad circumstances (broken ground, pushing an object that snags) can reduce them to one-half or less.

### BIGGER AND SMALLER CREATURES

The figures on the Carrying Capacity table are for Medium-size creatures. Larger creatures can carry more weight depending on size category: Large (x2), Huge (x4), Gargantuan (x8), and Colossal (x16). Smaller creatures can carry less weight depending on size category: Small (3/4), Tiny (1/2), Diminutive (1/4), and Fine (1/8).

### MULTIPLE LEGS

Creatures and aliens with more than two legs can carry heavier loads than bipeds. To determine such a creature's carrying capacity limits, use the Carrying Capacity table, multiplying by the appropriate modifier for the creature's size: Fine 1/4, Diminutive 1/2, Tiny 3/4, Small 1, Medium 1.5, Large 3, Huge 6, Gargantuan 12, and Colossal 24. If the creature is hexapedal (6 legs) multiply the total determined previously by 2. Octapedal creatures (8 legs) multiply the total by x3.

### TREMENDOUS STRENGTH

For Strength scores above those listed, carrying capacity can be determined as follows: Find the Strength score between 20 and

29 that has the same "ones" digit as the creature's Strength score and multiply the figures by four for every 10 points of Strength the creature has above that, e.g. x4 for STR 30, x16 for 40, x64 for 50, and so on.

**TABLE: Carrying Capacity**

Strength	Light Load	Medium Load	Heavy Load
1 STR	up to 1.3kg	1.4-2.7kg	2.8-4.5kg
2 STR	up to 2.7kg	2.8-5.8kg	5.9-9kg
3 STR	up to 4.5kg	4.6-9kg	9.1-13.5kg
4 STR	up to 5.8kg	5.9-11.7kg	11.8-18kg
5 STR	up to 7.2kg	7.3-14.8kg	14.9-22.5kg
6 STR	up to 9kg	9.1-18kg	18.1-27kg
7 STR	up to 10.3kg	10.4-20.7kg	20.8-31.5kg
8 STR	up to 11.7kg	11.8-23.8kg	23.9-36kg
9 STR	up to 13.5kg	13.6-27kg	27.1-40.5kg
10 STR	up to 14.8kg	14.6-29.7kg	29.8-45kg
11 STR	up to 17.1kg	17.2-34.2kg	34.3-51.7kg
12 STR	up to 19.3kg	19.4-38.7kg	38.8-58.5kg
13 STR	up to 22.5kg	22.6-45kg	45.1-67.5kg
14 STR	up to 26.1kg	26.2-52.2kg	52.3-78.7kg
15 STR	up to 29.7kg	29.8-59.8kg	59.9-90kg
16 STR	up to 34.2kg	34.3-68.8kg	68.9-103.5kg
17 STR	up to 38.7kg	38.8-77.8kg	77.9-117kg
18 STR	up to 45kg	45.1-90kg	90.1-135kg
19 STR	up to 52.2kg	52.3-104.8kg	104.9-157.5kg
20 STR	up to 59.8kg	59.9-119.7kg	119.8-180kg
21 STR	up to 68.8kg	68.9-137.7kg	138.8-207kg
22 STR	up to 77.8kg	77.9-155.7kg	155.8-234kg
23 STR	up to 90kg	90.1-180kg	180.1-270kg
24 STR	up to 104.8kg	104.9-209.7kg	209.8-315kg
25 STR	up to 119.7kg	119.8-239.8kg	239.9-360kg
26 STR	up to 137.7kg	138.8-275.8kg	275.9-414kg
27 STR	up to 155.7kg	155.8-311.8kg	311.9-468kg
28 STR	up to 180kg	180.1-360kg	360.1-540kg
29 STR	up to 209.7kg	209.8-419.8kg	419.9-630kg
+10 STR	x4	x4	x4

**TABLE: Carrying Loads**

	Max	Check	Speed		
Load	DEX	Penalty	(12m)	(9m)	Run
Medium	+3	-3	9m	6m	x4
Heavy	+1	-6	9m	6m	x3

## HEIGHT AND WEIGHT

You may choose your character's height and weight based on the ranges presented in the race descriptions, or you may determine this randomly using the Random Height and Weight table below.

**Base Height:** The base height of the race in centimeters.

**Height Modifier:** Roll the listed dice and multiply the result by 5 as shown in the table. Add this to the base height



in centimeters. For example, a male human character has a base height of 140cm. The player rolls 2d6 for a roll result of 7. Multiplying the roll by 5 the player determines that he should add 35cm to the character's base height for a total height of 170cm.

**Base Weight:** The base weight of the race in kilograms.

**Weight Modifier:** Roll the listed dice and multiply the roll result by the Height Modifier roll result. Add this to the base weight in kilograms. For example a female human character has a base weight of 44kg. The player rolls 1d6 for a roll result of 3. Multiplying this against a previous height roll of 7, the player determines that she should add 21kg to her character's base weight for a total of 65kg.

TABLE: Random Height and Weight

	Base Height	Height Modifier	Base Weight	Weight Modifier
Vilani, male	140	+2d6 (x5)	54	x (1d8) kg
Vilani, female	130	+2d6 (x5)	49	x (1d6) kg
Zhodani, male	158	+2d6 (x5)	49	x (1d8) kg
Zhodani, female	148	+2d6 (x5)	44	x (1d6) kg
Human*, male	140	+2d6 (x5)	49	x (1d8) kg
Human*, female	130	+2d6 (x5)	44	x (1d6) kg
Vargr, male	130	+2d6 (x5)	46	x (1d4) kg
Vargr, female	120	+2d6 (x5)	41	x (1d4) kg
Aslan, male	170	+2d6 (x5)	60	x (1d8) kg
Aslan, female	160	+2d6 (x5)	55	x (1d8) kg
Sydite, male	190	+2d6 (x5)	80	x (2d6) kg
Sydite, female	180	+2d6 (x5)	75	x (2d6) kg
Ursa, male	200	+4d6 (x5)	300	x (4d6) kg
Ursa, female	180	+4d6 (x5)	250	x (4d6) kg
Virushi, male	170	+4d6 (x5)	230	x (10d10) kg
Virushi, female	160	+4d6 (x5)	200	x (10d10) kg



# HUMAN AND ALIEN RACES

2

## HUMAN AND ALIEN RACES

The great majority of characters in T20 will be humans, but even humans vary considerably from place to place. Some human societies are as alien as anything created by non-humans.

### Alien XP Penalties

Some aliens races described here have an XP penalty listed for them. A character of this race must earn the normal amount of experience required to attain a new level plus the amount of the penalty listed for their race.

For example a 3rd level Ursa character (3000xp penalty) must earn then normal 6000xp to reach 4th level plus an addition 3000xp for a total of 9000xp before reaching 4th level.

A 1st level Luriani character (1000xp penalty) must earn a total of 2000xp to reach 2nd level and to reach 3rd level must have earned a total of 4000xp.

## HUMANITY

Humans are the most commonly encountered race in Charted Space. When Terran humans reached the stars, they encountered dozens of distinct Human races (and that's not counting minor variations among colonists after a mere few hundreds of years on non-Terra-like worlds), some having developed rather unique racial characteristics. How this came to be is the subject of many debates, but it does appear that all owe their original genetic heritage to the Humans of Terra.

Most humans are of mixed blood. Some "racial" characteristics have survived through the ages, and the whole range of human

variation can be encountered. On some worlds, the gene pool of the original colonists was such that a particular skin color or other characteristic dominated. In other cases a cultural characteristic came to dominance, creating a society with the flavor of, say, a Southeast Asian nation on Terra but very diverse physical characteristics among the populace. Some groups of colonists were shaped by their environment, coming to resemble one of the races of old Terra through adaptation to similar conditions.

### HUMAN RACIAL TRAITS

- Human base speed is 9 meters.
- Medium-size. Humans receive no special bonuses or penalties due to their size.
- 4 extra skill points at 1<sup>st</sup> level and 1 extra skill point at each additional level.
- 1 extra feat at 1<sup>st</sup> level.
- Automatic Languages: See Subrace information below.

## MAJOR HUMAN SUBRACES

The various subraces of humanity differ only slightly from one another in most cases, and are usually interfertile. The great majority of humans are of mixed blood. Note that these subraces have nothing to do with the various ethnic types found on Earth. Humans of any of the subraces – and especially mixed or Solomani humans, can display the physical characteristics of any 20<sup>th</sup> century ethnic group.

### VILANI HUMANS

Vilani are as mixed in physical characteristics as any other human group. Their culture is the remnant of an empire (the Ziru Sirka, or First Imperium) that once dominated thousands of worlds. The traditions of the Ziru Sirka remain a powerful force even today. Vilani society is built around guilds and Bureaus that run the various services needed to keep a society working; these too are holdovers from the First Imperium period.

Vilani view scientific and technological progress with disdain; stability is more important than progress. Pure-blooded members of the race tend to live very long lives. This trait is rapidly diluted by interbreeding. When selecting Vilani as their character's race, players should state whether the character is of mixed or full-blooded Vilani descent.

**Status:** Major Race

**Homeworlds:** Vland A967A9A-D

**Languages:** Galanglic and Vilani.

### SOLOMANI HUMANS

Originally known as Terrans or Earthlings among themselves, these humans of Terra (Earth) eventually adopted the title of Solomani or the Men of Sol as the designation for their race. Solomani or humans belonging to a Solomani-influenced culture are more innovative and inquisitive than their Vilani cousins. Solomani are explorers and tinkers. Solomani societies tend to be more violent and unstable than their Vilani equivalents.

**Status:** Major Race

**Homeworlds:** Terra (Earth) A867A49-D

**Languages:** Galanglic.

### MIXED RACE HUMANS

The humans of Charted Space include some pure-blood Vilani and Solomani groups, but the majority are of mixed blood. Some regions are dominated by Solomani or Vilani cultural ideas



(this has little to do with lineage, though pure-blood Vilani tend to maintain their traditional lifestyles). Most humans think of themselves first as citizens of their homeworld, then as citizens of any interstellar government. Cultural pollution has caused many worlds (especially those on major trade routes) to move towards a "standard-starfaring" culture, though even this is subject to local variations. Some worlds are very different to this starfaring-norm culture. Diversity (within limits) is more common than compliance.

**Status:** Major Race

**Homeworlds:** Numerous.

**Languages:** Galanglic and their own local homeworld languages (if any).

## ZHODANI HUMANS

The other major human group is the Zhodani, who rule a large area of space away to Coreward-Spinward. The Zhodani have embraced telepathy and other psionic talents and are ruled by a psionic nobility. Their society is stable and peaceable, but ready to defend its borders against aggression.

At the top of the Zhodani social order are the psionic nobles, either drawn from the most adept psionics among the Intendant class, or trained from birth when born of a noble family. Nobles in Zhodani society form the core of the elite business owners and managers, politicians and military leadership.

Below the nobility is the Intendant class. Intendants are psionically trained individuals born of an Intendant family, or selected from among the proles for their high psionic potential. Intendants act as the middle managers, bureaucrats, and functionaries of Zhodani society. Many are assigned as personal secretaries to individual Zhodani nobles.

The Proles, who greatly outnumber Nobles and Intendants, are typically not psionic, or are low strength natural talents without any formal training. The Proles are the contented farmers, factory workers, scientists, technicians, dockworkers, supervisors, junior managers and enlisted members of the armed forces who make up the majority of Zhodani society.

All Zhodani characters with a Social Status of 16 or higher are nobles and are automatically considered to be a Natural Psionic Talent. All other Zhodani characters should automatically be checked to see if they are a Natural Psionic Talent. If the character is a natural talent with a PSI score of 10 or higher, he or she is considered to be an Intendant. If an Intendant's Social Status is below 10, it is automatically raised to 10.

**Status:** Major Race

**Homeworlds:** Zhdant A6547C8-D

**Languages:** Zdetl.

## MINOR HUMAN SUBRACES

Various groups of genetically engineered, adapted or pure-blood humans exist in Charted Space; some of them in strange places. Cultures vary widely; usually this is the result of local conditions. Not all of these offshoot species are capable of interbreeding with genetically "straight" humans, and some are very different from the "human" norm.

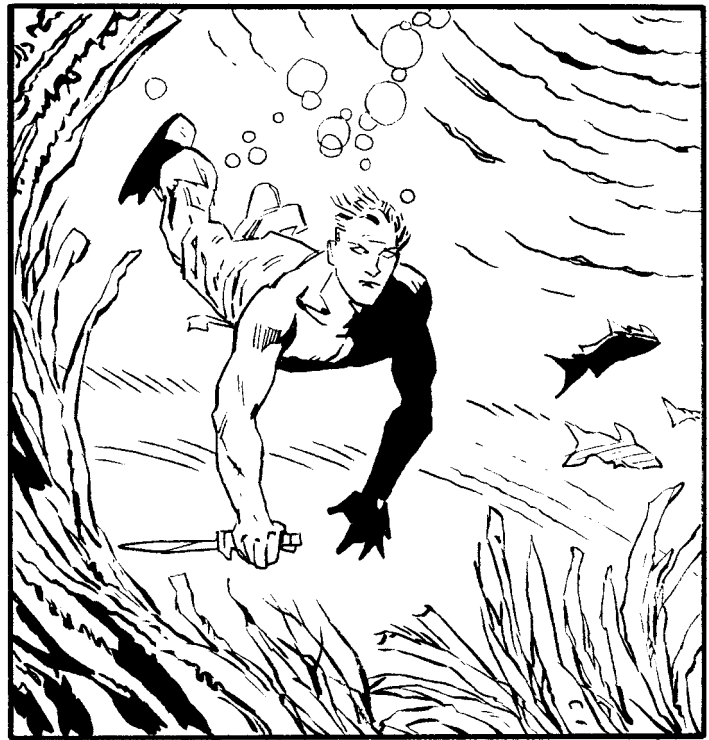
**Status:** Minor Race

**Homeworlds:** Numerous.

**Languages:** Galanglic and their own local homeworld languages (if any).

## LURIANI

The Luriani are an amphibious minor human race, apparently 'seeded' on their homeworld of Daramm roughly 300,000 years ago by the Ancients, in an (unfinished) attempt to breed a race of aquatic humans for some unknown purpose. Luriani constitute



the third largest subrace of humans in the Gateway region, second only to humans of Vilani or Solomani descent, and have long been an important part of the history and politics of Gateway Domain.

### LURIANI RACIAL TRAITS

- +1000xp penalty
- +2 Constitution, -2 Wisdom.
- Luriani base speed is 9 meters.
- Medium-size. Luriani receive no special bonus or penalties due to their size.
- Can dive in water down to depths of 240 meters without artificial aid.
- +2 on all Will and Fortitude saves due to cold conditions
- +4 to all Swim checks.
- +2 to all Pilot checks.
- Rarely will a Luriani have a Social Standing greater than 15 (Referee discretion). Currently there are only 7 known hereditary Luriani nobles.
- Luriani do not receive the normal human skill point bonus at 1<sup>st</sup> and subsequent levels.
- Luriani do not automatically receive the extra starting bonus feat that normal human do.
- Automatic Languages: Standard Luriani, Galanglic, Old High Vilani.

**Personality:** Because most Luriani are right-brain dominant (and thus left-handed), they have developed a highly passionate and artistically inclined society full of warm, uplifting music and sensual dance. Highly individualistic, most Luriani live as members of a large communal type family, in which the adults are members of a group marriage and all children are considered brothers and sisters, and all adults consider all the children their own.

To help quell what some outsiders might consider their 'hotblooded' nature the Luriani have evolved a Code of Honor when it comes to family and individual responsibilities. To a Luriani effort, hard work, and sincerity mean much more than the final results. When resolving matters of honor, this Luriani trait shows



through. Instead of duels to settle the matter, Luriani engage in contests of skills and wit. As long as both sides put forth their best effort, they each walk away from the contest with the matter settled and their honor intact, no matter who actually wins.

**Physical Description:** At first glance, the Luriani appear to be fairly standard as humans go, although a bit heavier and more rounded. Upon closer inspection, two significant differences can be noted: their hands and feet are webbed, and their skin has a slick appearance from the natural body oils they secrete to protect them from cold waters and climates. Much less apparent is the second eyelid, which protects their eyes from irritants as well as improving their vision underwater. To protect their ears from the pressures of deeper dives, they can voluntarily control the muscles of the inner ear and seal it off.

Internally the differences are more notable and remarkable. A subcutaneous layer of fat (causing their heavy, rotund appearance) acts as an insulating layer against the cold and helps store oxygen. Combined with an increased hemoglobin levels in their blood, this allows Luriani to collapse their lungs and make dives far deeper than any normal human, up to 240m. Because of this and other subtle difference in their biochemistry, Luriani tend to react unpredictably to drugs designed for standard humans.

Luriani are not interfertile with other humans, except via fairly intensive gene therapy treatments.

**Status:** Minor Race, human

**Homeworld:** Daramm A45AA76-E

**Languages:** Standard Luriani, Galanglic, Old High Vilani

**Adventurers:** Luriani adventure for the same reasons as any other human.

## SYDITES

The Sydites are a race of genetically altered humans believed to have been bred by the Ancients for work, rather than brains or looks. They make excellent mechanics, technicians and soldiers, but being a bit unimaginative (some would say slow-witted) in their approach, tend not to do well in positions of responsibility and authority. While not generally stupid, most tend to solve the problems they encounter by simple, direct means rather than

careful planning and finesse.

### SYDITE RACIAL TRAITS

- +2 Strength, +2 Dexterity, +2 Constitution, -2 Intelligence, -2 Wisdom, -2 Charisma, -2 Social Standing.
- Sydite base speed is 9 meters.
- Medium-size. Sydites receive no special bonus or penalty due to their size.
- Even though they have 4 limbs, a Sydite may undertake actions with only one set at a time per round.
- Sydites do not receive the normal human skill point bonus at 1<sup>st</sup> and subsequent levels.
- Sydites do not automatically receive the extra starting bonus feat that normal humans do.
- Automatic Languages: Sopas, the native language of the Sydites.

**Personality:** Years of bigotry, stereotyping, and xenophobia have tended to portray the Sydites as a strong and fast but ugly, bumbling and inept sub-race of humans. The Sydites are quite aware of this and resent the image and the dismissal of their place in the history of the sector. As a race they are tired of being thought of as second-rate people. Despite their genetic limitations, the Sydites have developed an impressive culture, and once ruled a considerable empire in the Gateway Sector region.

**Physical Description:** Physically Sydites are quite a bit larger than an average human (2-2.5m tall, 130kg in weight). They are also rather ugly in comparison, having a more brutish and blockier facial structure. Their size and general appearance is not the most striking difference from the standard human form however. Sydites have two sets of arms, the upper pair designed for heavy lifting, the second set designed for fine manipulatory work. The upper arms have an effective Dexterity equal to one-half the Sydite's Dexterity ability score, while the lower arms have an effective Strength equal to one-half the Sydite's Strength ability score.

**Status:** Minor Race, human

**Homeworld:** Khuur E959977-5 (Known as Sopater to its inhabitants)

**Languages:** All Sydites speak Sopas, their native tongue. Those living outside the Khuur league or those that deal with non-Sydites on a regular basis also typically speak Galanglic.

**Adventurers:** Outside of their own worlds, Sydites are often hired for mercenary work, as bodyguards or heavy manual labor, though their temperament also reduces their odds for gaining even these types of work with most employers.

## VARGR

Of all the races of Charted Space, Vargr are the most similar to humans, though their biology and culture is quite different. Vargr have a pack mentality, which includes an obsession with status and "Prestige", and are known for their liberal attitude to laws. Vargr corsairs are notorious, and in some areas are the only contact humans have with Vargr. However, Vargr are part of human-dominated society in many regions.

The Vargr are an intelligent race descended from a carnivore/chaser stock that has a remarkable resemblance to the native Terran (Earth) animal known as the wolf.

### VARGR RACIAL TRAITS

- +1000xp penalty
- +2 Dexterity, -2 Constitution.
- Vargr base speed is 12 meters.
- Medium-size. Vargr receive no special bonus or penalties



due to their size.

- Eyesight is much sharper than human sight, but has a more limited range of color sensitivity. They receive a +2 on all Search checks.
- Hearing is excellent, extending into lower ranges beyond the level of human capability. They receive a +2 on all Listen checks.
- Vargr also possess a keen sense of smell, gaining them a +1 on all Spot checks.
- Vargr enjoy a +1 attack bonus when attacking with their claws or bite. An unarmed Vargr may make two claw attacks (1d4 + STR Modifier in damage each) as a full round action, a single claw attack (1d4 + STR modifier in damage) as a standard action, or may try to bite an opponent (1d6+3 damage) as a standard action each round.
- Vargr have a special characteristic known as Prestige that is based on the character's Charisma score, but works in place of Charisma when dealing with other Vargr. It measures a Vargr's status (not necessarily self-worth) among his or her peers. Initially the Prestige score is equal to the character's Charisma score divided by 3 (round down, minimum of 1). When a new level is achieved the Referee should determine if the character will gain or lose one point of Prestige (or remain at the same score) based on the actions of the character since they gained a new level. Actions of notoriety (good, bad or otherwise) are more likely to improve Prestige than actions that gain little or no publicity. Prestige-gaining actions include leadership of a mission, promotion to an impressive post or rank, particularly flamboyant execution of a task, defeat of a notorious foe or avoiding destruction at the hands of such a foe while carrying out actions that diminish them. Prestige loss is likely when a character suffers public defeat or humiliation, is eclipsed by another character of lesser Prestige, or is forced to back down publicly. For high-Prestige characters, simply not gaining more Prestige implies that they have started "playing it safe". Prestige will be lost if the character stops trying to build their legend.
- Automatic Languages: Irilitok (in the Gateway region; other dialects elsewhere) and Galanglic.

**Personality:** Vargr are frequently characterized as 'inconsistent' by outsiders, who see many of their behavior patterns as contradictory and strange. They are a gregarious people who take great joy in the company of one another, and seek the security and comfort of fellowship with other of their own kind. Yet at the same time Vargr engage in almost constant struggles to achieve prestige and dominance within their group. This frequently gives the appearance of a quarrelsome, sometimes even treacherous nature. Indeed, Vargr move from one group or association to another with such great regularity that they may seem to have no loyalty to any specific institution or purpose. This is not the case. Vargr are every bit as loyal to their cause, leader, or institution as a human would be, but they know that eventually the time will come to shift that allegiance. When that time comes, they will transfer their loyalty to some new focus, and remain true to that until it is time to move on. Exactly what criteria are needed to convince a given Vargr that it is time to change varies widely.

**Physical Description:** Physically, Vargr are slightly smaller and lighter than an average Human (1.6m, 60kg), upright, bipedal, and remarkably humanoid in development and appearance. They are covered with short fur, which is generally brown, black, or rust colored and frequently combines shading of these and other



colors. Their tails are fairly long and generally end in a flaring brush. The muzzle is much shorter and less pronounced than in Terran canines, but is still quite evident. The fingers of a Vargr also retain sharp pointed, non-retractable nails that can function as claws in some close combat situations. On the whole their reactions are slightly faster than those of a human.

**Status:** Major Race

**Homeworld:** Lair A8859B9-D

**Languages:** The most common dialect spoken by Vargr in the Gateway region of space is Irilitok, though there are numerous other Vargr dialects spoken through charted space. Most Vargr675t also speak Galanglic.

**Adventurers:** Vargr are well suited to the risk/reward nature of the ever-changing adventurer lifestyle. The inbuilt drive to better oneself produces many born adventurers, and thus ideal *Traveller* characters.

**Note:** Other versions of *Traveller* do not have a Charisma stat. Vargr Prestige is called Charisma in these versions. The change was made for T20 to avoid confusion. If using materials written for a different *Traveller* rules set, treat any reference to Charisma as Prestige.

## ASLAN

The first humans to encounter this alien race thought the humanoid Aslan to be vaguely "lion-like" in appearance and labeled them with an appropriate word from a Terran language. The resemblance is fairly minor (and Aslan certainly have no connection with Terran felines) but the name stuck. Aslan society is rigidly divided into male and female roles. Males are warriors and protectors; females are administrators and scientists. Male Aslan, who measure wealth in terms of land and prestige, have difficulty in surviving in human society. Concepts like "money" are

alien to them, while humans seem to lack “honor”. Females are more adept at organization, finance and business, and have far fewer problems interacting with non-Aslan.

Aslan are descended from four-limbed carnivorous pouncer stock that rose to the top of the food chain in the forests of their homeworld, Kusyu.

#### ASLAN RACIAL TRAITS

- +1000xp penalty
- All Aslan: +2 Strength, -2 Dexterity
- Male Aslan: +1 BAB with all weapons (which makes +2 with dewclaw; see below), -2 Wisdom. May not take the Academic, Belter, Professional, Merchant, or TAS Field Reporter classes.
- Female Aslan: May not take the Big Game Hunter, Mercenary, Noble, Scout, or Ace Pilot classes.
- Medium-size. Aslan receive no special bonuses or penalties due to their size.
- Require 10-11 hours of sleep every 32 or will begin to suffer degradation of their abilities.
- Aslan base speed is 12 meters. However they are capable of short bursts of speed. In combat an Aslan has a movement of 18 meters.
- Aslan enjoy a +1 BAB when attacking with their dewclaws (see Physical Description, below). An unarmed Aslan may make two separate dewclaw attacks (1d6 + STR modifier in damage each) as a full round action or a single dewclaw attack (1d6 + STR modifier in damage) as a standard action each round.
- Hearing is superior to that of humans, giving all Aslan a +1 to Listen checks.
- Low Light Vision: Aslan can see twice as far as humans in starlight, moonlight, or other low light conditions.
- Automatic Languages: Aslan and Galanglic.

**Personality:** The Aslan are a warrior race, noble and proud. They are dedicated to those in authority above them and responsible for those who owe fealty from below. Their society is based around the family and its relationships. They are fairly touchy, and it is quite easy for Aslan to give or take offense. Dueling is a common way by which insults and slights are resolved.

Aslan are intolerant of anyone who does not share their cultural values, which can lead to difficulties when interacting with ‘foreign barbarians’. The Tolerance feat allows an Aslan to get along with foreigners somewhat better than otherwise, reducing the number of challenges an Aslan feels compelled to issue.

Aslan have a strong gender divide built into their culture: males are warriors and leaders; females are thinkers, technicians, businesspersons and diplomats. The idea of a male doing ‘female work’ is unthinkable, and it is almost as rare for females to have any male-oriented skills. As a result of this deep-rooted divide, Aslan find it difficult to comprehend the idea that males and females of other species can do any work they please.

Thus gunners, pilots, law enforcement personnel, commanding officers, and people with other “action oriented” jobs will be referred to in the masculine only by an Aslan, and navigators, businesspersons, executive officers, engineers, repair technicians, and those undertaking other intensely educated or ‘thinking’ tasks will be referred to as female. Stewards, entertainers, reporters, and artists will be referred to by physical gender. The Tolerance feat allows a DC10 Wis check to get things right; not having the feat makes this DC18.

Aslan males have a territorial instinct to acquire and accumulate land. This is the male’s primary goal in life, his status being determined by the amount of land he controls. In society



most males (except the lowest classes) are found in the military or in politics. Aslan females are the ones that handle the trade, industry, and accumulation of knowledge within Aslan society.

Aslan measure Soc by how much land an individual or his kin can lay claim to. A low to moderate Soc (up to about 12) usually indicates that the Aslan has little or no land of his own - his Soc is due to the holdings of his clan (or a family within the clan). Soc of 12 or above usually indicates that the character has at least a small amount of land somewhere, and the more he has, the higher his Soc will be. This land may actually be pretty worthless – a few square miles of pasture or lonely moorland – but to the Aslan the ability to take land and keep others from taking it away is the measure of a male’s importance.

**Physical Description:** Aslan are upright bipeds standing roughly of Human height (1.8-2m). They weigh on average 100kg. The Aslan hand has three fingers opposing a single medial placed thumb, and all have retractable claws. In addition, Aslan have a single highly specialized claw under each thumb. This ‘dewclaw’ folds back jack-knife fashion into a horny covering in the base of the thumb and palm. The presence of these claws and the general body structure of Aslan make them somewhat clumsy by human standards, but what they lack in dexterity they make up for in strength.

**Status:** Major Race

**Homeworld:** Kusyu A876986-C

**Languages:** Aslan all share a common language and culture. Most Aslan encountered in human space also speak Galanglic.

**Adventurers:** Male Aslan will likely be adventuring with the eventual goal of acquiring land. Female Aslan may be adventuring for business or personal reasons.

## MINOR RACES

There are many minor races – some very alien indeed – throughout Charted Space. Not all of them are what they seem.



The Referee is free to develop his or her own minor races, both human and alien, as necessary. Some examples from the Official *Traveller* Universe are given below.

## URSA

Ursa are a genetically-uplifted Terran animal species, like Dolphins and Orca. The Solomani corporation GenAssist, established to adapt Terran native lifeforms to alien climates, saw a need for creatures that could assist in colonizing and developing various types of worlds for the Rule of Man. To that end, GenAssist began research on a number of species that might prove to be of use. The Ursa were developed fairly late in the project. It was anticipated that they would be used on higher than normal gravity planets or worlds with many hostile and dangerous lifeforms.

The project was declared a failure and dropped in favor of more promising species, and the experimental colonies were scheduled for extermination. The inhabitants of one Ursa colony succeeded in defeating the GenAssist death squads and seizing a number of starships. Rather than immediately making for safety, these brave few gambled the survival of their entire species by conducting a rescue of as many of their brethren as possible from other colonies. Only then did they flee into deep space. The Ursa managed to reach suitable worlds and established small colonies, some of which still exist. Ironically, their actions proved that far from being a failure, the Ursa Uplift Project had been an incredible success.

GenAssist hunted the Ursa for a time, but eventually found more productive activities to engage in. The whole incident was quietly forgotten about – at least by GenAssist and the Rule of Man.

Some humans, particularly those of strong Solomani background, still look at the Ursa and other uplifted races as inferior beings, not much above the animals they were engineered from, and who should be grateful to those who gave them the intelligence and station they now possess. Such bigotry is one reason for Ursa clannishness.

### URSA RACIAL TRAITS

- +3000xp penalty
- +4 Strength, +2 Constitution, -2 Dexterity, -2 Intelligence,



-4 Social Standing.

- Constitution ability score x 2 = Starting Stamina points.
- 10 + Constitution score = Lifeblood points.
- Ursa base speed is 12 meters.
- Large-size. Ursa receive a -1 attack and AC penalty due to their size.
- +1 natural AC bonus.
- Ursa have two natural methods of attack, the slap and the hug. Unless an Ursa has multiple attacks due to their level, they may only make one slap attack per round as a standard action. Ursa have a +1 BAB when making a slap attack and will inflict 1d8+2 damage if they hit. The hug requires a successful grapple attack, and will inflict 2d6+Str modifier in damage per round it is held.
- Low Light Vision: Ursa can see twice as far as humans in starlight, moonlight, or other low light conditions.
- +2 to all Listen and Spot checks.
- +4 to Move Silent Checks.
- Automatic Languages: Galanglic.

**Personality:** The Ursa are quite clannish, preferring their own company after centuries of persecution and bigotry at the hands of some humans. Because this love of clan and race is so strong, and because their numbers compared to other races are so small, an Ursa will take extreme measures or perhaps even allow himself to be killed rather than take the life of a fellow Ursa. This does not mean the Ursa do not fight among themselves, but when such instances do occur they are ritualistic battles for show rather than an attempt to truly injure the opponent. While some injuries do occur in such battles, they tend to be non-life threatening.

Among non-Ursa, they tend to be reserved, speaking when spoken to or when needed. It is only with those whom an Ursa has come to trust that they will open up and reveal a much lighter and playful side. Such trust must be earned, and is not given easily.

**Physical Description:** Uplifted from the brown bear found on Terra, the Ursa stand erect some 2.5 to 3 meters tall, 1.2 to 1.5 meters when on all fours, and 2 to 2.5 meters when sitting. They typically walk on all fours, but are quite capable of bipedal movement when needed or desired. When dealing with races smaller than themselves, Ursa tend to sit on their rears (bringing them down to eye level with most humans) or stand on all fours. They do not typically wear pants or footgear (unless needed), but often sport tunics and body packs for their carrying capacity and (when needed) rank and identifying insignia.

**Status:** Uplifted animal race

**Homeworld:** Khush C998509-5

**Languages:** All Ursa speak Galanglic as their native tongue, being an uplifted race.

**Adventurers:** Most Ursa that venture beyond their adopted homeworld do so as bodyguards and mercenaries, jobs for which they are highly prized. A few may also be found traveling, satisfying an innate wanderlust and seeking to better understand the place of the Ursa in the universe.

## VIRUSHI

Despite their enormous size and nicknames such as 'centaurs with tank blood' or 'intelligent bulldozers', the Virushi are truly gentle giants. They are extremely polite and soft-spoken; indeed their voices are naturally weak and quiet in normal (for humans) atmospheres, having been evolved for use in a much denser atmosphere.

Because they were one of the larger lifeforms on their homeworld, the Virushi never came under serious threat from

other species. Their society has thus not evolved much beyond the 'cooperative' stage, with most Virushi preferring to remain apart from their fellows. They will typically work together only on those projects that profit both the individuals involved and Virushi society as a whole. Thus the Virushi have ultimately become an almost utopian culture; contented, pastoral, highly supportive of individual freedom. A Virushi will willingly cooperate on almost any task if so inclined, but it is almost impossible to order one to do anything he or she does not want to.

#### VIRUSHI RACIAL TRAITS

- +6000xp penalty
- +10 Strength, +2 Dexterity, -2 Social Standing, -2 Charisma.
- Constitution  $\times 5$  = Starting Stamina Points.
- 20 + Constitution = Starting Lifeblood Points.
- Virushi base speed is 6 meters.
- Large-size. Virushi receive a -1 attack and AC penalty due to their size.
- +6 natural AC bonus.
- -4 to all Listen and Spot checks.
- Automatic Languages: Virush (native language) and Galanglic.
- May not select the Mercenary, Barbarian, Rogue, Army, Navy, Marine, Ace Pilot, or Big Game Hunter classes.
- May attack up to twice per round with their natural weapons, once using their lower arms as a pair of clubs (2d6 + Str modifier for damage), and once with their tail (3d6 + Str modifier for damage).

**Personality:** Virushi are a bit of a contrast in terms of personality. They are quite individualistic and very unlikely to obey orders, yet a Virushi is usually quite willing to 'lend a hand' when they see it is needed and would benefit not only themselves but others too. Virushi individualism appears to create grounds for friction, yet causes surprisingly little. This is mainly a result of their polite willingness to accept differences rather than come into conflict over them.

Despite their calm and placid demeanor, Virushi will fight if necessary, for example to defend the lives of friends, family, or other charges. They do not seek out conflict and will not press a confrontation if the aggressor backs down. It is very difficult to make a Virushi angry, as they are largely indifferent to pain

even on the rare occasions when they are under serious threat of bodily harm. They will almost always calmly and rationally (at least to a Virushi) attempt to discuss and negotiate a non-violent solution to a situation. If violence proves necessary, this too will be administered in a calm and rational manner – though the distinction is likely to be irrelevant to the person on the receiving end!

**Physical Description:** Standing almost 1.8 meters at the shoulder and tipping the scales at close to 1000kg, the Virushi are one of the largest sophont races ever encountered. The high gravity, dense atmosphere, and heavy radiation on their homeworld have evolved the Virushi into the impressive lifeforms they are today.

These massive creatures are covered by overlapping plates of armor with a texture similar to hardened leather. They walk on four tree-thick legs, and are capable of extraordinary feats of dexterity with an upper pair of almost human sized arms, while their lower pair of arms are heavily muscled. These lower arms are designed for heavily lifting, making the upper pair look withered in comparison. Adding to their overall mass is a rather thick tail that makes a potent defensive weapon when needed. The upper arms have only one-half the strength of the lower arms, while the lower arms only have one-half the dexterity of the upper arms.

This immense size and strength is somewhat offset by very poor sensory perception. Virushi eyes, buried beneath massive brow ridges, are adapted to work in brilliant sunlight and perform rather poorly under lower light conditions. Their hearing is similarly degraded under normal atmospheric conditions, having evolved to hear sounds transmitted in a dense atmosphere. They find normal human speech very near the threshold limits of their hearing.

**Status:** Minor Alien Race

**Homeworld:** Virshash AA87901-D

**Languages:** Virush is the native language of the Virushi, but most Virushi are also fluent in Galanglic.

**Adventurers:** When Virushi are found away from their homeworld, they are usually employed in careers that stress service to others. Because of their great dexterity they make excellent doctors. Virushi surgeons are renowned throughout Charted Space. Despite their great size and strength, Virushi are not found in military or similarly structured organizations as Virushi do not take orders from anyone.



# HOMEWORLDS



The environment and society of the world where a character grew up plays a large part in determining their starting capabilities. In game terms, the Home or Birth World rules give a character a few extra specific skills added to their basic class skills, based on the world the character comes from. These rules do not determine a specific homeworld by name, but rather creates a general characterization of the world. This way the player or Referee is free to select an appropriate world from the specific campaign locale. Alternately, the Referee may assign a specific homeworld to each character as he or she sees fit, or allow the players to select their own homeworld from the campaign maps.

## DETERMINING THE HOMEWORLD

The first step is to determine the general level of technological development available on the character's homeworld. Roll 1d6 and consult the table below to determine the technological group of the character's homeworld.

1d6	Tech Level Group	TL	Prohibited Core (starting) Classes
1	Very Low Technology	1d4-1 (0-3)	Belter, Traveller
2	Low Technology	1d3+3 (4-6)	Belter, Traveller
3	Mid-Level Technology	1d3+6 (7-9)	Belter
4	High Technology 1	1d3+9 (10-12)	None
5	High Technology 2	1d3+9 (10-12)	None
6	Very High Technology	1d3+12 (13-15)	None

**TL Range:** The actual Technology Level rating for the character's homeworld has a significant bearing on the effectiveness of a character's education. For every 2 points a character's homeworld TL is below 11, he reduces his Education score by 1 (minimum score of 0). Conversely, for every two points a character's home TL is above 10, he may add 1 to his Education score. Any disadvantage a character suffers from a low homeworld TL may be offset by attending the University.

**Prohibited Core Classes:** Characters from certain tech level worlds may be prohibited from selecting certain classes when first creating their character. These restrictions do not apply to any Service or Prestige classes introduced later in this book or future supplements, unless otherwise noted within the specific service or prestige class description.

### Homeworld Education

TL	Modifier
0-1	-5
2-3	-4
4-5	-3
6-7	-2
8-9	-1
10-11	+/-0

12-13	+1
14-15	+2
16 or higher	+3

## WORLD TRADE CLASSIFICATION

Once you have determined the Tech Level (TL) for the character's homeworld, you are ready to determine the basic characteristics of the world. Roll 1d12 on the table below to determine the primary trade classification of the character's homeworld, modified based on the TL (if any). This trade classification has a direct bearing on the types of skills that are available to a character in the next step.

### 1d12 Primary Trade Classification

1	None
2	Low Population
3	Desert
4	Ice-capped
5	Poor
6	Non-Industrial
7	Agricultural
8	Non-Agricultural
9	Industrial
10	High Population
11	Water World
12	Rich
13	Fluid Ocean
14	Vacuum
15	Asteroid Belt

### TL Modifier:

+1 if Homeworld TL 8+; +2 if Homeworld TL 10+; +3 if Homeworld TL 12+. These modifiers do not stack.

**Agricultural (Ag)** Exports food. Imports manufactured goods, luxury goods, and raw materials.

**Asteroid Belt (Ast)** Not a world but a planetoid belt. Inhabitants live among domes and stations among the asteroids.

**Desert (De)** A dry world with little or no water available on its surface.

**Fluid Oceans (FI)** A world on which the oceans are a liquid other than water.

**High Population (HiPop or Hi)** The world has a billion or more inhabitants.

**Ice Capped (Ic)** A world with frozen polar ice caps.

**Industrial (In)** Exports manufactured goods and some luxury goods. Imports food and raw materials.

**Low Population (LoPop or Lo)** The world has fewer than ten thousand inhabitants.

**Non-Agricultural (Na)** Exports raw materials and some manufactured goods. Imports food and luxury goods. Often a pre-industrial world.

**Non-Industrial (Ni)** Exports raw materials and some food. Imports manufactured goods and luxury goods. Often a pre-agricultural world.

**Poor (Po)** Exports little. Imports everything. Significant areas may remain undeveloped or uninhabited.



**Rich (Ri)** Exports luxury goods. Imports little. These are very 'Terrestrial' worlds, well suited to human life.

**Water World (Wa)** The great majority (95%+) of the surface of the world is covered by water oceans.

**Vacuum (Va)** A world with no atmosphere at all.

For worlds with no trade classification, roll on either the Na or Ni tables.

## WORLD SKILLS

A character receives one rank in the K/Homeworld skill, representing knowledge of the world, its history, important figures, major landmarks, etc. Further, the technological group of the homeworld allows for a number of permanent skill bonuses for certain skills. The skills allowed are determined by the Primary Trade Code (see the table below).

A character may not select a skill that is higher than the technology level of their homeworld, but may select a skill that is up to two ranks lower than the technology of their homeworld. For example: a character from a High technology world, selecting a skill from the Non-Industrial list could select the T/Mechanical, Handle Animal, or Ride skill, but could not select the Survival or Knowledge skill for that trade classification.

A skill may be chosen more than once. The first time a skill is selected, the character receives a permanent +1 background bonus whenever attempting to use that skill. This bonus stacks with any other bonuses. Each additional selection of a skill will add an addition +1 to the background bonus for that skill.

Exactly how many skill bonuses a character may take depends on the TL of their homeworld.

**Very High or High Tech:** 3 skill bonuses. Characters from a higher technology world generally have much more free time in which to pursue other interests beside work than at lower technology levels. Characters from these worlds automatically

receive a +1 bonus to the T/Computer skill in addition to any other skills selected.

**Mid Tech:** 3 skill bonuses. Characters from a middle technology world manage to strike a better balance between work and the pursuit of other interests.

**Very Low or Low Tech:** 1 skill bonus. Characters from lower technology worlds spend the vast majority of their time working and just trying to survive. Characters from these worlds automatically gain a +1 bonus to the Ride and Survival skill in addition to any other skill selected.

## WORLD FEATS

Characters may also start out with an automatic feat based on the technology level and one or more for the environment of their homeworld. Consult the chart below to see what feats your character qualifies for:

<i>World Tech Level or Environment</i>	<i>Automatic Feats</i>
Very Low Tech	Tracker and Trapping
Low Tech	Weapon/Swordsman
Mid Tech	Vehicle/Wheeled*
High Tech	Vehicle/Grav**
Very High Tech	Vehicle/Grav**
Asteroid Belt or Vacuum World	Vac Suit and Zero-G/Low Gravity Adaptation

\* Automatically gains the Driving skill (cross-class unless otherwise noted as a class skill) at skill rank 0.

\*\* Automatically gains the Pilot skill (crossclass unless otherwise noted as a class skill) at skill rank 0.

<i>Tech Group</i>	<i>Agricultural (Ag)</i>	<i>Non-Agricultural (Na)</i>	<i>Industrial (In)</i>	<i>None Non-Ind (Ni) LoPop (LoPop)</i>
Very Low (0-3)	Handle Animal	Survival	Handle Animal	Survival
Low (4-6)	Ride	Navigation	T/Mechanical	Handle Animal
Middle (7-9)	Driving*	T/Mechanical	T/Communications	Ride
High (10-12)	T/Mechanical	T/Communications	T/Electronics	T/Mechanical
Very High (13+)	Knowledge	P/Prospecting	T/Gravitics	Knowledge
<i>Tech Group</i>	<i>Asteroid Belt (Ast)</i>	<i>Fluid Ocean (Fl)</i>	<i>Desert (De)</i>	<i>Water World (Wa)</i>
Very Low (0-3)	-	Survival	Survival	Swim
Low (4-6)	-	Driving**	Spot	Survival
Middle (7-9)	T/Astrogation	Navigation	Intuit Direction	Driving**
High (10-12)	T/Communications	K/Chemistry	Navigation	Navigation
Very High (13+)	P/Prospecting	T/Communications	T/Communications	T/Communications
<i>Tech Group</i>	<i>Rich (Ri)</i>	<i>Poor (Po)</i>	<i>High-Pop (HiPop)</i>	<i>Vacuum (Va)</i>
Very Low (0-3)	Craft	Intimidation	Leader	-
Low (4-6)	Entertain	Bluff	Trader	-
Middle (7-9)	Knowledge	Gather Information	P/Administration	T/Mechanical
High (10-12)	Gambling	Forgery	K/Interstellar Law	T/Communications
Very High (13+)	Liaison	P/Prospecting	Liaison	T/Astrogation

The trade classification **lc** (Ice-capped) provides no specific World skills.

\* Automatically gains the Vehicle/Wheeled feat if the character does not already possess it.

\*\* Automatically gains the Vehicle/Watercraft feat if the character does not already possess it.



In Traveller, the player characters are rarely neophytes released onto an unsuspecting universe. They tend to be older, more experienced characters who know what they are doing. This doesn't mean it isn't possible or permissible to create and play a character starting from 1<sup>st</sup> level with no experience, it's just not the norm. If you wish to play a 1<sup>st</sup> level character, just skip this section and move straight on to Classes and Levels.

If you do wish to play a more experienced character, there are two ways to do it. The first and easiest way is to simply decide what level you want the character to start the game at and move directly on to Classes and Levels.

The second, and in our opinion preferred method to creating a more experienced character is to use the prior history system detailed herein.

Under the prior history system a character will spend one or more 'terms', usually a four year period, either working or furthering their education. While serving a term, the character will have an opportunity to earn experience points, promotions, decorations, or even cash bonuses. In addition, the events that occur during a term can help shape and develop the background story of the character.

## BEGINNING A TERM

A character faces a dilemma: enter a career or further their education and training? It is up to the player to decide which option best suits their planned career path; the character will earn experience and other bonuses whichever option they choose. It is possible to take a career break to attend an educational or training facility later on.

**The Educational Path:** A character with an initial Education score of 10 or higher is considered to be informally educated as a result of personal interest and job-related learning rather than having undertaken a formal course of study at a college or university. Such characters do not have a degree. Therefore the University option remains a viable choice for these highly educated characters, allowing them to earn a formal degree (and the experience acquired from successful University attendance), though they may not necessarily receive an increase in their education score. Other educational and training opportunities are also available.

Attendance to a school, academy, college, or institute does not typically have to be chosen immediately. A character may elect to attend at any point during their Prior History development rather than spending another term in employment. Once they have completed their studies, the character may resume employment if they have not already developed too many terms.

**The Path of Employment:** Whether fresh off the farm or just out of college, a character has to make a living. A character may attempt to enlist into one of the service classes, or develop their experience in their core class. While gainfully employed in such endeavors the character will earn experience and possibly other benefits including decorations, citations, promotions, cash, or equipment.

A character may choose to muster out of any service or employment position at the end of any term, and then seek employment in another service or profession (or attend University) if they have not already spent too many terms in Prior History development. However, common sense must apply. Only in circumstances of the direst need would the Imperial Marines accept a recruit aged 38. Similarly, it seems very unlikely that

someone would leave the Navy to begin a career in the Army. Such a career path would be highly unusual, even by the standards of player characters.

## THE EDUCATIONAL PATH

A character may spend any term pursuing their education at a university or more specialized educational or training facility. It is assumed that the character has managed to locate an appropriate center of learning of at least TL12, unless the Referee specifies otherwise.

Once admitted to a facility, success is still not guaranteed. The character will spend the next few years in study before sitting a final examination at the end of the program's course. Characters who pass their final exams will earn a the benefits listed for their course of study. Those who fail leave without the benefits listed, but perhaps a bit wiser for their time spent.

*Take10 and Take20 may not be used when resolving Educational events.*

### ELIGIBILITY

Any requirements the character must meet before applying for admission/acceptance.

### ADMISSION/ACCEPTANCE

If a character fails to pass the entrance exam, they may not attend the university this term (no time is lost) and must select another option such as pursuing employment in a career or service, or perhaps applying for admission to another school or program. If the character passes, they are accepted into the given school for the duration of the program.

### GRADUATION/SUCCESS

Failing the final exams means the character has spent only half the specified course length in attendance at the school, but leaves after that time without any benefit other than one-half the normal experience, if any. Passing the final exams means the character has spent the full specified course duration in successful study and has earned any benefits listed for that school.

### HONORS

The truly studious and diligent may be able to graduate with Honors. If the character has successfully graduated from the course, they may check to see if they earned a position on the school's Honor Roll and some type of additional benefits. Failure to make the honors roll means the character does not earn any benefits for the time they spent, but there is no penalty or censure associated with this.

### COURSE LENGTH

The amount of time the character will spend in his or her studies. At the end of the course, the character will have aged the number of years listed here.

### BENEFITS

The benefits or advantages derived from successfully attending or graduating from the given institution. Benefits may range from Experience bonuses, to improved ability scores, to bonus skill ranks, to commissions and/or promotions in a given service or career.



# THE EMPLOYMENT PATH

The following steps outline how to conduct a character serving a term of employment. Not all steps will apply to the work routine of any given career or service. At the end of each term the player may attempt to reenlist in their current service, continue their current career, take a term off to further their education, or they may choose a new career or service.

Unless otherwise noted, all checks for the employment path are made by rolling 1d20 and adding any listed modifier.

*Take10 and Take20 may not be used when resolving events during Employment.*

## ENLISTING OR FINDING EMPLOYMENT

If a character is attempting to pursue a different career or service from the one they pursued in the previous term, they must first meet any initial requirement listed for the new career or service before the character is accepted as a member and may begin work or training. A character may only be an active member of one service or career at a time during Prior History.

**Basic Training:** Upon successfully enlisting into a military or quasi-military service (Army, Flyer, Law Enforcer, Marine, Navy, Scout, or Sailor) the character spends the first two years of their first four-year term of service in orientation and initial training. This earns the character an automatic 1,000XP bonus. The remaining 2 years of the first term are handled as if it were a normal term of service (see *Serving a Term*). Experience earned for the term is normal (plus the automatic training bonus), but any Commission checks are at a -2 penalty, any cash bonus earned is halved, and no check is made for an XP bonus.

Characters entering a service after completing OTC at the University do not undergo basic training and serve a normal first term.

## DUTY ASSIGNMENT

All employment terms are 4-years in duration unless otherwise noted. At the start of each term, the character must roll 1d20 to see what their duty assignment or job will be for that term. This assignment will determine the Survival, Commission, Promotion, Decoration, Experience Bonus, and Cash Bonus task DCs for the term. Listed at the bottom of each task column are any modifiers that normally will apply to that task check.

## SURVIVAL

During each term the character serves, he or she must check to see if they “survived” the 4-year term without incident. If the character survives he or she earns 4,000 XP. If the Survival DC is rolled exactly, the character was wounded (or otherwise injured) but survived the incident without jeopardizing their career. If serving in the Army, as a Flyer, Marines, Navy, or as a Sailor the character is awarded the Purple Heart medal. Since being injured at work represents an unmistakable learning opportunity, injured characters of all classes earn a 1,000 XP bonus this term.

Failing to survive doesn’t actually mean the character has died, but rather that they have suffered some mishap that places their career in jeopardy. Characters failing to survive do not earn any XP this term and forgo any commission, promotion, or XP bonus rolls (but they may take a decoration roll if available; see Decorations below). To find out what went wrong during the term, roll 1d6 on the Survival Mishap table for the appropriate service or profession. If the character was awarded a MCUF, subtract 1 from the Mishap roll. If awarded a MCG, subtract 2 from the roll, and subtract 3 from the roll if awarded an SEH.

*Characters can increase their chance of Survival in a given term by taking an increase to their Decoration, Commission, AND Experience Bonus DCs. For every point that is subtracted*

*from the required Survival DC, one point must be added to the Decoration, Commission, AND Experience Bonus DC for this term. This represents a “head down and take no risks” approach during the term.*

*Alternatively, a character can increase their chance of a Decoration, Commission, AND Experience Bonus in a given term by taking an increase to their Survival DC this term. For every point added to the required Survival DC, the character may subtract one point from the Decoration, Commission, AND Experience Bonus DCs for this term. This represents a daring, risk-taking approach during the term, which can have great benefits or get the character into real trouble. Not all risky situations have the potential for injury, but all have the potential to make the character very unpopular with higher-ups if he or she takes an unnecessary risk and fumbles the ball.*

## COMMISSION

Each term an enlisted character serves, he or she has a chance to be commissioned as an officer. If the roll is successful, the character is commissioned as the lowest rank of officer in the service. A character also receives a 2000 XP bonus when they are commissioned. A character may only be commissioned once in a given career or service.

This does not apply to careers or services that do not have a two tiered rank structure.

## PROMOTION

Promotions in rank or status are available for many services and careers. Each term served in these services or careers will offer a chance of promotion. If the character makes their Promotion DC roll, they rise in rank or title. If the character has already reached the highest enlisted or officer rank, then no promotion is received. An enlisted person is not “promoted” into the officer corps; he or she must be commissioned for this to occur. A character earns 1,000 XP every time they are promoted. Parenthesis around the Promotion DC number denote the DC for enlisted personnel. Officers add 2 to this DC – there are more enlisted positions available than commissioned ones.

Scouts do not have ranks and promotions as such, but any Scout that has served 5 or more terms (20 years) is considered to be a Senior Scout.

A character may add +1 to any promotion check for every two completed terms spent in the current service.

**Enlisted:** Enlisted personnel are the lower levels of the command structure and form the majority of the personnel in any service. Depending upon the service, they represent the junior leaders such as team leaders, foremen and non-commissioned officers, and the “workers” such as technicians, soldiers, deckhands, clerks, nursing staff, couriers, apprentices and other people that do the majority of the actual work in any given profession.

**Officers:** Officers are the overseers and administrators in any service. They are the ones to make the plans and give the orders for the enlisted personnel to carry out. Unless a character enlists into a background class having completed OTC at the University, or having graduated from the University with Honors, the only other way to become an officer is to be commissioned during service.

Merchants entering the profession after completing OTC begin at a rank of O2 rather than O1 as normal.

## DECORATION

For some services, there may also be a chance of earning a decoration, medal, or citation for the character’s actions on duty during the term. For those careers or services that award decorations, the various possible awards and the rolls needed to earn them will be listed.

Depending on the type of decoration or award received the

character will also receive additional experience points this term as follows:

Decoration/Award Type	XP Bonus
Common	2000xp
Uncommon	4000xp
Rare	8000xp

### EXPERIENCE BONUS

Every service and profession offers the chance to earn an experience point bonus award each term. Successfully making the character's Experience Bonus DC roll will earn them a 1d4 x 1,000 XP bonus to any XP already earned this term through survival, commissioning, or promotion.

### CASH BONUS

Characters serving in some services and professions have an opportunity each term to earn a cash bonus. If the Cash Bonus check is successful, the character may roll once on the Cash Benefits table under Mustering Out Benefits for that particular service or profession.

## ENDING A TERM

The end of any terms carries with it some record keeping and a few decisions.

## KEEPING NOTES

At the end of each term you should jot down the events of that term for future reference. These notes can be invaluable in helping to more fully develop the events of a character's previous life. The following notation format is recommended:

Term 1 - Academic  
Lecture Circuit - survived (4000xp)  
Awarded a Foundation Fellowship award (2000xp)  
Earned 1000xp bonus  
Total Experience: 7000xp

### TOTAL EXPERIENCE

The total amount of experience the character has earned this term should be added together and applied to the character's accumulated experience point total.

### APPLY AGING EFFECTS

The age of a character should be recorded and updated upon the completion of any term of prior history. It should also be checked each term to see if the character's new age puts them into a new age group and if so, what effects that new age group will have on the character's ability scores (if any).

Race	Young		Middle		Venerable	Max Age
	Adult	Adult	Age	Old		
Human	14	18	35	53	80	+2d10
Vilani, Mixed	14	18	40	58	86	+4d10
Vilani	14	18	45	63	91	+6d10
Aslan	12	14	56	60	70	+1d10
Vargr	14	18	35	53	70	+2d10
Luriani	14	18	35	53	70	+2d10
Sydite	14	18	30	48	65	+2d8
Ursa	10	12	25	43	60	+2d6
Virushi	14	18	35	53	70	+2d10

#### The Effects of Age

The effects of age depend on which age group a character currently falls under.

**Youth:** No aging modifiers.

**Adult:** No aging modifiers.

**Middle Age:** -1 to Strength, Dexterity, and Constitution. +1 to Education and Wisdom.

**Old Age:** -2 to Strength, Dexterity, and Constitution. +1 to Education and Wisdom.

**Venerable:** -3 to Strength, Dexterity, and Constitution. +1 to Education and Wisdom

**Maximum Age:** Represents the end of the normal lifespan, and a gradual decline until death from the effects of aging. This can be offset by certain methods; notably anagathic treatments.

The effects of aging are cumulative. By venerable age, unless otherwise offset, a character's Strength, Dexterity, and Constitution will have been reduced by 6 points each, while their Education and Wisdom have increased by 3 points each.

A character whose Strength or Dexterity has been reduced to zero is rendered an invalid, no longer able to care for themselves in any physical capacity. If both Strength and Dexterity have been reduced to zero or either Strength or Dexterity has been reduced to less than zero, the character has died.

If a character's Constitution is reduced to zero or less the character has died.

## THE NEXT STEP

This term is now complete and what the character does next must be decided. Do they continue working in the same career or service, do they choose to attend one of the available educational opportunities, do they find employment in a new career or service, or do they wrap up their prior history, finish up and begin play?

### REENLISTMENT/CONTINUED EMPLOYMENT

After each successfully completed term of employment (i.e. one in which they didn't get thrown out of the service!), the character must check to see if the service or profession "requires" continued enlistment or employment for another term, or even would like the character to stay on at all. If an unmodified 20 is rolled on the Reenlistment/Continued Employment die roll, the character must serve another four-year term even if this would take them past the normal maximum number of terms. Failing to make the Reenlistment/Continued Employment roll means that the service or profession no longer requires the character's services for some reason, and they may not reenlist or continue in this service or profession. If the Reenlistment/Continued Employment DC roll is made, the character may voluntarily continue for another term if they have not yet reached the Prior History age limit for their race.

### Prior History Age Limits

The maximum number of years a character may spend in Prior History depends on their starting age and race. If a character reaches this age limit while still serving an active term in a career or service, they may finish out that term but may spend no further terms in Prior History after the end of that term.

Race	Starting Age +x Years
Human	28
Vilani, Mixed	32
Vilani	40
Aslan	52
Vargr	28
Luriani	28
Sydite	24
Ursa	20
Virushi	28

## LEAVING A SERVICE OR CAREER

If a character does not reenlist into their current service or does not continue their employment in their current career for any reason, they must immediately apply any levels earned during this period of their Prior History before going on to further their education, entering a new career or service, or finishing up and beginning game play. Selecting classes and applying levels is covered in the Classes and Levels chapter.





# EDUCATIONAL OPTIONS

## UNIVERSITY

It is assumed that a character attending the "University" has managed to locate an appropriate center of learning of at least TL12, unless the Referee specifies otherwise. A character may apply for admission to one of three programs of study: Bachelor's Degree, Master's Degree, or Doctorate. She must meet the eligibility requirements for the program and pass the entrance examination, or her application will be rejected. A character who fails to enter University can try again in a later term.

Once admitted to a study program, success is still not guaranteed. The character must specify her chosen field of study (biology, interstellar law, criminology, journalism, etc.). The character will spend the next 2-4 years in study before sitting a final examination at the end of the program's course. Characters who pass their final exams will earn an appropriate degree in their chosen field of study. Those who fail leave the university without their degree, but perhaps a bit wiser for their time spent.

### BACHELORS PROGRAM

The first of the degree programs, and required before one may attempt to earn higher degrees in a subject. Upon successful admission, the character must specify what their chosen field of study will be; Criminology, Law, Medicine, Journalism, or any other reasonable field that is acceptable to the Referee. Characters that successfully graduate from this program earn a Bachelor of the Arts, Sciences, etc., degree as appropriate. The character may add the initials BA, BSc, etc. to the end of their name as appropriate to reflect their new status, and they may apply for admission into the University's Masters Program for their chosen field if desired.

#### Eligibility

No requirements.

#### Admission

INT check vs. DC (22-EDU) to be admitted.

#### Graduation

INT check vs. DC (22-EDU) to successfully graduate.

#### Honors

INT check vs. DC (28-EDU) to earn a place on the University Honor Roll.

#### Course Length

4 years if graduated, 2 years if failed to graduate. Characters with an EDU ability score of 12+ may complete the course and graduate after 3 years.

#### Benefits

If the character successfully graduates, they obtain a degree, and earn 3000xp. If the character's EDU score is 11 or less, it is automatically raised to 12.

Honor graduates gain a 1,000xp bonus, and add +1 to their current EDU score (after graduation).

## MASTERS PROGRAM

A character with a Bachelors degree in a field of study may elect to further their education and pursue a Master's degree. A character's field of study for this program must be the same as their chosen field of study for their Bachelors degree. Characters that successfully graduate from this program earn a Master of the Arts, Sciences, etc., degree as appropriate. The character may add the initials MA, MSc, etc. to the end of their name as appropriate to reflect their new status, and they may apply for admission into a Doctorate Program for their chosen field if desired.

#### Eligibility

An appropriate Bachelors degree.

#### Admission

INT check vs. DC (26-EDU) to be admitted.

#### Graduation

INT check vs. DC (26-EDU) to successfully graduate.

#### Honors

INT check vs. DC (32-EDU) to earn a place on the University Honor Roll.

#### Course Length

2 years if graduated, 1 year if failed to graduate.

#### Benefits

If the character successfully graduates, they obtain a degree, and earn 1,500xp. If the character's EDU score is 13 or less, it is automatically raised to 14.

Honor graduates gain a 500xp bonus, and add +1 to current EDU score (after graduation)

## DOCTORATE PROGRAM

A character with a Masters degree in a field of study may elect to complete their education by obtaining their Doctorate degree. A character's field of study for this program must be the same as their chosen field of study for their Masters degree. Characters that successfully graduate from this program earn a Doctorate of the Arts, Sciences, etc., degree as appropriate. The character may add the initials Ph.D. to the end of their names as appropriate to reflect their new status. Characters that have graduated with Medicine as their field of study may legally call themselves Physicians, and may append the initials M.D. (Medical Doctor) after their names.

#### Eligibility

An appropriate Masters degree.

#### Admission

INT check vs. DC (26-EDU) to be admitted.

#### Graduation

INT check vs. DC (26-EDU) to successfully graduate.

#### Honors

INT check vs. DC (32-EDU) to earn a place on the University Honor Roll.

#### Course Length

2 years if graduated, 1 year if failed to graduate.

## Benefits

If the character successfully graduates, they obtain a degree, and earn 1,500xp. If the character's EDU score is 15 or less, it is automatically raised to 16.

Honor graduates gain a 500xp bonus, and add +1 to current EDU score (after graduation).

## COURSE TITLES

Players should specify a suitable degree title for their character. Many courses are entirely standard and result in titles such as "BSc Physics." However (and always in agreement with the Referee), a character may earn a degree with a more unusual title, such as "BA Medical Administration." Many universities offer such vocational courses in addition to purely academic studies. Note that a Masters or PhD must be in the same *field* as a character's Bachelor's degree, but need not have the same *title*. Higher degrees are often more specialized than bachelor's programs.

There are four basic types of degree that can be earned in the **Traveller** universe: Arts, Sciences, Engineering, and Education. These are abbreviated as follows, with examples:

**BSc: Bachelor of Science.** These are "pure" science courses, e.g. Physics, Planetology, Xeno-Biology, Metallurgy, Biochemistry, etc.

**BA: Bachelor of Arts.** These are the most "academic" courses, e.g. Literature, Law, History, Linguistics, Virushi Cultural Studies, Military Studies, etc.

**B.Eng: Bachelor of Engineering.** These are "Applied Science" courses for the most part, e.g. Starship Engineering, Mining Studies, Information Systems.

**B.Ed: Bachelor of Education.** This is a specialist vocational course that trains characters to work as instructors or educators, and includes a minor in a specialist subject, e.g. Physics, History etc. Graduates are not so knowledgeable about their specialist subject as their peers leaving a "straight" BA or B.Sc course, but they will have a good working knowledge of psychology and instruction-related skills.

Higher degrees are usually a specialization of a bachelor's course. Thus a B.Sc Physics graduate may then take an M.Sc in Jumpspace Dynamics, Astrophysics, or something really esoteric like Gravomagnetic Flux Dynamics. Doctorates are even more specialized.

**Optional:** *A member of the Academic career (at the Referee's discretion) need only ever take one Bachelor's degree, and can then undertake several courses of study at Masters level. A Masters is required as the foundation for each and every Doctorate. Thus a truly information-obsessed Academic might take a BA in History, then MA in Vargr Military History, a second MA in Interstellar Warfare Studies, a PhD (Doctorate) in the tactics of the Vargr Kforuzeng Empire, ANOTHER MA, this time in Planetary Defense Systems, and finally a B.Ed in History (General) in order to secure a teaching job at the Imperial War College. This kind of spectacular academic career is not for everyone. Most people take a Bachelor's and maybe a Master's degree, and then get out in the world to start a career. To an Academic, however, study can BE a career...*

## OFFICER TRAINING CORPS (OTC)

A character studying for a Bachelor's degree may apply for enrollment in the University's Officer Training Corps or OTC. How easy it is to get accepted into OTC depends on which service branch you are planning to join upon graduation. If a character fails to be accepted into OTC, they may continue with other University studies normally. Only one OTC application (successful or not) can be made during a course of study.

If a character accepted into OTC successfully graduates from the University, he or she will be automatically commissioned as an officer in their chosen service and earns a 1,000 experience point bonus. If a character is accepted into OTC but fails to graduate from the University, they receive neither a commission nor the experience bonus, and must continue into the appropriate service class. A character who earns a commission in one of the services through OTC must spend the next term of Prior History immediately following graduation employed as a member of the service in which they were commissioned.

Note that while the Scouts are considered a *service* they do not have an OTC program. Also note that while the Merchants are not considered a service, they do have an OTC program available. The same requirements and rewards apply to Merchant OTC as to military OTC. Graduates of Merchant OTC enter the Merchant service at rank O3.

TABLE: OTC Enrolment

Planned Service	Check
Army (any tech)	STR Ability Check vs. DC10
Flyers	DEX Ability Check vs. DC12
Marines	INT Ability Check vs. DC12
Navy	INT Ability Check vs. DC12
Merchants	INT Ability Check vs. DC10
Sailors	EDU Ability Check vs. DC12
Scout/Other	Not Available

## OTHER INSTITUTIONS

It is possible to attend other institutions than the university to obtain training or education. Other institutions include:

- COACC Academy
- Command College
- Flight School
- Medical School
- Merchant Academy
- Military Academy
- Naval Academy
- Performing Arts Academy
- Psionics Institute
- Reservist Training
- Sporting Academy
- Staff College
- Technical College

These institutions each have unique characteristics, as described below. Most give specific benefits instead of or in addition to experience, and most allow graduates to enter the associated profession or service as an officer, in a manner similar to OTC. In most cases, it is possible to attend university, then an academy.

*Take10 and Take20 may not be used to resolve activities at the academies and schools listed here.*



## EDUCATIONAL OPTIONS

**COACC ACADEMY**

COACC Academy is a special school set up to train elite personnel – mainly pilots and supporting personnel such as fighter control officers – for Close Orbit and Airspace Control Command.

**Eligibility**

COACC academy is open to beginning characters and university graduates who have not begun a career.

**Acceptance**

The candidate must meet the requirements of the COACC service, and additionally pass a DEX Ability Check vs. DC14

**Success**

The character must pass an INT Ability check vs. DC (26-EDU) to pass the course successfully

**Honors**

To achieve Honors, the character must pass a DEX Ability Check vs. DC16 and an INT Ability check vs. DC (30-EDU).

**Course Length**

COACC academy takes 2 years. Failure occurs after 1 year, and gains no benefits.

**Benefits**

Graduates of the COACC academy enter the Flyer service at rank O1. They may apply to flight school.

Honors graduates of the COACC academy enter the Flyer service at rank O1. They may automatically attend flight school, and receive +1 on all promotion checks during their term of service.

Graduates of the COACC academy receive a skills package rather than experience points: Pilot\* (3 ranks), Survival (1 Rank), Gunnery\*\* (2 ranks).

Honors Graduates receive an additional rank in Pilot and 1 rank in Leader.

\* Characters without an aircraft vessel feat may choose one, but this is counted against their starting feats when entering the Flyer career.

\*\* Characters gain the Weapon Proficiency (Vehicular Weapons) feat at this point.

**Other Requirements**

Characters who fail to compete the COACC academy must enter the Flyer service and spend their next term there. They cannot receive a commission during this term, but may in subsequent terms.

Characters who complete the COACC academy must enter the Flyer service and spend their next term there. This service can be deferred only to attend flight school.

**COMMAND COLLEGE**

Command College trains military and starship officers in command skills, enabling them to take command of a combat unit, a department within a ship crew, or even to become a starship captain. It is possible to achieve this without attending Command College, but graduation is likely to speed up the process.

**Eligibility**

Command college is open to any member of the Army, Flyer, Marine, Merchant, Navy or Sailor services who has been promoted to rank O2, O3, O4 or O5 in the last term and to graduates of

the military and naval academies. The character may apply to Command College before commencing their next term of service. If successful, the character attends the college then enters the next term in their chosen career. The character **MUST** complete at least one more term of service before mustering out of the career. Command College can be attended only once.

**Acceptance**

The candidate must have been promoted as noted above, and must in addition succeed in an INT ability check vs. DC (26-EDU)

**Success**

The character must pass a CHA Ability check vs. DC (20) to pass the course successfully. A bonus of +1 is awarded for every 3 full ranks in Leader skill the character has.

**Honors**

Command College has no honors equivalent

**Course Length**

Command College takes 1 year. Failure occurs after 1 year, and gains no benefits.

**Benefits**

Graduates of the Command College receive a +1 bonus on promotion rolls for the rest of their career in the service whose college they attended.

Graduates receive a skills package rather than experience points: P/Admin (2 ranks), Leader (2 ranks)

**Other Requirements**

Characters who fail to complete the course must serve their next term in the service whose Command College they attended. They cannot be promoted in this term.

**FLIGHT SCHOOL**

Flight School is a special institution set up to train elite pilots and crews for Navy, Marine, and COACC forces.

**Eligibility**

Flight School is open only to officers who have completed the course at a military academy (NOT university OTC graduates unless they have subsequently completed an academy course) and have not yet begun their career. Failure rate is high.

**Acceptance**

The candidate must meet the requirements of their chosen service, and additionally pass a DEX Ability Check vs. DC16

**Success**

The character must pass an INT Ability check vs. DC (30-EDU) to pass the course successfully

**Honors**

To achieve Honors, the character must pass a DEX Ability Check vs. DC18 and an INT Ability check vs. DC (36-EDU).

**Course Length**

Flight School takes 1 year. Failure occurs after 1 year, and gains no benefits.

**Benefits**

Graduates of the flight school enter the Flyer, Navy, or Marines service at rank O1.



## EDUCATIONAL OPTIONS

Graduates of flight school also receive a skills package rather than experience points: Pilot\* (2 ranks), Gunnery\*\* (1 rank), Navigation (1 Rank)

Honors Graduates receive an additional rank in Pilot and 1 rank in Leader.

\* All characters may take the Vessel (Ship's Boat) or Vessel (Jet Aircraft) feat if their homeworld has a high enough TL. Navy pilots may take the Vessel (Starship) feat instead.

\*\* All characters may take the Weapon Proficiency (Vehicular Weapons) feat at this point. Characters from a TL9+ service may take Weapon Proficiency (Starship Weapons) instead.

### Other Requirements

All characters who attend flight school must enter their chosen service and spend their next term there. Graduates (i.e. those who complete the course) must sign up for two terms at least.

## MEDICAL SCHOOL

As expected medical school trains physicians in their medical arts. Many graduates continue on to serve one or more terms in military service before moving on to private practice.

### Eligibility

Medical school is only available to characters who graduated the university with honors or graduated from the military academy, or naval academy.

### Acceptance

The candidate must pass an EDU Ability Check vs. DC16

### Success

The character must pass an INT Ability check vs. DC (32-EDU) to pass the course successfully

### Honors

To achieve Honors, the character must pass a EDU Ability Check vs. DC19.

### Course Length

Medical school takes 4 years. Failure occurs after 2 years, and gains no benefits.

### Benefits

Graduates of medical school who came from the military or naval academy enter their appropriate service at a rank of O1.

Graduates of medical school receive a skills package rather than experience points: T/Medical (4 ranks) and P/Administration (2 ranks). All graduates also add +1 to their Education ability score.

Honor graduates receive an additional rank in T/Medical and gain 1 rank in T/Computer as well.

### Other Requirements

Characters who came to medical school from the military academy or naval academy, or from the University after completing OTC, must spend their next term in their appropriate branch of service.

## MERCHANT ACADEMY

The Merchant Academy trains promising young people in the commercial and technical skills required to be a successful merchant crewperson.

### Eligibility

Merchant academy is open to beginning characters and university graduates who have not begun a career.

### Acceptance

The candidate must meet the requirements of the Merchant service, and additionally pass an INT Ability Check vs. DC14

### Success

The character must pass an INT Ability check vs. DC (26-EDU) to pass the course successfully

### Honors

To achieve Honors, the character must pass a CHA Ability Check vs. DC16 and an INT Ability Check vs. DC (30-EDU).

### Course Length

Merchant academy takes 4 years. Failure occurs after 2 years, and gains no benefits.

### Benefits

Graduates of the Merchant academy enter the Merchant service at rank 03.

Honors graduates of the Merchant academy enter the Merchant service at rank 04.

Graduates of the Merchant academy receive a skills package rather than experience points: P/Admin (2 Ranks), Broker (2 Ranks), T/(any) (2 Ranks), Trader (2 Ranks), and the Crewmember feat if they do not already have it.

Honors Graduates receive an additional 2 ranks in Leader.

### Other Requirements

Characters who fail to compete the Merchant academy must enter the Merchant service and spend their next term there.

Characters who complete the Merchant academy must enter the Merchant service and spend their next two terms there.

## MILITARY ACADEMY

A Military Academy trains future officers for the planetary army (which includes Maritime Force Command – the “wet” navy – but not COACC)

### Eligibility

Military academy is open to beginning characters and university graduates who have not begun a career.

### Acceptance

The candidate must meet the requirements of the Army or Sailor services, and additionally pass a CON Ability Check vs. DC15

### Success

The character must pass an INT Ability check vs. DC (24-EDU) to pass the course successfully

### Honors

To achieve Honors, the character must pass a CON Ability Check vs. DC 16 and an INT Ability check vs. DC (30-EDU).

### Course Length

Military academy takes 2 years. Failure occurs after 1 year, and gains no benefits.

### Benefits

Graduates of the Military academy enter the Army or Sailor



## EDUCATIONAL OPTIONS

service at rank O1.

Honors graduates of the Military academy enter the Army or Sailor service at rank O1 and receive +1 on all promotion checks during their term of service. They may choose to attend Command College (no application roll needed) before commencing their first term.

Graduates of the academy receive a skills package rather than experience points: Leader (2 Ranks), P/Admin (2 Ranks), Liaison (2 Ranks)

Honors Graduates receive an additional rank in Leader.

### Other Requirements

Characters who fail to compete the military academy must enter the Army or Sailor service and spend their next term there. They cannot receive a commission during this term, but may in subsequent terms.

Characters who complete the course must enter the Army or Sailor service and spend their next term there.

## NAVAL ACADEMY

Naval Academy is a special school set up to train elite naval personnel.

### Eligibility

The academy is open to beginning characters and university graduates who have not begun a career.

### Acceptance

The candidate must meet the requirements of the Navy, and additionally pass a SOC Ability Check vs. DC16

### Success

The character must pass an INT Ability check vs. DC (26-EDU) to pass the course successfully

### Honors

To achieve Honors, the character must pass a SOC Ability Check vs. DC16 and an INT Ability check vs. DC (32-EDU).

### Course Length

Naval Academy takes 4 years. Failure occurs after 2 years, and gains no benefits.

### Benefits

Graduates of the Naval academy enter the Marine or Navy service at rank O1. They may apply to flight school.

Honors graduates of the Naval academy enter the Marine or Navy service at rank O2. They may automatically attend flight school, and receive +1 on all promotion checks during their term of service. They may also choose to attend Command College before beginning their first term of service.

Graduates of the Naval academy receive a skills package rather than experience points: Pilot\* (2 ranks), T/(any) (2 Ranks), Leader (2 Ranks)

Honors Graduates receive an additional 2 Ranks in Leader and 2 Ranks in T/Astrogation

\* Characters choose either the Vessel (Ship's Boat) or Vessel (Starship) feat at this point, but this is counted against their starting feats when entering their career.

### Other Requirements

Characters who fail to compete the Naval academy must enter the Navy or Marines service and spend their next term there. They cannot receive a commission during this term, but

may in subsequent terms.

Characters who complete the course must enter the Navy or Marines service and spend their next two terms there.

## PERFORMING ARTS ACADEMY

The Performing Arts Academy is a special school set up to train performers in their craft. It increases the graduate's career prospects. Graduates are not obliged to enter the Entertainer career.

### Eligibility

Performing arts academy is available to any character who has not yet begun a career. It can be taken after university or a period in the reserves but not after attending any other academy.

### Acceptance

The candidate must meet the requirements of the Entertainer service, and additionally pass a CHA Ability Check vs. DC10

### Success

The character must pass an INT Ability check vs. DC (20-EDU) to pass the course successfully

### Honors

To achieve Honors, the character must pass a CHA Ability Check vs. DC20.

### Course Length:

Performing Arts academy takes 2 years. Failure occurs after 1 year, and gains no benefits.

### Benefits

Graduates may make a CHA ability check vs. DC16 to enter the Entertainer service at rank O1. If failed, they may enter at rank E3

Honors graduates may enter the Entertainer career at rank O2.

Graduates of the academy receive a skills package rather than experience points: Entertain (any) (4 Ranks), Entertain (any) (2 Ranks)

Honors Graduates receive no additional skills but gain +1 CHA.

### Other Requirements

Characters who fail to compete the course age 1 year but suffer no additional penalty. Graduates need not enter the Entertainer career.

## PSIONICS INSTITUTE

The Psionics Institute represents any one of a variety of training methods a character might undertake in order to attain basic psionic capability. In areas where psionics are legal, this might be a formal school. In most regions, however, the character will have to find an underground training facility or a lone "master" to learn from. The search can be hazardous, and success is not guaranteed.

### Eligibility (Finding An Institute)

To find a source of teaching, a character must make a DC15 Gather Information check. Success indicates that someone who may be able to teach the character has been found. Failure means that the character spent an entire year searching. She may try again next year, but psionic strength diminishes with age and the clock is ticking...

There is a 50% chance that any school found will fail to train the character. This might be because the school is a fake, or because the authorities hounded the students out of the region. If the school turns out to be unsuitable, the character can try again next year somewhere else.

## Acceptance

A candidate who finds a psionic institute will be automatically accepted if she has the Natural Talent feat. If not, the character will be tested for psionic ability. Once this is completed, make a Psi check at DC 15 to determine whether the school is willing and/or able to train the character. Failure means that the character has wasted her time but may continue to search for another institute.

## Success

If a character is accepted for training, he will automatically succeed. He is now trained as per chapter 10 of this book or the Travelers Handbook.

In addition, the character receives the skill of K/Psionics (2 Ranks).

## Honors

It is not possible to achieve honors in psionic training

## Course Length

Whether the character finds a school or not, is trained or not, the process of searching takes 1 year.

## Benefits

The character is now Psionically trained and may enter the Psionist prestige class.

## Other Requirements

It is possible for characters to obtain psionic training during play, as per Chapter 10 of this book. At that point they become eligible for the Psionist class. The process of finding a school and obtaining training described here applies only during Prior History.

# RESERVIST TRAINING

Some cultures train part of the population as reserve troops or as militia. Such troops are mainly infantry or support specialists, and may be drawn upon to expand standing forces at need.

## Eligibility

Reservist training is available to all characters.

## Acceptance

To qualify for reservist training, a character must have CON of 8 or more. Make a straight check at DC16. If successful, the character has been drafted for training as a militia member or army reservist. Only characters who have not yet attended university or an academy, or begun a career, can be called up in this manner.

## Success

The character must pass an INT Ability check vs. DC (8) to learn anything useful from her period in the reserves.

## Honors

A reservist who so chooses may make a WIS check vs. DC20. If successful, she is offered the chance to enlist in the Army on a fast-track promotion scheme. The character enters the army at rank E2 and gains a +2 bonus on promotion and commission checks that term.

## Course Length

Reservist service is normally for 2 years. Failure means that the character serves her time but learns nothing useful.

## Benefits

Reservists may automatically enlist in the Army career, even if they are not normally eligible. They receive a skills package rather than experience.

Reservists gain 2 skill ranks in any 2 of: T/Mechanical, T/ Communications, T/Electronics, T/Medical, Survival, Combat Engineering, Forward Observer and in addition receive the Weapons Proficiency (Marksman) feat. Characters who make a CON check vs. DC15 are put through more complete infantry training and receive the Weapon Proficiency (Combat Rifleman) feat.

## Other Requirements

Characters trained as reservists may be called up for service with the army. On a successful straight check vs. DC16, made when the character completes her term as a reservist, the character is drafted into the armed forces and must spend the next term there.

# SPORTING ACADEMY

Training facilities exist for top-flight athletes, who hone their abilities in an environment of fierce competition.

## Eligibility

Sporting academy is available to any character who has not yet begun a career. It can be taken after university or a period in the reserves but not after attending any other academy.

## Acceptance

The candidate must meet the requirements of the Athlete service, and additionally pass a DEX, CON or STR Ability Check vs. DC18

## Success

The character must pass a CON Ability Check vs. DC12 to complete the training.

## Honors

To achieve Honors, the character must pass a DEX, CON or STR Ability Check vs. DC18 and a CHA Ability check vs. DC 16.

## Course Length

Sporting academy takes 2 years. Failure occurs after 1 year, and gains no benefits.

## Benefits

Graduates of the sporting academy may choose to enter the Athlete career at rank O2. If so, they must spend the next 2 terms in that career.

Honors graduates of the academy may choose to enter the Athlete service at rank O3. If so, they must spend the next 2 terms in that career.

Graduates of the Sporting academy receive a skills package rather than experience points. They receive 3 ranks in any one of: Climb, Jump, Ride, Swim, Tumble and 1 Rank in P/Sports Professional

Honors Graduates gain +1 to STR, CON, or DEX.

## Other Requirements

Characters who complete the sporting academy do not have





to embark upon a career in sport.

## STAFF COLLEGE

Staff college trains military and starship officers in operational and organizational skills, enabling them to devise, support and organize, large scale plans and operations.

### Eligibility

Staff college is open to any member of the Army, Flyer, Merchant, Navy, or Sailor services with a rank of O1 or higher. The character may apply to Staff College before starting their next term. If successful, the character attends the college that term, but must spend at least one additional term following the college in the service they came from.

### Acceptance

The character must pass an INT ability check vs. DC (26-EDU).

### Success

The character must pass an INT ability check vs. DC18 to pass the course successfully.

### Honors

Staff College has no honors equivalent.

### Course Length

Staff College takes 1 years. Failure occurs after 1 year and gains no benefits.

### Benefits

Graduates receive a +1 bonus on their promotion roll their next term.

Graduates also receive a skill package rather than experience points: P/Administration (2 ranks), Liaison (2 ranks), T/Computer (1 rank).

### Other Requirements

Characters who fail to complete the course must serve their next term in the service whose college they attended. They cannot be promoted in this term.

## TECHNICAL COLLEGE

Technical College is a special school set up to train technical personnel for military or civilian careers.

### Eligibility

Technical College is open to characters who have not yet begun a career, but not to university graduates.

### Acceptance

The candidate must pass an INT Ability Check vs. DC14

### Success

The character must pass an INT Ability check vs. DC (20-EDU) to pass the course successfully

### Honors

To achieve Honors, the character must pass an INT Ability Check vs. DC (26-EDU).

### Course Length

Technical College takes 2 years. Failure occurs after 1 year, and gains no benefits.

### Benefits

Graduates of the Technical Academy may choose to enter the Engineer career at rank E3. If so, they must serve at least one term in that career.

Honors graduates of the Technical Academy may choose to enter the Engineer career at rank O3. If so, they must serve at least two terms in that career.

Graduates receive a skills package rather than experience points: T/Any (3 Ranks), K/Any (1 Rank)

Honors Graduates receive the Gearhead feat.

### Other Requirements

Characters who fail to compete the course suffer no penalty other than a wasted year.

# EMPLOYMENT OPTIONS

## ACADEMIC

### Core Career

The Academic is inclined towards sedentary and studious pursuits. Academics range from "true" academics – students and college professors – through accountants and bureaucrats to field scientists who may experience some danger and action in their daily work. This career covers anyone whose primary function is to collect and apply knowledge, usually from a comfortable chair. The Academic may be a scruffy teenage computer wizard; a balding, bespectacled, and distinctly erratic genius; a respectable (and wealthy) individual whose hobby is science or a savvy archaeologist specializing in dangerous and unorthodox research out on the frontiers.

### FINDING EMPLOYMENT

A character must have an Education 14+ and Intelligence 12+, or must make a Wisdom check (DC5) to become an Academic. Most Academics will usually (but not always) attend University before entering into this career, in an attempt to earn their degree.

**Continued Employment:** DC2

### RANKS

There are no ranks in the Academic service.

### EARNED BENEFITS

Cash Benefits		Material Benefits	
1	Cr1000	1	Low Passage
2	Cr2000	2	Middle Passage
3	Cr5000	3	High Passage
4	Cr10,000	4	+1 Social Standing
5	Cr20,000	5	Gun
6	Cr30,000	6	Lab Ship
7	Cr40,000	7	No benefit

### DUTY ASSIGNMENT

		XP		
1d20	Assignment	Survive DC	Deco DC	Bonus DC
1-4	School	auto	none	4
5-10	Teaching Assignment	2	20	12
11-14	Lecture Circuit	4	8	10
15-17	Field Research	6	10	8
18-19	Classified Project	8	14	6
20	Top Secret Research	8	16	4
Ability Modifier		EDU	None	None

## SURVIVAL MISHAPS

1D Mishap

- 1 No further action
- 2 Tenure ends with Emeritus honors. (In effect the character is honorably discharged)
- 3 Lecture on questionable subject matter draws ridicule from academic community. Lose 1 point SOC.
- 4 Accused of dishonorable conduct with a student. Ensuing scandal leads to dismissal. Lose all benefits.
- 5 Accusations of lecturing on seditious subject matter (e.g. Psionics) leads to a conviction. Dismissed and forced to serve an extra 4 years in prison as a Convict. Lose all benefits.
- 6 A temporarily debilitating mental illness forces early end of tenure. Lose 1d6-3 (minimum 1 point) points from either INT or WIS.

## ACADEMIC DECORATIONS

These decorations should be used for Academics in place of those described under the Decoration section earlier for military personnel.

**FF** (Foundation Fellowship): An award of merit from one of the multitude of independent charitable and research foundations throughout charted space. Received if the Decoration roll was successful. Common.

**SA** (Science Academy): Enlisted in the ranks of scholars who have made a serious contribution to their fields. (A peer-review process). Received if the Decoration roll was greater than the DC by at least 5. Supersedes the FF award. Uncommon.

**ZP** (The Zhunastu prize): A prize awarded by a committee once every 4 years in various categories (Literature, Physics, Medicine etc), it is the pinnacle in scholarly recognition. The prize was established by Emperor Cleon II, after his abdication, and funded by a large endowment provided from Zhunastu Industries profits at the time. Received if the Decoration roll was greater than the DC by at least 10. Supersedes the FF and SA awards. Rare.



# ARMY

## Service Career

Most worlds maintain Ground Forces for their own defense. Characters who have served in the Army will have gained experience in one of the three main combat arms (Infantry, Artillery, Cavalry) or the support formations (Technical, Logistics, Intelligence etc). Most characters are likely to have served in the infantry. Army characters (of all arms) learn how to operate infantry weapons plus some specialist skills, for example dealing with vehicle operations, hostile-environment survival, or combat engineering.

## ENLISTING

The character must be from a world with some form of military or paramilitary ground forces. Strength 10+ and Dexterity 8+ are also required. You may choose to defer the enlistment term and attend University or an Academy first if desired.

**Reenlistment:** DC9

## RANKS

Enlisted	Commissioned
E1 Private	O1 Lieutenant
E2 Corporal	O2 Captain
E3 Sergeant	O3 Major
E4 Sergeant First Class	O4 Lieutenant Colonel
E5 First Sergeant	O5 Colonel
E6 Sergeant Major	O6 General

## EARNED BENEFITS

Cash Benefits	Material Benefits
1 Cr2000	1 Low Passage
2 Cr5000	2 +1 Intelligence
3 Cr10,000	3 +2 Education
4 Cr10,000	4 Weapon
5 Cr10,000	5 Middle Passage
6 Cr20,000	6 High Passage
7 Cr30,000	7 +1 Social Standing

## DUTY ASSIGNMENT

	Survive	Comm	Rank	Deco	XP
1d20 Assignment	DC	DC	Promo DC	DC	Bonus DC
1-4 Training	auto	none	(6)	none	8
5-10 Garrison	auto	none	(8)	none	none
11-14 Internal Security	2	none	(6)	20	none
15-17 Police Action	4	10	12	14	8
18-19 Counter Insurgency	4	12	14	17	12
20 Raid	6	4	6	6	4
Ability Modifier	EDU	CON	EDU	None	None

## SURVIVAL MISHAPS

### 1D Mishap

- 1 No further action
- 2 Demoted, lose one rank of service (e.g. a sergeant becomes a corporal)
- 3 Honorably discharged from the service.
- 4 Dishonorably discharged from the service. Lose all benefits
- 5 Dishonorably discharged from the service after serving an extra 4 years in prison for a crime as a Convict. Lose all benefits
- 6 Medically discharged from the service. Lose 1d6-3 (minimum 1 point) points from any one of: STR, DEX, CON, or CHA.

## MILITARY DECORATIONS

The following decorations, medals, and awards can be earned by military personnel.

**Purple Heart:** This medal is not earned through the Decoration roll, rather it is earned if the character's Survival check roll was exactly equal to the DC needed. It represents an injury in the line of duty. The character also receives 1000xp.

**MCUF** (Meritorious Conduct Under Fire): A decoration for outstanding service under hostile conditions. Received if the Decoration roll was successful. Common.

**MCG** (Medal for Conspicuous Gallantry): A medal awarded for unusually brave or selfless act, short of putting one's life in immediate danger. Received if the Decoration roll was 5 or greater than the DC needed. Supercedes the MCUF decoration. Uncommon.

**SEH** (Starburst for Extreme Heroism): The highest award a soldier, sailor, or spacer can earn, often posthumously. Received if the Decoration roll was 10 or more higher than the DC required. Supercedes all other awards, medals, or decorations. Rare.





# ATHLETE

## Core Career

The Athlete is a dedicated sportsperson, whether amateur or professional. Some are extremely proficient within a narrow range of activities, while others are multi-discipline competitors. The career can also represent someone who is simply “into” physical activity for its own sake.

## FINDING EMPLOYMENT

A character must have Strength and DEX of 10+ and Constitution of 12+.

**Continued Employment:** DC4

## RANKS

O1	Beginner
O2	Amateur Athlete
O3	Semi-Professional Athlete
O4	Professional
O5	Respected Professional
O6	Famous Athlete

## EARNED BENEFITS

Cash Benefits		Material Benefits	
1	Cr1000	1	Low Passage
2	Cr2000	2	Middle Passage
3	Cr5000	3	High Passage
4	Cr10,000	4	+1 Social Standing
5	Cr25,000	5	Sponsorship deal
6	Cr50,000	6	Middle Passage
7	Cr100,000	7	Middle Passage

## DUTY ASSIGNMENT

1d20	Assignment	Rank			XP
		Survive DC	Promo DC	Deco DC	Bonus DC
1-4	Day Job	auto	18	none	19
5-10	Minor League Events	2	16	18	16
11-13	Major League Events	3	10	16	14
14-17	Special Training	4	14	none	6
18	Championship Events	5	8	12	6
19-20	Illegal Competition	8	10	none	4
Ability Modifier		CON	INT	None	None

## SURVIVAL MISHAPS

1D	Mishap
1	Close call, no further action.
2	Persistent injury puts the character out of contention for a long time (effectively honorable discharge).
3	Involved in event fixing scandal. Lose 1d3 SOC.
4	Fail dope test. Athletic career ends. Lose all benefits.
5	Negligence results in fatal injuries to another competitor. Dismissed with loss of all benefits, serve 4 years in prison for Manslaughter as a Convict.
6	Serious injury incurred. Lose 1d6-3 (minimum 1 point) points from STR or End.

## ATHLETIC DECORATIONS

These decorations should be used for Athletes in place of those described under the Decoration section earlier for military personnel.

**SSA** (Sports Service Award): The character is honored for sporting achievement or promotion of health among the underprivileged. Received if the Decoration roll was successful. Common.

**SFM** (Sports Fellowship Member): The character is granted a place in sport’s “Hall of Fame” as a member of the Sports Fellowship. Automatic advancement to rank O4 if not already at that rank, with no extra experience. Received if the Decoration roll was greater than the DC by at least 5. Supersedes the SSA award. Uncommon.

**IMSE** (Imperial Medal for Sporting Excellence): The character is honored as one of the all-time heroes of sport. Rank immediately advances to O6 with no extra experience, and SOC is raised by 1d3. If the character qualifies for a knighthood as a result, this may be granted. The IMSE is awarded only on a roll of 20 exactly during competition in a Championship Event. Supersedes the SSA and SFM awards. Rare.



### Background Career

## FINDING A CLAN

**Continued Employment:** Automatic

## RANKS

O1	-
O2	Hunter
O3	Warrior
O4	War Chief
O5	Tribe/Clan Chief
O6	Elder

## EARNED BENEFITS

Cash Benefits		Material Benefits	
1	None	1	Low Passage
2	None	2	Blade
3	Cr1000	3	Blade
4	Cr2000	4	Blade
5	Cr3000	5	No Benefit
6	Cr4000	6	High Passage
7	Cr5000	7	High Passage

## DUTY ASSIGNMENT

			Rank	XP
		Survive	Promo	Bonus
1d20	Assignment	DC	DC	DC
1-4	Village	4	18	16
5-10	Migration	6	16	12
11-14	Hunting	8	14	8
15-17	Raid	8	12	6
18-19	War	10	10	4
20	Exploration	10	12	8
	Ability Modifier	STR	INT	None

## SURVIVAL MISHAPS

1D	Mishap
1	No further action
2	Loss of Face before tribe, lose one rank (e.g. a Warrior becomes a Hunter)
3	Sent into the larger world for good of Tribe (effectively discharged)
4	Disgraced the Tribe and banished. Lose all benefits.
5	Dishonored the Tribe, and forced into slavery for 4 years. Lose all benefits.
6	Believed to be cursed. Beaten almost to death and driven out of the Tribe. Lose 1d6-3 (minimum 1 point) points from any one of: STR, DEX, CON, or CHA.



# BELTER

## Background Career

Belters are asteroid miners or prospectors. Many operate small starships while others live and work in small, close-knit communities. Belters have a wide range of skills from starship operations to engineering and working in hostile-environments. Belters range from scruffy “one-mule” prospectors who spend months at a time alone in space to highly educated mining engineers with impressive degrees.

## PROSPECTING FOR WORK

Must be from a High Technology world (TL10+). Belters begin as a young adult (age 14 for most races) rather than an adult (age 18 for most races), and must take at least one term of Belter Prior History before taking a term of Prior History in any other service or career.

**Continued Employment:** DC9

## RANKS

There are no ranks in the Belters service.

## EARNED BENEFITS

Cash Benefits		Material Benefits	
1	None	1	Low Passage
2	None	2	+1 Intelligence
3	Cr1000	3	Weapon
4	Cr1000	4	High Passage
5	Cr100,000	5	TAS Membership
6	Cr100,000	6	Seeker
7	Cr100,000	7	No Benefit

## DUTY ASSIGNMENT

		Survive	Cash Bonus	XP Bonus
1d20	Assignment	DC	DC	DC
1-4	Portside	4	none	18
5-10	Contract Work	9	22	14
11-14	Rush Region	14	20	10
15-17	Trojan Points	16	18	10
18-19	Belt Fringe	18	16	8
20	Rumor	16	14	10
Ability Modifier		+1 per term	WIS	None

## SURVIVAL MISHAPS

1D	Mishap
1	No further action
2	Robbed. Lose any cash bonus for this term
3	Claim-Jumped. Lose any cash bonus for this term and any prior terms
4	Fired/Banned. Discharged from employment. Lose all benefits.
5	Stranded/Betrayed. Choose between spending 4 years in low berth or 4 years in prison. Lose all benefits.
6	Severely Injured. Lose 1d6-3 (minimum 1 point) points from any one of: STR, DEX, CON, or CHA.





## CONVICT

### Service Career

Characters convicted of a crime (rightly or otherwise) will often be sentenced to a period of servitude or confinement. Although their liberty is restricted, characters can still learn a great deal during time spent "inside" or attached to a punishment unit. The Convict career is open to any character receiving Prison as a mishap result in character generation. Normally, a single term (4 years) is served. However, the re-enlistment check is replaced with an Appeal check for this class. Characters who fail to make their Appeal check **MUST** serve another term in prison before attempting it again.

### GETTING CONVICTED

The only way to spend a term in this service is to suffer a survival mishap while serving a term in another service or career.

### GETTING OUT

At the end of a term as a convict, rather than checking for continued employment or reenlistment, the character may appeal their sentence (CHA ability check vs. DC5; +1 per term served after the first). If the appeal check fails, the character must serve another term as a convict.

### RANKS

There are no ranks in the Convicts service.

### EARNED BENEFITS

#### Cash Benefits

1	None
2	None
3	None
4	None
5	None
6	Cr100,000
7	Cr250,000

#### Material Benefits

1	Low Passage
2	+1 Intelligence
3	Mid passage
4	Mid Passage
5	+1 Education
6	No Benefit
7	No Benefit

### DUTY ASSIGNMENT

1d20	Assignment	XP	
		Survive*	Bonus
		DC	DC
1-4	Open Prison	2	12
5-10	Minimum Security	4	14
11-14	Maximum Security	10	16
15-17	Hard Labor	8	10
18-19	Secret Facility	12	14
20	Death Camp	16	8
	Ability Modifier	INT	None

\* Failure to survive does not lose the character any XP, unless noted. Characters gain 4000 XP per term, plus any bonus.

### SURVIVAL MISHAPS

#### 1D Mishap

1	No further action
2	Sentence extended. Automatically serve another term
3	Case dragged through the media. Lose 1d3 SOC
4	Long periods in solitary confinement. Halve basic XP gained, no bonus possible
5	Subjected to torture/illegal experiments. Lose 1 point from any stat
6	Severely Injured in beatings. Lose 1d6-3 points (minimum of 1 point) from any one of: STR, DEX, CON, or CHA.

# CORSAIR

## Service Career

Corsairs are pirates and raiders who make their way by preying on commerce or looting weakly defended outposts. In Vargr society, "Corsair" is an honorable profession, but to most Humans the term refers to an amoral starfaring murderer. Corsairs operate in organized bands, and may even form small fleets for a very daring raid in force. Personnel tend to have both ground and shipboard combat skills, plus the technical skills necessary to operate a ship.

## ENLISTING

The character must come from a world with some form of starport military forces. Strength 12+ and Constitution 12+ are also required. You may choose to defer the enlistment term and attend University or an appropriate Academy first if desired.

**Special:** After completing at least one term of service in the Corsairs in Prior History, a character receives the Crewmember feat for free.

**Reenlistment:** DC6

## RANKS

O0	Captive Technician
O1	Recruit
O2	Spacehand
O3	Corporal
O4	Sergeant
O5	Lieutenant
O6	Captain

## EARNED BENEFITS

Cash Benefits		Material Benefits	
1	Cr1000	1	Low Passage
2	Cr5000	2	+1 Intelligence
3	Cr5000	3	+1 Education
4	Cr10,000	4	Weapon
5	Cr20,000	5	-1 Social
6	Cr50,000	6	High Passage
7	Cr100,0000	7	Corsair

## DUTY ASSIGNMENT

				Cash	XP
		Survive	Promo	Bonus	Bonus
1d20	Assignment	DC	DC	DC	DC
1-5	Lying Low	3	16	None	None
6-10	Piracy	8	14	16	14
11-15	Planetary Raid	10	14	12	12
16-19	Mercenary Work	6	16	18	15
20	Multiship Operations	8	12	16	14
Ability Modifier		CON	INT	CHA	None

## SURVIVAL MISHAPS

1D	Mishap
1	No further action
2	Demoted, lose one rank of service (e.g. a corporal becomes a spacehand).
3	Suspected of concealing loot. Effectively dismissed the service.
4	Group broken up by authorities. Lose all benefits and leave the service.
5	Captured. Narrowly avoid the death penalty by testifying against your comrades. Serve 2 terms in jail as a Convict and lose all benefits.
6	Injured in combat. Lose 1d6-3 (minimum 1 point) points from any one of: STR, DEX, CON, or CHA.



# DIPLOMAT

## Prestige Career

The Diplomat is an expert at negotiation and liaison. Diplomats can be found in all walks of life, from business to the military and law enforcement, and most worlds and nations maintain a corps of diplomats to further their interests. Diplomacy is a career often followed by distinguished military officers or nobles. Diplomats tend to be cultured but fairly sedentary individuals, but in their own way they can be as deadly as any sniper.

## ENLISTING

A starting character must have an Education 12+ and Charisma 12. A character who has attended University or holds a noble title enters the service at rank O0. Otherwise, the character enters the diplomatic service at the "ground floor" – rank E1. You may choose to defer the enlistment term and attend University first if desired (see Higher Education).

**Reenlistment:** DC4

## RANKS

<i>Support Staff</i>		<i>Ambassadorial Staff</i>	
E1	Admin Assistant	O0	Supernumerary (Unofficial attached staff)
E2	Admin Supervisor	O1	Liaison Officer/ Attaché
E3	Functionary	O2	Negotiator
E4	Junior Staff Member	O3	Assistant Ambassador
E5	Staff Member	O4	Ambassador*
E6	Staff Supervisor	O5	Ambassador*
		O6	Ambassador*

\*Higher rank reflects more important postings

## EARNED BENEFITS

<i>Cash Benefits</i>		<i>Material Benefits</i>	
1	Cr5000	1	High Passage
2	Cr10,000	2	TAS Membership
3	Cr20,000	3	High passage
4	Cr50,000	4	+1 SOC
5	Cr100,000	5	+1 EDU
6	Cr250,000	6	+1 INT
7	Cr500,000	7	+1 SOC

## DUTY ASSIGNMENT

<i>1d20</i>	<i>Assignment</i>	<i>Survive</i>		<i>Commis</i>		<i>Rank</i>	<i>XP</i>
		<i>DC</i>	<i>DC</i>	<i>DC</i>	<i>DC</i>	<i>Promo</i>	<i>Bonus</i>
1-6	Political Campaigning	2	14	8	16		
7-10	Treaty Negotiations	6	12	12	14		
11-13	Corporate Dispute	4	16	18	12		
14-15	Internal Strife	8	10	12	8		
16-20	Ambassadorial Posting	6	12	14	10		
<i>Ability Modifier</i>		<i>WIS</i>	<i>CHA</i>	<i>INT</i>	<i>None</i>		

\* Characters with rank O1 or higher suffer a penalty equal to their rank when checking for promotion (e.g. O3 suffers a -3 penalty).

## SURVIVAL MISHAPS

<i>1D</i>	<i>Mishap</i>
1	No further action
2	Serious embarrassment, lose one rank (e.g. a Negotiator becomes a Liaison Officer)
3	No suitable appointment (effectively discharged)
4	Involved in political scandal. Lose all benefits and suffer -1 loss to SOC
5	Involved in criminal activity. Go to prison for 4 years as a Convict. Lose all benefits.
6	Injured in riots or foreign protests against your government. Lose 1d6-3 (minimum 1 point) points from any one of: STR, DEX, CON, or CHA.



# ENGINEER

## Prestige Career

The Engineer career has a lot of overlap with the Professional, but there are some important differences. The Engineer is a specialized equipment-user and problem-solver who is not usually at home in the boardroom or dealing with his financial backers. A Professional working as an engineer will generally be better at such administrative matters; the Engineer is more focused on finishing the job at hand.

## FINDING EMPLOYMENT

To become an Engineer, a starting character must have INT 9+. This service may be deferred to allow the character to attend University.

**Continued Employment:** DC4

## RANKS

Enlisted Engineers are normally termed Technicians. Commissioned ranks are fully qualified Engineers. This status may well have no link to actual skill level.

Enlisted/Technician		Professional	
E1	Trainee	O1	Assistant Engineer
E2	Apprentice	O2	Engineer
E3	Advanced Apprentice	O3	Experienced Engineer
E4	Journeyman	O4	Chartered Engineer
E5	Technician	O5	Consultant Engineer
E6	Technical Expert	O6	Industry-Wide Expert

## EARNED BENEFITS

Cash Benefits		Material Benefits	
1	Cr10,000	1	High Passage
2	Cr20,000	2	+1 Intelligence
3	Cr40,000	3	+1 Education
4	Cr60,000	4	Vehicle
5	Cr80,000	5	TAS Membership
6	Cr100,000	6	High Passage
7	Cr250,000	7	Imperial Charter*

\* An Imperial Charter indicates the character has worked for the authorities at a high level and has the approval of a senior Imperial noble (count, Duke or above). It bestows +1 SOC and an annual retainer of Cr1000. Holders of an Imperial Charter received preference when tendering for contracts, and command higher fees for consulting work.

## DUTY ASSIGNMENT

1d20	Assignment	Rank		XP	
		Survive	Promo	Commis	Bonus
		DC	DC	DC	DC
1-4	Civil Projects	2	12	16	16
5-10	Odd Jobs	4	14	14	12
11-14	Frontier Contracts	6	16	14	8
15-17	Government Service	2	12	14	18
18-19	Shipboard Contract	6	10	8	12
20	Major Project	4	6	8	6
	Ability Modifier	DEX	INT	EDU	None

## SURVIVAL MISHAPS

1D	Mishap
1	No further action.
2	Minor injury. Lose 1 point from either STR or DEX.
3	Contracts dry up. Effectively discharged.
4	Fired. Discharged with no benefit this term. Other terms' benefits are retained.
5	Prosecuted for negligence after a disaster. Lose 1 points of SOC and spend 4 years in prison as a Convict. Lose all benefits.
6	Serious injury. Lose 1d6-3 (minimum 1 point) points from any one of: STR, DEX, CON, or CHA.

## ENTERTAINER

### Core Career

The Entertainer is an individual who makes his or her way by amusing others, distracting them from their cares and anxieties. While there are numerous superstars, there are far more mid-level entertainers making a modest living on the circuit, and even more that live more or less hand-to-mouth.

### FINDING EMPLOYMENT

A starting character must have Dexterity 12+ and Charisma 12+.

**Continued Employment:** DC5

### RANKS

\* "Commissioned" rank represents an entertainer who has been "discovered" and made it out of the starport clubs and into the mass media.

Amateur/Semiprofessional		Professional	
E1	Unknown	O1	Professional
E2	Unknown	O2	Respected Professional
E3	Newbie	O3	Borderline Famous
E4	Local talent	O4	Minor Celebrity
E5	Semi-professional	O5	Celebrity
E6	Rising Talent	O6	Sector-wide sensation

### EARNED BENEFITS

Cash Benefits		Material Benefits	
1	Cr500	1	Low Passage
2	Cr1000	2	+1 Intelligence
3	Cr20,000	3	+1 Charisma
4	Cr10,000	4	+1 Social Standing
5	Cr50,000	5	Middle Passage
6	Cr75,000	6	High Passage
7	Cr150,000	7	Yacht

### DUTY ASSIGNMENT

		Rank			XP	
		Survive	Discovery	Promo	Deco	Bonus
1d20	Assignment	DC	DC	DC	DC	DC
1-4	Bad Patch	10	None	18	None	16
5-10	On Tour	4	16	16	20	12
11-14	Entertaining Troops	6	18	14	14	10
15-17	Steady Gig	2	16	12	19	18
18-19	Movies	6	12	10	17	16
20	Big Movie Roles	6	8	8	12	12
Ability Modifier		CHA	INT	WIS	CHA	None

### SURVIVAL MISHAPS

1D Mishap

- 1 No further action
- 2 Out of favor with the masses: effectively demoted, lose one rank of service (e.g. a celebrity becomes a minor celebrity)
- 3 Decide to pack it all in: effectively honorably discharged from the service.
- 4 Indiscretions dragged through the media: effectively discharged from the service. Lose all benefits and 1 point of SOC.
- 5 Convicted of serious crimes: Dishonorably discharged from the service after serving an extra 4 years in prison as a Convict for a crime. Lose all benefits and 1 point of SOC.
- 6 The masses turn on you; you become a cultural villain. Lose 1d6-3 (minimum 1 point) points from CHA and 2 points of SOC. Effectively dismissed the service with the loss of all benefits.

### ENTERTAINMENT DECORATIONS

Entertainers can win awards or the equivalent for their work.

**Year of Popularity (YP)** Not an award as such, but the character is on every talk show, advertising hoarding and sports drink bottle for ten parsecs. The character gains no extra experience for this, but may treat the next Assignment roll as if it were the next category down the chart (e.g. a steady gig becomes a movie role), with an additional +2 modifier on all checks for discovery and promotion in the next term. Awarded if the character makes the decoration check. Common.

**Mike (M):** The character is a nominee for a Golden Microphone ('Mike') award. Automatic advancement to rank O3 if not already at that rank, with no extra experience, and all other effects of the YP award. Received if the Decoration roll was greater than the DC by at least 5. Uncommon.

**Iridium Globe (IG):** The character is honored as one of this year's heroes of entertainment. Rank immediately advances to O5 with no extra experience, and SOC is raised by 1d3. If the character qualifies for a knighthood as a result, this may be granted. The IG is awarded only on a roll of 19-20 exactly during a term in which the character has a big movie role, or on a 20 exactly in a steady gig or ordinary movie role. Also gives the benefits of a YP. Rare.

## FLYER

### Service Career

Most worlds maintain some form of army for their own defense. Usually the army includes a corps of “flyers” responsible for air support, transport, and logistics, and on more advanced worlds, aerospace defense. This force, Close Orbit and Airspace Control Command (COACC) is a branch of the army that mans tracking stations, ground defense batteries, and aerospace or even orbital interceptor craft. The crews of the latter, a relatively small proportion of the total personnel assigned, are termed “Flyers.”

### ENLISTING

The character must be from a world with some form of organized aerospace forces. INT 12+ and DEX 10+ are also required. You may choose to defer the enlistment term and attend University or COACC Academy first if desired.

**Reenlistment:** DC10

### RANKS

Enlisted		Commissioned	
E1	Aircrafthand	O1	Pilot Officer
E2	Leading Aircrafthand	O2	Flight Lieutenant
E3	Crew Chief	O3	Squadron Leader
E4	Flight Sergeant	O4	Group Captain
E5	Senior Flight Sergeant	O5	Wing Commander
E6	Flight Sergeant Major	O6	Air Marshal

### MUSTERING OUT BENEFITS

Cash Benefits		Material Benefits	
1	Cr2000	1	Low Passage
2	Cr5000	2	+1 Intelligence
3	Cr10,000	3	+2 Education
4	Cr10,000	4	Weapon
5	Cr20,000	5	Middle Passage
6	Cr30,000	6	High Passage
7	Cr50,000	7	+1 Social Standing

### DUTY ASSIGNMENT

1d20	Assignment	Rank				XP Bonus
		Survive DC	Comm DC	Promo DC	Deco DC	
1-4	Training	auto	none	(6)	none	8
5-10	Garrison	auto	none	(8)	none	none
11-14	Patrol	2	18	(6)	20	none
15-17	Interceptor	4	10	12	14	8
18-19	Strike	6	12	14	17	12
20	Battle	8	4	6	6	4
Ability Modifier		DEX	EDU	INT	None	None

### SURVIVAL MISHAPS

1D	Mishap
1	No further action
2	Demoted, lose one rank of service (e.g. a flight sergeant becomes a crew chief)
3	Honorably discharged from the service.
4	Dishonorably discharged from the service. Lose all benefits
5	Dishonorably discharged from the service after serving an extra 4 years in prison for a crime as a Convict. Lose all benefits
6	Medically discharged from the service. Lose 1d6-3 (minimum 1 point) points from any one of: STR, DEX, CON, or CHA.

### MILITARY DECORATIONS

The following decorations, medals, and awards can be earned by military personnel.

**Purple Heart:** This medal is not earned through the Decoration roll, rather it is earned if the character's Survival check roll was exactly equal to the DC needed. It represents an injury in the line of duty. The character also receives 1000xp.

**MCUF** (Meritorious Conduct Under Fire): A decoration for outstanding service under hostile conditions. Received if the Decoration roll was successful. Common.

**MCG** (Medal for Conspicuous Gallantry): A medal awarded for unusually brave or selfless act, short of putting one's life in immediate danger. Received if the Decoration roll was 5 or greater than the DC needed. Supersedes the MCUF decoration. Uncommon.

**SEH** (Starburst for Extreme Heroism): The highest award a soldier, sailor, or spacer can earn, often posthumously. Received if the Decoration roll was 10 or more higher than the DC required. Supersedes all other awards, medals, or decorations. Rare.



### Service Career

## FINDING EMPLOYMENT

### Continued Employment: DC5

## RANKS

### *Enlisted/Security*

*Commissioned/Investigative*

## MUSTERING OUT BENEFITS

## DUTY ASSIGNMENT

\* Enlisted personnel promoted on DC 6, commissioned on DC 16

## SURVIVAL MISHAPS

1D	Mishap
1	No further action
2	Demoted, lose one rank of service
3	Honorably discharged from the service.
4	Dishonorably discharged from the service. Lose all benefits
5	Dishonorably discharged from the service after serving an extra 4 years in prison for a crime as a Convict. Lose all benefits
6	Medically discharged from the service. Lose 1d6-3 (minimum 1 point) points from any one of: STR, DEX, CON, or CHA.



# MARINES

## Service Career

The Marine Corps is a specialized fighting force. Its troopers gain impressive combat skills and some shipboard experience. Marines are adept at fighting in zero-g and other hostile environments.

## ENLISTMENT

The character must be from a world with some form of spacefaring or starfaring military forces. Strength 10+, Dexterity 10+ and Intelligence 8+ are also required.

**Reenlistment:** DC7

## RANKS

Enlisted	Commissioned
E1 Private	O1 Lieutenant
E2 Lance Corporal	O2 Captain
E3 Corporal	O3 Force Commander
E4 Sergeant	O4 Lieutenant Colonel
E5 Gunnery Sergeant	O5 Colonel
E6 Sergeant Major	O6 Brigadier

## MUSTERING OUT BENEFITS

Cash Benefits	Material Benefits
1 Cr2000	1 Low Passage
2 Cr5000	2 +2 Intelligence
3 Cr5000	3 +1 Education
4 Cr10,000	4 Weapon
5 Cr20,000	5 TAS Membership
6 Cr30,000	6 High Passage
7 Cr40,000	7 +2 Social Standing

## DUTY ASSIGNMENT

1d20	Assignment	Rank				XP
		Survive DC	Comm DC	Promo DC	Deco DC	Bonus DC
1-4	Training	auto	none	(6)	none	8
5-10	Ship's Troops	2	none	(6)	20	6
11-14	Internal Security	2	none	(6)	20	none
15-17	Police Action	4	14	12	12	8
18-19	Counter Insurgency	4	16	14	14	12
20	Raid	6	8	6	4	4
Ability Modifier		EDU	CON	EDU	None	None

## SURVIVAL MISHAPS

1D	Mishap
1	No further action
2	Demoted, lose one rank of service (i.e. a sergeant becomes a corporal)
3	Honorably discharged from the service.
4	Dishonorably discharged from the service. Lose all benefits.
5	Dishonorably discharged from the service after serving an extra 4 years in prison for a crime as a Convict. Lose all benefits
6	Medically discharged from the service. Lose 1d6-3 (minimum 1 point) points from any one of: STR, DEX, CON, or CHA

## MILITARY DECORATIONS

The following decorations, medals, and awards can be earned by military personnel.

**Purple Heart:** This medal is not earned through the Decoration roll, rather it is earned if the character's Survival check roll was exactly equal to the DC needed. It represents an injury in the line of duty. The character also receives 1000xp.

**MCUF** (Meritorious Conduct Under Fire): A decoration for outstanding service under hostile conditions. Received if the Decoration roll was successful. Common.

**MCG** (Medal for Conspicuous Gallantry): A medal awarded for unusually brave or selfless act, short of putting one's life in immediate danger. Received if the Decoration roll was 5 or greater than the DC needed. Supersedes the MCUF decoration. Uncommon.

**SEH** (Starburst for Extreme Heroism): The highest award a soldier, sailor, or spacer can earn, often posthumously. Received if the Decoration roll was 10 or more higher than the DC required. Supersedes all other awards, medals, or decorations. Rare.



### Core Career

## FINDING EMPLOYMENT

**Continued Employment: DC4**

There is no unified ranking structure to the martial arts world. Many arts use a system of colored belts or sashes to denote ranking, while others have no desire for outward display. Whatever system is used (belts, sashes, pins, gloves, shirts, tattoos or “pecking order”) can be equated to the belt system demonstrated here. Note that it is not possible to gain a “commission” in the martial arts except by promotion from the “enlisted” ranks. “Enlisted” ranks represent students engaged in initial studies, while “Commissioned” rank implies that the individual has become qualified to teach, demonstrate or represent the art at a high level, perhaps in open competition. A character who is E6 and receives a promotion must immediately roll again. If she is successful, she advances to O1. If not, she remains a “mere” black belt student.

E1 White Belt

*Commissioned*

O1	Black Belt (2 <sup>nd</sup> Dan)/Junior Instructor/ Competitor
O2	Black Belt (3 <sup>rd</sup> Dan)/ Instructor/ Experienced Competitor
O3	Black Belt (4 <sup>th</sup> Dan)/ Senior Instructor/ Regional Champion
O4	Black Belt (5 <sup>th</sup> Dan)/ Master of the Art/ Planetary Champion
O5	Black Belt (6 <sup>th</sup> Dan)/ Master of the Art/ Multi-Systems Champion
O6	Red Belt (7 <sup>th</sup> +Dan)/ Master of the Way/ Legendary Champion

### Cash Benefits

1	Cr100	1	Low Passage
2	Cr250	2	+1 Intelligence
3	Cr500	3	+1Charisma
4	Cr1000	4	Weapon
5	Cr2500	5	+1 Wisdom
6	Cr10,000	6	High Passage
7	Cr25,000	7	TAS Membership

				Rank	XP	Cash
		Survive	Comm	Promo	Bonus	Bonus
1d20	Assignment	DC	DC	DC***	DC	DC
1-6	Training	2	18	(8)/16	18	none
7-12	Security Work	4	18	(6)/18	16	16
13-16	Competition	6	16	(6)/16	14	14
17-18	Seeking*	6	10	16	12	none
19-20	Special Training**	8	6	8	2	none
	Ability Modifier	CON	INT	CON	None	None

\* Wandering, seeking new teachers or styles

\*\* Training with a legendary master or at a famous school

\*\*\* Numbers in brackets represent promotion DC for enlisted ranks. Commissioned ranks must meet the higher DC in order to be promoted.

## 1D Mishap

1	No further action
2	Disgraced and punished, lose one rank of service. O1 and higher demoted straight to E6
3	School dissolved/master retires. Treat as honorable discharge.
4	Disgraced and expelled from the art or school. Treat as dishonorably discharged from the service. Lose all benefits
5	Arrested for illegal competition or otherwise convinced of a crime. Dishonorably discharged from the service after serving an extra 4 years in prison as a Convict. Lose all benefits
6	Seriously injured in training or competition. Treat as medically discharged from the service. Lose 1d6-3 (minimum 1 point) points from any one of: STR, DEX, CON, or CHA.





# MEDIC

*Prestige Career*

The medic is a member of the medical profession. She may be a surgeon, a nurse, a paramedic, starship medical orderly, or a mad old hermit with knowledge of herbal remedies. What all medics have in common is a desire to heal and save others. Usually this is accompanied by an oath to "do no harm."

## ENLISTING

A starting character must have an Education 8+ and Intelligence 12+ to enlist in the Medic career. Characters with a Bachelor of Science degree in Medicine will begin with a rank of E3, while characters with a Masters or Doctorate will begin as an O2.

**Reenlistment:** DC6

## RANKS

<i>Enlisted</i>		<i>Commissioned</i>	
E1	Orderly	O1	Medical Student
E2	Paramedic	O2	Intern
E3	Nurse*	O3	Doctor
E4	Specialist Nurse	O4	Senior Doctor
E5	Senior Nurse	O5	Specialist
E6	Disaster Medic	O6	Consultant

\* A character commissioned from E3 or above receives rank O2 rather than O1

## MUSTERING OUT BENEFITS

<i>Cash Benefits</i>		<i>Material Benefits</i>	
1	Cr1000	1	Low Passage
2	Cr3000	2	+1 Intelligence
3	Cr5000	3	+2 Education
4	Cr10,000	4	Instruments
5	Cr25,000	5	Middle Passage
6	Cr50,000	6	High Passage
7	Cr100,000	7	+1 Social Standing

## DUTY ASSIGNMENT

<i>1d20</i>	<i>Assignment</i>	<i>Rank</i>			<i>XP</i>
		<i>Survive</i>	<i>Comm</i>	<i>Promo</i>	<i>Bonus</i>
		<i>DC</i>	<i>DC</i>	<i>DC</i>	<i>DC</i>
1-4	Training/Teaching	auto	none	16	8
5-10	Hospital	auto	none	18	14
11-14	Starship Medic	2	18	16	10
15-17	Incident	4	18	14	8
18-19	Disaster	5	16	14	6
20	War Zone	8	14	10	4
	<i>Ability Modifier</i>	<i>INT</i>	<i>EDU</i>	<i>WIS</i>	<i>None</i>

## SURVIVAL MISHAPS

<i>1D</i>	<i>Mishap</i>
1	No further action
2	Demoted, lose one rank of service (e.g. a nurse becomes a paramedic)
3	Honorably discharged from the service.
4	Dishonorably discharged from the service. Lose all benefits
5	Dishonorably discharged from the service after serving an extra 4 years in prison for a crime as a Convict. Lose all benefits
6	Medically discharged from the service. Lose 1d6-3 (minimum 1 point) points from any one of: STR, DEX, CON, or CHA.



# MERCENARY

## Core Career

The Mercenary is inclined towards combat and violence. Some are actual mercenary soldiers, while others are bar fighters, gunmen, bouncers, martial artists, security officers and so on. The Mercenary finds it easy to learn about combat and related matters such as stealth and hostile-environment skills.

## FINDING EMPLOYMENT

A starting character must have Strength 12+ and Dexterity 8+ to become a Mercenary. Characters that have previously served in the military will generally enter Mercenary service at a rank equal to thier final military rank.

**Continued Employment:** DC9

## RANKS

### Enlisted

E1	Private	O1	Second Lieutenant
E2	Corporal	O2	First Lieutenant
E3	Sergeant	O3	Captain
E4	Gunnery Sergeant	O4	Lieutenant Colonel
E5	First Sergeant	O5	Colonel
E6	Sergeant Major	O6	-

### Commissioned

## MUSTERING OUT BENEFITS

### Cash Benefits

1	Cr2000	1	Low Passage
2	Cr5000	2	+1 Intelligence
3	Cr10,000	3	+2 Education
4	Cr10,000	4	Weapon
5	Cr10,000	5	Middle Passage
6	Cr20,000	6	High Passage
7	Cr30,000	7	Mercenary Cruiser

### Material Benefits

## DUTY ASSIGNMENT

		Rank		XP	Cash	
		Survive	Comm	Promo	Bonus	Bonus
1d20	Assignment	DC	DC	DC	DC	DC
1-4	Training	auto	none	(8)	10	none
5-8	Recruiting	auto	none	(10)	none	none
9-14	Cadre	4	none	(8)	none	16
15-17	Security Forces	6	10	12	10	14
18-19	Commando Raid	6	12	14	12	10
20	Striker Mission	8	6	8	4	8

Ability Modifier    EDU    CON    EDU    None    Rank\*

\*Officers 2x rank

## SURVIVAL MISHAPS

### 1D Mishap

- 1 No further action
- 2 Demoted, lose one rank of service (e.g. a sergeant becomes a corporal)
- 3 Honorably discharged from the service.
- 4 Dishonorably discharged from the service. Lose all benefits
- 5 Dishonorably discharged from the service after serving an extra 4 years in prison for a crime as a Convict. Lose all benefits
- 6 Medically discharged from the service. Lose 1d6-3 (minimum 1 point) points from any one of: STR, DEX, CON, or CHA.



## MERCHANTS

### Core Career

The Merchant is usually a trader rather than a shopkeeper. He or she may be a highly paid corporate factor or a member of the crew of a beat-up old merchant starship. Merchants are adept at thinking on their feet, seeking out new business opportunities, and at talking or shooting their way out of situations their business sense has got them into.

### FINDING EMPLOYMENT

A starting character must have Strength 12+ and Intelligence 14+, or must make a Wisdom check (DC8) to become a Merchant. You may choose to defer the enlistment term and attend University first if desired (see Higher Education).

**Special:** After completing at least one term of service in the Merchants in Prior History, a character receives the Crewmember feat for free.

**Continued Employment:** DC4

### RANKS

O1	Apprentice
O2	Crewman
O3	Petty Officer
O4	Junior Officer
O5	Senior Officer
O6	Executive Officer

### EARNED BENEFITS

Cash Benefits		Material Benefits	
1	Cr1000	1	Low Passage
2	Cr5000	2	+2 Intelligence
3	Cr10,000	3	Middle Passage
4	Cr20,000	4	High Passage
5	Cr30,000	5	Weapon
6	Cr50,000	6	TAS Membership
7	Cr90,000	7	Free Trader

### DUTY ASSIGNMENT

		Rank		XP	Cash
		Survival	Promotion	Bonus	Bonus
1d20	Assignment	DC	DC	DC	DC
1-4	Planetside	auto	20	12	none
5-10	Route	auto	16	8	20
11-14	Charter	2	18	8	20
15-17	Exploratory	3	12	4	18
18-19	Speculative	3	10	6	16
20	Special*	6	none	4	6

Ability Modifier    EDU    CON    EDU    None

\* Piracy, smuggling, free trading, or similar risky venture.

**Cash Bonus:** If the Cash Bonus check is successful, roll once on the cash benefits table under Mustering Out. The character receives one-half the amount indicated.

### SURVIVAL MISHAPS

1D	Mishap
1	No further action
2	Pirate Attack. Lose any cash bonus for this term.
3	Honorably discharged from the service.
4	Dishonorably discharged from the service. Lose all benefits
5	Dishonorably discharged from the service after serving an extra 4 years in prison for a crime as a Convict. Lose all benefits
6	Medically discharged from the service. Lose 1d6-3 (minimum 1 point) points from any one of: STR, DEX, CON, or CHA.





# NAVY

## Service Career

The Navy and the various system defense squadrons require educated, intelligent personnel to operate technical systems and weapons, or to fly and navigate the spacecraft and starships of the service. Naval service is very prestigious. Navy characters will have basic skills in routine shipboard tasks and vac suit operations, plus the skills of their specialist department. This is most likely to be Engineering, Gunnery, Flight, or "Crew." The latter are general personnel who fulfill many jobs aboard ships and at installations. Highly educated characters or those from a good family are likely to be officers.

## ENLISTING

The character must come from a world with some form of starfaring or spacefaring military forces. Intelligence 12+ and Dexterity 12+ are also required. You may choose to defer the enlistment term and attend University or an Academy first if desired.

**Reenlistment:** DC6

## RANKS

Enlisted		Commissioned	
E1	Recruit	O1	Ensign
E2	Space Hand	O2	Lieutenant
E3	Petty Officer	O3	Lt. Commander
E4	Chief Petty Officer	O4	Commander
E5	Senior Chief	O5	Captain
E6	Master Chief	O6	Admiral

## MUSTERING OUT BENEFITS

Cash Benefits		Material Benefits	
1	Cr1000	1	Low Passage
2	Cr5000	2	+1 Intelligence
3	Cr5000	3	+1 Education
4	Cr10,000	4	Weapon
5	Cr20,000	5	TAS Membership
6	Cr50,000	6	High Passage
7	Cr50,000	7	+1 Social Standing

## DUTY ASSIGNMENT

1d20	Assignment	Rank				XP Bonus
		Survive DC	Comm DC	Promo DC	Deco DC	
1-4	Training	auto	none	(6)	none	8
5-10	Shore Duty	2	none	(8)	20	8
11-14	Patrol	2	10	8	19	6
15-17	Siege	4	14	12	16	6
18-19	Strike	6	10	8	8	4
20	Battle	6	8	6	6	4
Ability Modifier		INT	SOC	EDU	None	None

## SURVIVAL MISHAPS

1D Mishap

- 1 No further action
- 2 Demoted, lose one rank of service (e.g. a petty officer becomes a spacehand.)
- 3 Honorably discharged from the service.
- 4 Dishonorably discharged from the service. Lose all benefits
- 5 Dishonorably discharged from the service after serving an extra 4 years in prison for a crime as a Convict. Lose all benefits
- 6 Medically discharged from the service. Lose 1d6-3 (minimum 1 point) points from any one of: STR, DEX, CON, or CHA.

## MILITARY DECORATIONS

The following decorations, medals, and awards can be earned by military personnel.

**Purple Heart:** This medal is not earned through the Decoration roll, rather it is earned if the character's Survival check roll was exactly equal to the DC needed. It represents an injury in the line of duty. The character also receives 1000xp.

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**MCG** (Medal for Conspicuous Gallantry): A medal awarded for unusually brave or selfless act, short of putting one's life in immediate danger. Received if the Decoration roll was 5 or greater than the DC needed. Supersedes the MCUF decoration. Uncommon.

**SEH** (Starburst for Extreme Heroism): The highest award a soldier, sailor, or spacer can earn, often posthumously. Received if the Decoration roll was 10 or more higher than the DC required. Supersedes all other awards, medals, or decorations. Rare.



# NOBLE

## Core Career

Nobles generally move in high-powered circles, meeting rich, powerful or well-respected individuals in the course of their activities. They often serve as diplomats or act as representatives for interest groups. Many Nobles have a specific vocation, such as Naval Officer or Diplomat, while others are freelance trouble-shooters or members of a higher noble's household or court.

## TITLES REQUIRED

A starting character must have Social Standing 16 + to become a Noble.

**Reenlistment:** automatic

## RANKS

Rank among nobles is based on one's standing in society, i.e. Social Standing ability score.

### SOC Noble Rank

16	Knight, Knightess, Dame
18	Baron, Baroness, Baronet
20	Marquis, Marquesa, Marchioness
22	Count, Countess
24	Duke, Duchess
26	Archduke, Archduchess
28	Crown Prince, Crown Princess
30	Emperor

## MUSTERING OUT BENEFITS

Cash Benefits		Material Benefits	
1	Cr10,000	1	High Passage
2	Cr50,000	2	High Passage
3	Cr50,000	3	Weapon
4	Cr100,000	4	Weapon
5	Cr100,000	5	TAS Membership
6	Cr100,000	6	Yacht
7	Cr200,000	7	Nothing

## DUTY ASSIGNMENT

		Survive	Rank	XP
1d20	Assignment	DC	Promo DC	Bonus DC
1-4	Grand Tour	3	23	9
5-10	Government Post	4	22	8
11-14	Diplomatic Post	4	21	8
15-17	Family Business	3	20	9
18-19	Moot Meetings	5	19	7
20	Secret Mission	6	18	6
Ability Modifier		INT	INT	None

## SURVIVAL MISHAPS

### 1D Mishap

1	No further action
2	Dueling injury. Lose 1 point from DEX or STR
3	Enemies ascendant at Moot. Effectively discharged
4	Family involved in scandal. Effectively discharged. Lose benefits
5	Anger the Emperor, drop to SOC 11 + 1d4, expelled from service
6	Convicted of High Crime by Moot. Drop to SOC 9 + 1d6 (SOC must drop at least 1 point). Serve 4 years in prison as a Convict.



## PROFESSIONAL

### Core Career

Professionals are individuals whose job is highly skilled and technical but essentially hands-on. This includes many engineers, medical professionals, and scientists. Note that a scientist may be either an Academic or a Professional depending on how inclined to field work he or she is. Professionals are better able to handle themselves in the field than Academics, but otherwise have similar skills.

### FINDING EMPLOYMENT

Any starting character may become a Professional.

**Continued Employment:** DC2

### RANKS

<i>Employees</i>		<i>Management</i>	
E1	Jr. Employee	O1	Junior Assistant
E2	Employee	O2	Assistant
E3	Sr. Employee	O3	Manager
E4	Jr. Supervisor	O4	Senior Manager
E5	Supervisor	O5	Vice-President
E6	Sr. Supervisor	O6	Board Member

### EARNED BENEFITS

<i>Cash Benefits</i>		<i>Material Benefits</i>	
1	Cr5000	1	Low Passage
2	Cr10,000	2	+1 Intelligence
3	Cr20,000	3	+1 Education
4	Cr30,000	4	Weapon
5	Cr50,000	5	High Passage
6	Cr75,000	6	Gold Watch
7	Cr100,000	7	Vehicle

### DUTY ASSIGNMENT

<i>1d20 Assignment</i>	<i>Survive DC</i>	<i>XP</i>		<i>Rank Promo DC</i>
		<i>Bonus DC</i>	<i>Comm DC</i>	
1-4 Government Service	3	9	12	(8)
5-10 Corporate Service	4	8	10	(6)
11-14 Consulting Firm	4	8	10	6
15-17 Private Practice	5	7	8	8
18-19 Service to Noble House	5	6	6	6
20 Frontier Assignment	6	5	6	8
<i>Ability Modifier</i>	<i>INT</i>	<i>None</i>	<i>SOC</i>	<i>INT</i>

### SURVIVAL MISHAPS

#### 1D Mishap

- 1 No further action.
- 2 Minor industrial accident. Lose 1 point from either STR or DEX.
- 3 Laid off with no call back date. Effectively discharged.
- 4 Declared overqualified in private sector. Effectively honorably discharged.
- 5 Shady business dealings revealed to public. Lose 2 points of SOC and spend 4 years in prison as a Convict. Lose all benefits.
- 6 Chronic medical problems prohibit continued employment. Lose 1d6-3 points (minimum 1 point) from either STR or CON. Discharged.





# PSIONICIST

## Prestige Career

Many individuals who possess psionic powers belong to another career or service and leave perfectly normal lives; psionics are merely a part of such a life. Others study psi phenomena and may or may not possess actual abilities. These are Academics for the most part. The Psionicist is someone for whom the main focus in life is the use and development of psionic skills. They will make their living any way they can while searching for insight into the nature of their powers and new sources of teaching. The Psionicist may hold down a steady job or wander randomly throughout known space; each is very different.

## FINDING EMPLOYMENT

A character must first locate a Psionics Institute and successfully complete the training there.

**Continued Employment:** Automatic

## RANKS

There are no ranks in the Psionic service.

## EARNED BENEFITS

### Cash Benefits

1	Cr10,000
2	Cr10,000
3	Cr10,000
4	Cr20,000
5	Cr50,000
6	Cr70,000
7	Cr90,000

### Material Benefits

1	Low Passage
2	+1 Intelligence
3	+1 Education
4	Middle Passage
5	High Passage
6	TAS Membership
7	-

## PSIONIC SPHERES OF INFLUENCE

Telepathy  
Clairvoyance  
Telekinesis  
Awareness  
Teleportation

Each sphere of influence is developed separately, as if it were a class skill for the Psionicist. A Psionicist's skill rank with a Sphere of Influence dictates which Psionic Talents they are able to use. Each Talent lists the Sphere of Influence that must be available to the Psionicist, along with a minimum skill rank in the Sphere that must be possessed before it may be employed. Of course the Psionicist must also have sufficient Psi strength with which to power the Talent as well before using it.

## DUTY ASSIGNMENT

1d20	Assignment	XP	
		Survival DC	Bonus DC
1-4	Training	8	auto
5-10	Displaced	12	10
11-14	In Hiding	14	6
15-17	On the Run	16	8
18-19	Recruiting	10	12
20	Teaching	8	16
	Ability Modifier	WIS	None

Note: Survival DCs are very high in the Psionicist class. This reflects a society hostile to the use and learning of psionic talents. In a neutral society, reduce these DCs by 4 points and in a pro-psionic culture such as the Zhodani Consulate, reduce them by 6 points.

## SURVIVAL MISHAPS

1d6 Mishap

1	No further action.
2	Deported and banned from world.
3	Tarred and Feathered. -1 to Charisma. Deported and banned from world.
4	Imprisoned for 4 years as a Convict. Deported and banned from world upon completion of sentence.
5	Lynched, beaten, and left for dead. Lose 1d6-3 points from CHA and CON. Deported and banned from world.
6	Lobotomized. Lose all Psi abilities and rating, and 1d6-3 points from INT. Deported and banned from world.



## ROGUE

### Core Career

Rogues vary, from out-and-out criminals to those who live by their wits on the edge of the law or like to take an unconventional, indirect approach to a problem. Some are conmen, swindlers, or bank raiders, while others are smugglers and thugs. However, many Rogues actually have quite legal occupations including soldiers, merchants, bodyguards, martial artists, and even certain kinds of archaeologist.

### FINDING EMPLOYMENT

Any starting character may become a Rogue.

**Continued Employment:** DC2

### RANKS

There are no ranks among Rogues.

### EARNED BENEFITS

#### Cash Benefits

1	Cr5000
2	Cr10,000
3	Cr20,000
4	Cr30,000
5	Cr50,000
6	Cr75,000
7	Cr100,000

#### Material Benefits

1	Low Passage
2	+1 Intelligence
3	+1 Education
4	Weapon
5	High Passage
6	Vehicle
7	Nothing

### DUTY ASSIGNMENT

1d20	Assignment	XP		Cash
		Survive	Bonus	Bonus
		DC	DC	DC
1-4	Free-lancing	6	6	20
5-10	Information Gathering	5	7	20
11-14	Smuggling	6	6	18
15-17	Acquisition	6	6	16
18-19	Enforcement	7	5	18
20	Big Caper	8	4	14
	Ability Modifier	INT	None	INT

### SURVIVAL MISHAPS

#### 1D Mishap

- No further action.
- Violent incident. Lose 1 point from either STR or DEX.
- Gang or group smashed by law enforcement; character escapes. Effectively discharged.
- Gang leaders retire on the profits and disband the group. Effectively honorably discharged.
- Caught and convicted. Lose 2 points of SOC and spend 4 years in prison as a Convict. Lose all benefits.
- Injured in serious violent incident or arrest attempt. Lose 1d6-3 points from either STR or CON. Discharged.



# SAILOR

## Service Career

Most worlds maintain some form of armed forces. Of these, Ground Force Command is usually the largest in terms of manpower. Maritime Force Command (the 'wet navy') is generally the smallest branch of the Ground Forces. However, wherever there are bodies of water it is necessary to police and secure them, and in some cases (such as water worlds) Maritime Force Command can be very large indeed.

## ENLISTING

The character must be from a world with at least hydrographic rating 3. INT 10+ and EDU 10+ are also required. You may choose to defer the enlistment term and attend University or an appropriate Academy first if desired.

**Reenlistment:** DC8

## RANKS

Enlisted	Commissioned
E1 Crewmember Recruit	O1 Midshipman
E2 Crewmember	O2 Sublieutenant
E3 Able Crewmember	O3 Lieutenant
E4 Specialist	O4 Executive Officer
E5 Petty Officer	O5 Captain
E6 Chief Petty Officer	O6 Commander

## MUSTERING OUT BENEFITS

Cash Benefits	Material Benefits
1 Cr2000	1 Low Passage
2 Cr5000	2 +1 Intelligence
3 Cr10,000	3 +2 Education
4 Cr10,000	4 Weapon
5 Cr20,000	5 Middle Passage
6 Cr30,000	6 High Passage
7 Cr50,000	7 +1 Social Standing

## DUTY ASSIGNMENT

		Survive	Comm	Promo	Deco	XP
1d20	Assignment	DC	DC	DC	DC	Bonus
1-4	Training	auto	none	(6)	none	8
5-10	Patrol	auto	none	(8)	none	none
11-14	Internal Security	2	none	(6)	20	none
15-17	Police Action	4	10	12	14	8
18-19	Counter Insurgency	4	12	14	17	12
20	Blue Water Combat	6	4	6	6	4
	Ability Modifier	WIS	EDU	INT	None	None

## SURVIVAL MISHAPS

1D	Mishap
1	No further action
2	Demoted, lose one rank of service (e.g. a specialist becomes an able crewmember)
3	Honorably discharged from the service.
4	Dishonorably discharged from the service. Lose all benefits
5	Dishonorably discharged from the service after serving an extra 4 years in prison for a crime as a Convict. Lose all benefits
6	Medically discharged from the service. Lose 1d6-3 (minimum 1 point) points from any one of: STR, DEX, CON, or CHA.

## MILITARY DECORATIONS

The following decorations, medals, and awards can be earned by military personnel.

**Purple Heart:** This medal is not earned through the Decoration roll, rather it is earned if the character's Survival check roll was exactly equal to the DC needed. It represents an injury in the line of duty. The character also receives 1000xp.

**MCUF** (Meritorious Conduct Under Fire): A decoration for outstanding service under hostile conditions. Received if the Decoration roll was successful. Common.

**MCG** (Medal for Conspicuous Gallantry): A medal awarded for unusually brave or selfless act, short of putting one's life in immediate danger. Received if the Decoration roll was 5 or greater than the DC needed. Supersedes the MCUF decoration. Uncommon.

**SEH** (Starburst for Extreme Heroism): The highest award a soldier, sailor, or spacer can earn, often posthumously. Received if the Decoration roll was 10 or more higher than the DC required. Supersedes all other awards, medals, or decorations. Rare.





## SCOUTS

### Service Career

The Interstellar Scout Service is an excellent place to gain experience as an adventurer. The Scouts train their personnel in a wide range of skills ranging from starship operations to planetary survival. Most personnel will have served in Communications, Survey, or Exploration and will have specialist skills to match the office they served in.

### ENLISTING

The character must come from a world with some form of interstellar or spacefaring capability. Intelligence 10+ and Dexterity 8+ are also required. You may choose to defer the enlistment term and attend University first if desired.

**Special:** After completing at least one term of service in the Scouts in Prior History, a character receives the Crewmember feat for free.

**Reenlistment:** DC2

### RANKS

There are no ranks in the scouts, although any scout who has served 5 or more terms is considered a Senior Scout.

### MUSTERING OUT BENEFITS

#### Cash Benefits

- 1 Cr20,000
- 2 Cr20,000
- 3 Cr30,000
- 4 Cr30,000
- 5 Cr50,000
- 6 Cr50,000
- 7 Cr50,000

#### Material Benefits

- 1 Low Passage
- 2 +2 Intelligence
- 3 +2 Education
- 4 High Passage
- 5 Weapon
- 6 Scout Ship
- 7 Nothing

### DUTY ASSIGNMENT

1d20	Assignment	Survival	XP
		DC	Bonus
1-4	Training	auto	auto
5-8	Base	2	10
9-14	Routine	4	8
15-17	Mission	6	6
18-19	Special Mission	8	6
20	War Mission	6	6
	Ability Modifier	CON	None

### SURVIVAL MISHAPS

#### 1D Mishap

- 1 No further action
- 2 Minor, but prolonged injury, Lose any service feat earned this term.
- 3 Placed on Detached Duty (effectively discharged from the service, but may be recalled in times of need)
- 4 Dishonorably discharged from the service. Lose all benefits
- 5 Dishonorably discharged from the service after serving an extra 4 years in prison for a crime as a Convict. Lose all benefits
- 6 Medically discharged from the service. Lose 1d6-3 (minimum 1 point) points from any one of: STR, DEX, CON, or CHA.



# TRAVELLER

## Core Career

The Traveller is someone who makes his or her living away from home. Travellers need a balance of abilities – specialist career skills and enabling skills in the interpersonal or combat fields, to allow them to get the job done without interference. Travellers may be starship crew, corporate employees, particularly rugged field scientists, or freelancers such as engineers or journalists.

## FINDING EMPLOYMENT

Any starting character may become a Traveller.

**Continued Employment:** DC2

## RANKS

There are no ranks among Travellers.

## EARNED BENEFITS

### Cash Benefits

1	Cr10,000
2	Cr20,000
3	Cr40,000
4	Cr60,000
5	Cr80,000
6	Cr100,000
7	Cr250,000

### Material Benefits

1	High Passage
2	+1 Intelligence
3	+1 Education
4	Vehicle
5	TAS Membership
6	Ship
7	Nothing

## DUTY ASSIGNMENT

1d20	Assignment	Survive	XP Bonus
		DC	DC
1-4	Personal Business	3	9
5-10	Corporate Troubleshooting	4	8
11-14	Service to Noble House	4	8
15-17	Government Service	3	9
18-19	Frontier Opportunity	5	7
20	Secret Mission	6	6
	Ability Modifier	INT	None

## SURVIVAL MISHAPS

### 1D Mishap

- No further action.
- Minor injury. Lose 1 point from either STR or DEX.
- Became disaffected with Travelling for a time. Effectively discharged.
- Settled down to a steady job. Effectively honorably discharged.
- Shady escapade leads to arrest. Lose 1 points of SOC and spend 4 years in prison as a Convict. Lose all benefits.
- Serious injury. Lose 1d6-3 (minimum 1 point) points from any one of: STR, DEX, CON, or CHA.



# CLASSES AND LEVELS

5

## CLASSES AND LEVELS

### PRIOR HISTORY AND CLASSES

When a character leaves a service, career, or period of education, any experience they have earned during that period must be totaled, added to any previously earned experience, and the sum result compared to the Character Experience Level table to determine the character new character level.

A character's development, training, and knowledge are reflected in the 'classes' that a character has taken. If the character has earned any new levels, they must be applied towards any required and/or desired classes the character prefers, before continuing on with any further Prior History development or finishing up the character.

*For example, Marc Glenn has spent the past two terms (8 years) working in the Merchant career during Prior History and has earned a total of 12,000 experience points during that period. Marc already has accumulated 10,000 experience points from a previous 2-term stint as a Flyer so now has an accumulated experience point total of 22,000 experience points. Comparing this total to the Character Experience Level table we see that Marc is now a 7<sup>th</sup> level character, a gain of 2 levels (he was previously 5<sup>th</sup> level with 10,000 experience points).*

As you will note, all of the careers and services that were available during Prior History have corresponding classes. There are also a few 'prestige classes' available as well. If your character served one or more terms in a background, core, or prestige career, the character must take at least 1 level in the class that corresponds to that career. If your character served any terms in a service career the character must take at least 1 level in the corresponding class for every two terms (round up) served.

If the character has any levels remaining after fulfilling the minimum requirements listed above, they may be taken in any other class or classes the character is otherwise qualified for.

*Marc Glenn finishes up this round of Prior History as a 7<sup>th</sup> level character. He has spent 2 previous terms as a Flyer and has already taken 3 levels in the corresponding Flyer class, as well as having taken 2 levels in the Rogue class. This time around Marc has earned 2 more levels that he make take in classes, but at least one of those levels must be taken in the Merchant class. The other level may be taken in any other class the character qualifies for or already has experience in. While he could take another level in his Flyer, Rogue, or new Merchant class, he instead chooses to take the remaining level in the Traveller class to reflect his many travels across the universe. Thus in game terms Marc is now a 3<sup>rd</sup> level Flyer, 2<sup>nd</sup> level Rogue, 1<sup>st</sup> level Merchant, and 1<sup>st</sup> level Traveller. He is also a 7<sup>th</sup> level character.*

### UNIVERSITY EXPERIENCE

Levels acquired from experience at the university must be applied toward the Academic, Athlete, Engineer, Medic, or Professional classes only.

### MUSTERING OUT

Once you have finished selecting the classes and levels for your character's last period of Prior History, the character must 'muster out' of their career or service. Mustering out determines the cash, equipment, and/or other rewards a character has earned for their

TABLE: CHARACTER EXPERIENCE LEVEL

Character Level	XP	Special
1 <sup>st</sup>	0	Feat*
2 <sup>nd</sup>	1,000	
3 <sup>rd</sup>	3,000	Feat
4 <sup>th</sup>	6,000	Ability
5 <sup>th</sup>	10,000	
6 <sup>th</sup>	15,000	Feat
7 <sup>th</sup>	21,000	
8 <sup>th</sup>	28,000	Ability
9 <sup>th</sup>	36,000	Feat
10 <sup>th</sup>	45,000	
11 <sup>th</sup>	55,000	
12 <sup>th</sup>	66,000	Feat and Ability
13 <sup>th</sup>	78,000	
14 <sup>th</sup>	91,000	
15 <sup>th</sup>	105,000	Feat
16 <sup>th</sup>	120,000	Ability
17 <sup>th</sup>	136,000	
18 <sup>th</sup>	153,000	Feat
19 <sup>th</sup>	171,000	
20 <sup>th</sup>	190,000	Ability

\* In addition to any class and racial starting feats

**Feat:** Characters may select one feat from among any they are qualified for, including class specific feats. This feat is in addition to any other feats a character might earn from taking class levels.

**Ability:** The character may add one point to any ability score of his choice. This increase is permanent. This is often useful in offsetting aging penalties for older, but more experienced characters. A character may never increase his or her Social Standing to greater than 15. The Referee usually handles an increase in Social Standing over 15, typically as a reward during the course of play.

service. See the Equipment chapter for more information.

### MULTIPLE CLASSES

As you can see characters with multiple classes are not uncommon in Traveller. Multiclassing allows your character to earn improved combat capabilities, different ranges of skills, and new feats that might otherwise be unavailable to the character in their base class. Thus, if an Academic wanted to improve his or her combat capabilities they could multiclass as an Army Soldier, a Marine, or even a Mercenary if appropriate learning opportunities are available. In the same manner a Mercenary might wish to multiclass as a Traveller to improve the range of skills available to him. Players are encouraged to come up with a plausible reason for multiclassing. Examples include the Academic who serves as a reservist in her local defense regiment, or the Merchant who doubles as the ship's security officer and trains hard to maintain the skills he needs.

The only restrictions on multiclassing, other than those specific to a given class, is that a character can only take a class level in a single class whenever they earn a new character level. This means that a character developing a single class will reach the higher levels of a given class faster than a multiclassed character.



## TAKING A CLASS LEVEL

Class Levels are a specific measure of where a character's life experience has taken him or her. Each time a character gains a class level he or she gains specific benefits. These include:

- **Increased Stamina:** A character gains one Stamina Die roll for their class with each level. The character's CON modifier is always applied to this roll.
- **Increased Skills:** The character gains a number of skill points determined by the class they take the level in. These skill points can be used to buy ranks in the class skills of the class the character is taking the new level in at a cost of 1 point = 1 rank, or other skills at a cost of 2 points = 1 rank. There are some exceptions to this rule, such as restricted skills.

Characters taking their very first level in their very first class have 4x the normal number of skill points to spend on this first level.

- **Feats:** At specific class levels (1<sup>st</sup>, 2<sup>nd</sup>, 5<sup>th</sup>, 7<sup>th</sup>, 10<sup>th</sup>, 11<sup>th</sup>, 13<sup>th</sup>, 14<sup>th</sup>, 17<sup>th</sup>, and 19<sup>th</sup>) the character will earn a new class feat. This feat must be selected from among the feats listed for the class the character is taking the new level in. If the character already has all of the feats listed for that class, they may select any other feat they are qualified for.

Characters taking the 1st level in a given class automatically receive the Starting Feats listed for that class if they do not already have them.

- **Improved Saves:** Depending upon the class they take the level in, a character's Will, Reflex and/or Fortitude save may increase. In the case of a multiclassed character, their save bonus is the sum of all the bonuses they have earned from their various class levels (e.g. a character who is a 3<sup>rd</sup> level Traveller/3<sup>rd</sup> level Academic has a +2 Reflex save bonus from the Traveller class and another +2 from the Academic, for a total of +4.) This total is modified by attributes and special bonuses.
- **Base Attack Bonus:** Levels in some classes give an increase in Base Attack Bonus (BAB). A multiclassed character has a BAB equal to all the bonuses for all his classes. The character gains an extra attack per round at -5 from BAB, providing this is +1 or above. Therefore, a character with a BAB of +5 has no extra attack (5-5=0!). A character with a BAB of 7 has an extra attack at +2 (7-5=2). A third attack is gained at -10 from BAB and a fourth at -15, providing this is greater than 0. Thus a character with a BAB of 15 has a second attack at 10, a third at 5 and no fourth since 5-5=0. Attack bonus is modified by DEX and other factors in addition to BAB, but it is the character's BAB that determines whether or not he has additional attacks.

**Note:** When adding to BAB, add the new bonus on to the first column, then recalculate second, third and fourth attack as needed. E.g. a character who has a +12/+7/+2 attack bonus as a 12<sup>th</sup>-level Marine gains a level as a 1<sup>st</sup> Level Mercenary. This is +1 to BAB. The character's new BAB is +13/+8/+3, NOT +13/+7/+2. Extra attacks cascade from the first digit. An 11<sup>th</sup> level Army/8<sup>th</sup> level Mercenary character (+8/+3 and +8/+3) has a BAB of +16/+11/+5/+1, not +16/+6.

## CLASS DESCRIPTIONS

The remainder of this chapter is devoted to detailing each of the classes available in *Traveller*. Beginning each class entry is a brief description about the class itself, the typical characteristics of this type of character, the backgrounds such people often come from, and why they might make a good adventurer.

## UNDERSTANDING THE ENTRIES

All class descriptions follow a standard format. The various entries are explained below.

### GAME RULE INFORMATION

The information needed to play a character using a selected class immediately follows the class description. Not all of these entries will apply to every class.

**Class Type:** The type of class this is – Background, Core, Prestige, or Service.

**Background Classes:** A background class may only be selected as the character's very first class if it is to be taken at all. In other words, you may not multiclass into a background class. Once taken, a character may develop the background class as if it were a normal core class.

**Core Classes:** Any character may select a core class as their very first class, but must meet any multiclass restrictions listed if they are multiclassing into the class instead. Once a character has at least one level in a core class, additional levels in that class may be taken at any time.

**Prestige Classes:** Prestige classes are generally more highly focused and specifically tailored than the other classes, and have specific requirements that must be met before than can ever be selected by a character as their first class or a new multiclass.

**Service Classes:** A character may only take levels in a service class during the Prior History portion of character development, or if already in play, the character must be an active-duty member of the given service. Once a character is in play, they may not multiclass into a service class, unless specifically approved by the referee.

**Multiclass Restrictions:** Any restrictions or limitations on multiclassing for the class.

**Abilities:** The most important ability scores for the class.

**Stamina:** The type of Stamina Die used by characters of the class determines the number of Stamina points gained per level.

**Starting Funds:** The amount of money in Credits that a 1st level character starts with. If multiclassing, these funds are not received. Additional funds may be acquired after completing any Prior History.

### CLASS TABLE

This table details how a character improves as he or she gains experience levels. Class tables typically include the following:

**Level:** The character's level in that class.

**Base Attack Bonus:** The character's base attack bonus and number of attacks.

**Fort Save:** The base save bonus on Fortitude saving throws. The character's Constitution modifier also applies.

**Ref Save:** The base save bonus on Reflex saving throws. The character's Dexterity modifier also applies.

**Will Save:** The base save bonus on Will saving throws. The character's Wisdom modifier also applies.

**Special:** Level-dependent class abilities, each explained in the "Class Features" sections that follow.

### CLASS SKILLS

The number of skill points the character starts with at 1st (character not class) level, the number of skill points gained each level thereafter, and the list of class skills.

### CLASS FEATURES

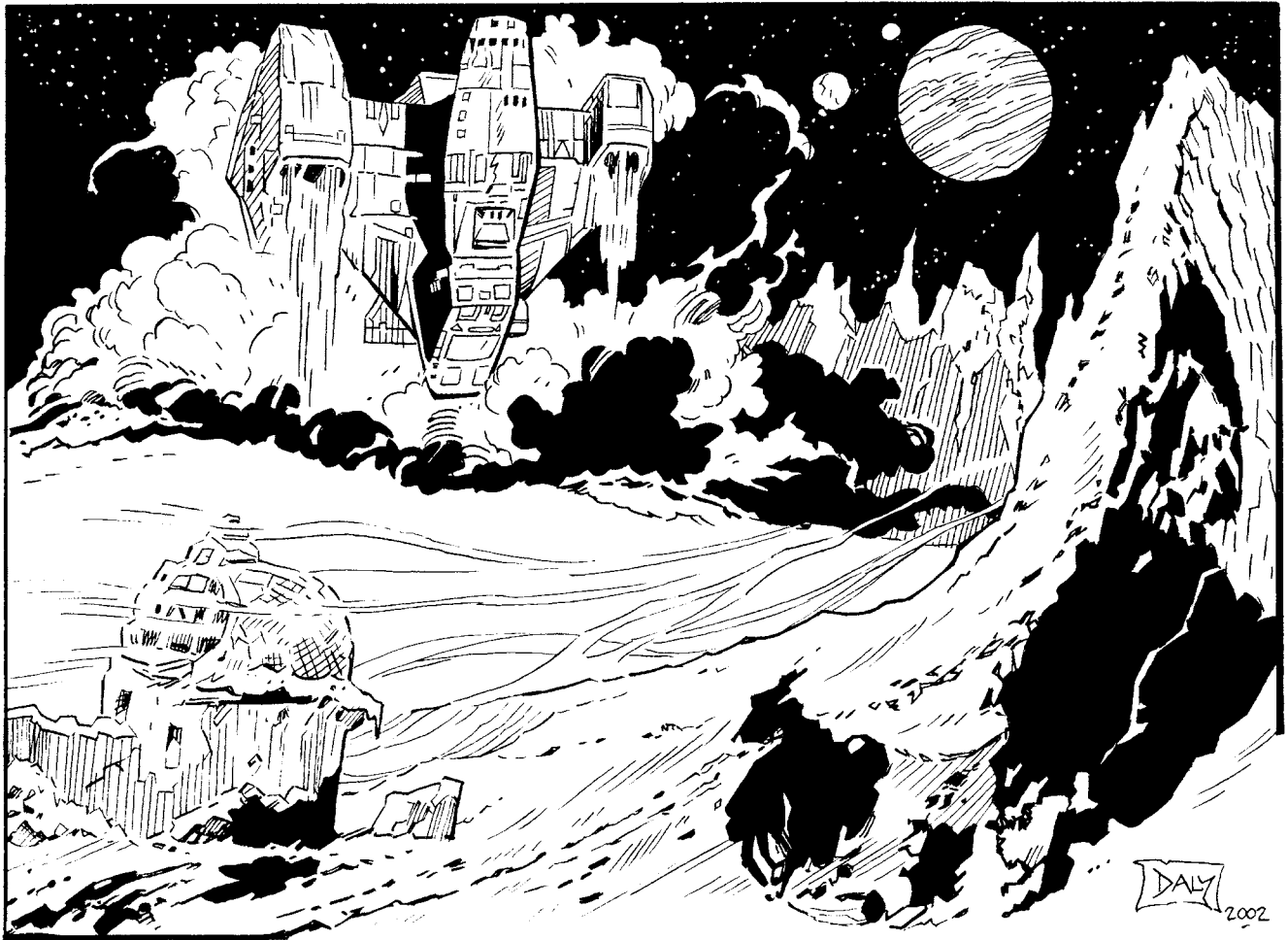
These are the special characteristics of the class. When applicable, this section also mentions restrictions and disadvantages of the class. Class features include some or all of the following:

**Starting Feats:** Which weapons and armor types the

character is proficient with, along with any feats a character automatically earns when taking this class.

**Bonus Feats:** In place of a specific unique capability, a character may be allowed to select a feat from a list that is specific to that class. Some of these bonus feats may be specific to a particular class, and otherwise unavailable to anyone else. In such cases, the feat will be described here.

**Ex-Members:** If, for some reason, a character is forced to give up this class, these are the rules for what happens.



# ACADEMIC

## Core Class

The Academic is inclined towards sedentary and studious pursuits. Academics range from “true” academics – students and college professors – through accountants and bureaucrats to field scientists who may experience some danger and action in their daily work. This class covers anyone whose primary function is to collect and apply knowledge, usually from a comfortable chair. The Academic may be a scruffy teenage computer wizard; a balding, bespectacled, and distinctly erratic genius; a respectable (and wealthy) individual whose hobby is science or a savvy archaeologist specializing in dangerous and unorthodox research out on the frontiers.

**Characteristics:** An Academic is skilled at and interested in gaining knowledge, and has little aptitude (and usually no liking) for rough-and-tumble adventures. Even if he develops combat skills, these will tend to be applied in a fussy and precise rather than instinctive manner. Not all Academics are absent-minded idiots who wander in front of the drive exhausts while examining a rare rock formation, but they all share a healthy interest in how and why things work, and have a great deal of curiosity.

**Background:** Academics typically come from a reasonably well-off background; people who can afford the time and the cost of going to college or studying at home. Possible careers for Academics include administrators, computer hackers, individuals trying to develop or investigate psionic powers, research scientists, and starship engineers with a strong theoretical interest in how their engines work.

**Adventuring:** Not all problems can be solved by force or deception. The Academic may have knowledge or contacts that can help solve a problem (or create an adventure lead). Sometimes NPC scholars will be unwilling to talk to their “intellectual inferiors” and will need to be approached by someone respected in the academic community. In a high-tech society, knowledge can really be power – and it is amazing what you can achieve from a swivel chair if you have the right datanet codes...

## GAME RULE INFORMATION

**Class Type:** Core

**Multiclass Restrictions:** To multiclass into the Academic class, a character must have earned at least a Bachelor’s degree at University, or have Education 14+ and an Intelligence 12+

**Abilities:** Education, Intelligence

**Stamina:** 1d4 + CON modifier per level

**Starting Funds:** Cr1000

## CLASS SKILLS

Class Skill	Key Ability	Class Skill	Key Ability
Craft (any)	INT	Driving	DEX
Decipher Script*	INT	Gather Information	CHA
Knowledge (any)	EDU	Navigation	EDU
Professional (Knowledge Related)	WIS	Read/Write Language	None
Speak Language	None	Technical (any)	EDU
Use Alien Devices*	WIS		

\* Exclusive Skill

**Starting Skill Points:** (8 + INT modifier) x 4. If you are taking Academic as a multiclass, you do not receive these starting skill points.

**Skill Points per Level:** 8 + INT modifier

## CLASS FEATURES

All of the following are class features of the Academic:

### Starting Feats:

Research
Skill Focus (Knowledge)

**Bonus Feats:** At 1<sup>st</sup>, 2<sup>nd</sup>, 5<sup>th</sup>, 7<sup>th</sup>, 10<sup>th</sup>, 11<sup>th</sup>, 13<sup>th</sup>, 14<sup>th</sup>, 17<sup>th</sup> and 19<sup>th</sup> level the Academic gains a bonus feat. These feats may be chosen from the list below. If the character already has all of the listed feats, they may select any other feat from the Feats chapter that they are qualified for.

Academic Lecture*	Advanced Knowledge*	Advanced Research*
Geological Survey	Hacker	Legal Eagle
Medical Specialization	Mental Discipline*	Naval Architect
Pseudo-Eidetic Memory*	Related Field of Study*	Skill Focus (Knowledge)
Surgery	Xeno-Empathy	Xeno-Medicine

\* A specialized class feat

## TABLE: ACADEMIC

	BASE ATTACK BONUS	BASE FORT BONUS	BASE REFLEX BONUS	BASE WILL BONUS	SPECIAL
1 <sup>st</sup>	+0	+0	+1	+1	Starting Feats + Bonus Feat
2 <sup>nd</sup>	+0	+0	+2	+2	Bonus Feat
3 <sup>rd</sup>	+0	+1	+2	+2	
4 <sup>th</sup>	+1	+1	+2	+2	
5 <sup>th</sup>	+1	+1	+3	+3	Bonus Feat
6 <sup>th</sup>	+1	+2	+3	+3	
7 <sup>th</sup>	+1	+2	+4	+4	Bonus Feat
8 <sup>th</sup>	+2	+2	+4	+4	
9 <sup>th</sup>	+2	+3	+4	+4	
10 <sup>th</sup>	+2	+3	+5	+5	Bonus Feat
11 <sup>th</sup>	+2	+3	+5	+5	Bonus Feat
12 <sup>th</sup>	+3	+4	+6	+6	
13 <sup>th</sup>	+3	+4	+6	+6	Bonus Feat
14 <sup>th</sup>	+3	+4	+6	+6	Bonus Feat
15 <sup>th</sup>	+3	+5	+7	+7	
16 <sup>th</sup>	+4	+5	+7	+7	
17 <sup>th</sup>	+4	+5	+8	+8	Bonus Feat
18 <sup>th</sup>	+4	+6	+8	+8	
19 <sup>th</sup>	+4	+6	+8	+8	Bonus Feat
20 <sup>th</sup>	+5	+6	+9	+9	





# ARMY

Service Class

Most worlds maintain Ground Forces for their own defense. Characters who have served in the Army will have gained experience in one of the three main combat arms (Infantry, Artillery, Cavalry) or the support formations (Technical, Logistics, Intelligence etc). Most characters are likely to have served in the infantry. Army characters (of all arms) learn how to operate infantry weapons plus some specialist skills, for example dealing with vehicle operations, hostile-environment survival, or combat engineering.

**Characteristics:** Military personnel are trained to act. They have a tendency to engage problems rather than stand about wondering what to do. This does not guarantee the ex-soldier will come up with the best solution to a problem, merely that he or she will do *something*. Military personnel are usually very proud of whatever unit they served with. They will be familiar with military equipment and weapons of their own and other cultures.

**Background:** The Army requires its personnel to be in reasonably good physical shape (even for desk jobs at the supply bases). Highly technical jobs such as Combat Engineering or Electronic Warfare require a good education and familiarity with high-tech equipment, but almost anyone can be trained to be a skilled infantryman, so ex-army characters may come from any background. Those with a high social standing, intelligence, or education often become technical specialists and/or officers.

**Adventuring:** Military personnel are a great asset to any adventuring group. Their training and weapons skills are an asset in a fight, and many ex-soldiers have other useful skills such as T/Electronics or survival, which can assist a group in reaching its goal.

## GAME RULE INFORMATION

**Class Type:** Service

**High Tech Army (H):** Tech Level 9+

**Mid Tech Army (M):** Tech Level 5-8

**Lo Tech Army (L):** Tech Level 1-4

**Multiclass Restrictions:** Only a character actively working in the Army prior history may multiclass into the Army class.

**Stamina:** 1d8 + CON modifier per level

**Starting Funds:** Acquired as part of the mustering out benefits after prior history.

## SERVICE SKILLS

Characters from a high-tech army may select as class skills anything under the High Tech Army list. Low-tech soldiers may only select as class skills those listed under Low-Tech Army. Soldiers from a mid-tech army may select as class skills from either High or Low tech lists, with the exception of the Technical skill. A mid-tech soldier may only select the T/Mechanical skill.

### High Tech Army

Class Skill	Key Ability	Class Skill	Key Ability
Bribery	CHA	Combat Engineering	INT
Demolitions	DEX	Driving	DEX
Forward Observer	INT	Gambling	INT
Gather Information	CHA	Gunnery	WIS
Leader	INT/CHA	Liaison	CHA

P/Administration	WIS	Pilot	INT/DEX
Recruiting	EDU	Sense Motive	WIS
Spot	WIS	Survival	WIS
Technical (any*)	EDU		

\* Communications, Computer, Electronics, Gravitics, Mechanical, Medical, or Sensors

### Low-Tech Army

Class Skill	Key Ability	Class Skill	Key Ability
Bribery	CHA	Gambling	INT
Gather Information	CHA	Handle Animal	CHA
Leader	INT/CHA	Liaison	CHA
Recruiting	EDU	Ride	DEX
Spot	WIS	Survival	WIS

**Starting Skill Points:** (4 + INT Modifier) x 4. If you are taking Army as a multiclass, you do not receive these starting skill points.

**Skill Points per Level:** 4 + INT modifier

## CLASS FEATURES

All of the following are class features of the Army:

**Starting Feats:** The Army soldier begins play with the following feats:

Low Tech	Mid Tech	High Tech
WP (Black Powder)	WP (Marksman)	WP (Marksman)
WP (Swordsman)	WP (Combat Rifleman)	WP (Combat Rifleman)
AP (Light)	AP (Light)	AP (Light)
		AP (Medium)
		AP (Vac Suit)

**Bonus Feats:** At 1<sup>st</sup>, 2<sup>nd</sup>, 5<sup>th</sup>, 7<sup>th</sup>, 10<sup>th</sup>, 11<sup>th</sup>, 13<sup>th</sup>, 14<sup>th</sup>, 17<sup>th</sup> and 19<sup>th</sup> level Army personnel gain a bonus feat. These feats may be chosen from the list below. If the character already has all of the listed feats, they may select any other feat from the Feats chapter that they are qualified for.

TABLE: ARMY

	BASE ATTACK BONUS	BASE FORT BONUS	BASE REFLEX BONUS	BASE WILL BONUS	SPECIAL
1 <sup>st</sup>	+0	+0	+2	+0	Starting Feats + Bonus Feat
2 <sup>nd</sup>	+1	+0	+3	+0	Bonus Feat
3 <sup>rd</sup>	+2	+1	+3	+1	
4 <sup>th</sup>	+3	+1	+4	+1	
5 <sup>th</sup>	+3	+1	+4	+1	Bonus Feat
6 <sup>th</sup>	+4	+2	+5	+2	
7 <sup>th</sup>	+5	+2	+5	+2	Bonus Feat
8 <sup>th</sup>	+6/+1	+2	+6	+2	
9 <sup>th</sup>	+6/+1	+3	+6	+3	
10 <sup>th</sup>	+7/+2	+3	+7	+3	Bonus Feat
11 <sup>th</sup>	+8/+3	+3	+7	+3	Bonus Feat

12 <sup>th</sup>	+9/+4	+4	+8	+4	
13 <sup>th</sup>	+9/+4	+4	+8	+4	Bonus Feat
14 <sup>th</sup>	+10/+5	+4	+9	+4	Bonus Feat
15 <sup>th</sup>	+11/+6/+1	+5	+9	+5	
16 <sup>th</sup>	+12/+7/+2	+5	+10	+5	
17 <sup>th</sup>	+12/+7/+2	+5	+10	+5	Bonus Feat
18 <sup>th</sup>	+13/+8/+3	+6	+11	+6	
19 <sup>th</sup>	+14/+9/+4	+6	+11	+6	Bonus Feat
20 <sup>th</sup>	+15/+10/+5	+6	+12	+6	

Low Tech	Mid Tech	High Tech
Armorer (any)**	Armorer (any)**	Armorer (any)**
Brawling	AP (Vac Suit)	AP (Battledress)
Command Presence*	Brawling	Brawling
Mounted Combat	Command Presence*	Command Presence*
PMOS	Heavy Metal	Heavy Metal
Tactics I*	Mounted Combat	PMOS
Ride-By Attack	PMOS	Tactics I*
Shield Proficiency	Tactics I*	Tactics II*
Spirited Charge	Tactics II*	Strategy*
Trample	Ride-By Attack	Vessel (Aircraft)
Vessel (Watercraft)	Vessel (Aircraft)	Vessel (Grav)
WP (Thrown)	Vessel (Ground)	Vessel (Ground)
Weapon Specialization*	Vessel (Watercraft)	Vessel (Watercraft)
	WP (Field Artillery)	WP (Field Artillery)
	WP (Heavy Weapons)	WP (Heavy Weapons)
	WP (Lasers)	WP (High Energy)
	WP (Thrown)	WP (Lasers)
	WP (Vehicular)	WP (Vehicular)
	Weapon Specialization*	Weapon Specialization*

\* A specialized class feat

\*\* Armorer is restricted to weapons of a TL available to the character

## EX-ARMY PERSONNEL

Army personnel who muster-out, retire, are otherwise released from the service and not actively working in the army prior history, may not take any additional levels as a member of the army class, though they retain all of the skills and feats they have already acquired. This rule may be waived if the Referee intends to run an active duty campaign with characters playing military personnel.



# ATHLETE

Core Class

The Athlete is a dedicated sportsperson, whether amateur or professional. Some are extremely proficient within a narrow range of activities, while others are multi-discipline competitors. The class can also represent someone who is simply “into” physical activity for its own sake.

Some Athletes are involved with fairly combat-related sports such as fencing or shooting. Such characters may wish to consider the Martial Artist Service Class instead. As a rule, athletes are into sport and competition; martial artists are into fighting. While some athletes are professionals in their sport (as competitors or coaches, fitness trainers or whatever), most have some kind of day job to pay their way.

Athlete characters might include a body-builder working as a cargo loader, a professional downhill skier, or a character with some entirely different profession (such as ship’s engineer) who likes physical challenges and/or playing sports.

**Characteristics:** An Athlete is in good physical shape and is often very competitive in outlook. He or she will tend to pick up physical skills quickly, and may have little liking for being stuck in an office shuffling papers. Not all athletes are competitors, of course. Some are coaches or fitness trainers. What most have in common is a liking for strenuous or difficult physical activities.

**Background:** Athletes come from almost any background, though poor kids tend to drift into less expensive activities such as boxing, running and such like. Unless the character can make a living from competition winnings or as a member of a professional team, some sort of additional job is necessary. This can be almost anything.

**Adventuring:** Physical prowess is always useful when adventuring. A power lifter or a gymnast offers a whole new set of possibilities to an adventuring team. Other sports may be less applicable, but a determined character in good shape can usually find a way to contribute to an adventuring group.

## GAME RULE INFORMATION

**Class Type:** Core

**Multiclass Restrictions:** To multiclass into the Athlete class, a character must have the basic requirements listed above, or 8+ ranks in an appropriate skill.

**Abilities:** Constitution, Dexterity

**Stamina:** 1d8 + CON modifier per level

**Starting Funds:** Cr250

## CLASS SKILLS

Class Skill	Key Ability	Class Skill	Key Ability
Balance	DEX	Climb	STR
Driving	DEX	Gather Information	CHA
Handle Animal	CHA	Jump	STR
Knowledge (Specific Sport)	EDU	Professional (Specific Sport)	WIS
Ride	DEX	Swim	STR
Tumble	DEX		

**Starting Skill Points:** (6 + INT modifier) x 4. If you are taking Athlete as a multiclass, you do not receive these starting skill points.

**Skill Points per Level:** 6 + INT modifier

## CLASS FEATURES

All of the following are class features of the Athlete:

### Starting Feats:

WP (Marksman)	Endurance
Sport (Any)*	Competitive*
Eventing*	

\* A specialized class feat

**Bonus Feats:** At 1<sup>st</sup>, 2<sup>nd</sup>, 5<sup>th</sup>, 7<sup>th</sup>, 10<sup>th</sup>, 11<sup>th</sup>, 13<sup>th</sup>, 14<sup>th</sup>, 17<sup>th</sup> and 19<sup>th</sup> level the Academic gains a bonus feat. These feats may be chosen from the list below. If the character already has all of the listed feats, they may select any other feat from the Feats chapter that they are qualified for.

Acrobatics	Ambidexterity	Athletic	Brawling
Climber*	Coaching*	Competitive*	Eventing*
First Aid	Histrionics*	Great Fortitude	Improved Eventing*
Iron Will	Reputation*	Run	Skill Focus (Any)
Sport (Any)*	Super-Athlete*	Swimmer*	Thrower*
Toughness	Vehicle (Sport)*	Weightlifting*	

\* A specialized class feat

## TABLE: ATHLETE

	BASE ATTACK BONUS	BASE FORT BONUS	BASE REFLEX BONUS	BASE WILL BONUS	SPECIAL
1 <sup>st</sup>	+0	+1	+1	+1	Starting Feats + Bonus Feat
2 <sup>nd</sup>	+1	+2	+2	+2	Bonus Feat
3 <sup>rd</sup>	+1	+2	+2	+2	
4 <sup>th</sup>	+2	+2	+2	+2	
5 <sup>th</sup>	+2	+3	+3	+3	Bonus Feat
6 <sup>th</sup>	+3	+3	+3	+3	
7 <sup>th</sup>	+3	+4	+4	+4	Bonus Feat
8 <sup>th</sup>	+4	+4	+4	+4	
9 <sup>th</sup>	+4	+4	+4	+4	
10 <sup>th</sup>	+5	+5	+5	+5	Bonus Feat
11 <sup>th</sup>	+5	+5	+5	+5	Bonus Feat
12 <sup>th</sup>	+6/+1	+6	+6	+6	
13 <sup>th</sup>	+6/+1	+6	+6	+6	Bonus Feat
14 <sup>th</sup>	+7/+2	+6	+6	+6	Bonus Feat
15 <sup>th</sup>	+7/+2	+7	+7	+7	
16 <sup>th</sup>	+8/+3	+7	+7	+7	
17 <sup>th</sup>	+8/+3	+8	+8	+8	Bonus Feat
18 <sup>th</sup>	+9/+4	+8	+8	+8	
19 <sup>th</sup>	+9/+4	+8	+8	+8	Bonus Feat
20 <sup>th</sup>	+10/+5	+9	+9	+9	



# BARBARIAN

## Core Class

The Barbarian hails from a rural low-tech society. This may be the outback of a developed world or the towns of a low-tech planet. Not all Barbarians are muscular sword-wielding heroes. Many are craftsmen, merchants or professionals such as priests or scribes, but for the most part Barbarian characters will be familiar with outdoor life and will possess survival, hunting or low-tech combat skills. Barbarians are not stupid; they are merely uneducated in the technological marvels of the universe and unfamiliar with life in the big city.

**Characteristics:** Barbarians are rugged individuals, used to coping without technological means. They are self-reliant and usually slow to trust others. Coming from a world without trauma centers and social services, barbarians tend to be prudent about risk-taking but at the same time willing to stake a great deal on their own competence. Some Barbarians may shun or actually be afraid of technology; most are likely to see it as a useful tool but one that can make the user forget about his own capabilities in favor of quick and easy technological crutches. Such individuals may be willing to use technology but will be careful not to become reliant on it.

**Background:** A Barbarian character might be a stone-age savage rescued from wild animals on his homeworld, a backwoods hunter from a mid-tech society, or a chainmail-armored swordsman recruited from the royal guard of his TL2 homeworld.

**Adventuring:** Barbarians usually have excellent "woodcraft" skills and can be a big asset when out in the wilds, acting as scouts and hunters. They are also skilled at fighting, and can learn how to use modern weapons if they choose to. Sometimes the simplistic "barbarian" outlook can provide a direct answer to problems that elude more sophisticated individuals.

TABLE: BARBARIAN

	BASE ATTACK BONUS	BASE FORT BONUS	BASE REFLEX BONUS	BASE WILL BONUS	SPECIAL
1 <sup>st</sup>	+1	+2	+0	+1	Starting Feats + Bonus Feat
2 <sup>nd</sup>	+2	+3	+0	+2	Bonus Feat
3 <sup>rd</sup>	+3	+3	+1	+2	
4 <sup>th</sup>	+4	+4	+1	+2	
5 <sup>th</sup>	+5	+4	+1	+3	Bonus Feat
6 <sup>th</sup>	+6/+1	+5	+2	+3	
7 <sup>th</sup>	+7/+2	+5	+2	+4	Bonus Feat
8 <sup>th</sup>	+8/+3	+6	+2	+4	
9 <sup>th</sup>	+9/+4	+6	+3	+4	
10 <sup>th</sup>	+10/+5	+7	+3	+5	Bonus Feat
11 <sup>th</sup>	+11/+6/+1	+7	+3	+5	Bonus Feat
12 <sup>th</sup>	+12/+7/+2	+8	+4	+6	
13 <sup>th</sup>	+13/+8/+3	+8	+4	+6	Bonus Feat
14 <sup>th</sup>	+14/+9/+4	+9	+4	+6	Bonus Feat
15 <sup>th</sup>	+15/+10/+5	+9	+5	+7	
16 <sup>th</sup>	+16/+11/+6/+1	+10	+5	+7	
17 <sup>th</sup>	+17/+12/+7/+2	+10	+5	+8	Bonus Feat
18 <sup>th</sup>	+18/+13/+8/+3	+11	+6	+8	
19 <sup>th</sup>	+19/+14/+9/+4	+11	+6	+8	Bonus Feat
20 <sup>th</sup>	+20/+15/+10/+5	+12	+6	+9	

## GAME RULE INFORMATION

**Class Type:** Core

**Multiclass Restrictions:** You cannot multiclass into the

Barbarian class.

**Abilities:** Dexterity, Wisdom

**Stamina:** 1d12 + CON modifier per level

**Starting Funds:** Cr100

## CLASS SKILLS

Class Skill	Key Ability	Class Skill	Key Ability
Animal Empathy*	CHA	Climb	STR
Craft (any**)	INT	Entertain (any**)	CHA
Handle Animal	CHA	Hide	DEX
Intuit Direction	WIS	Jump	STR
Listen	WIS	Move Silently	DEX
Ride	DEX	Spot	WIS
Swim	STR	Survival	WIS
Technosavvy*	INT	Tumble	DEX

\* Exclusive Skill

\*\* As appropriate for a TL0-3 society.

**Starting Skill Points:** (2 + INT modifier) x 4.

**Skill Points per Level:** 2 + INT modifier

## CLASS FEATURES

**Starting Feats:** The Barbarian begins play with the following feats:

AP (Light)	WP (Archer)
Shield Proficiency	WP (Swordsman)

**Bonus Feats:** At 1<sup>st</sup>, 2<sup>nd</sup>, 5<sup>th</sup>, 7<sup>th</sup>, 10<sup>th</sup>, 11<sup>th</sup>, 13<sup>th</sup>, 14<sup>th</sup>, 17<sup>th</sup> and 19<sup>th</sup> level the Barbarian gains a bonus feat. These feats may be chosen from the list below. If the character already has all of the listed feats, they may select any other feat from the Feats chapter that they are qualified for.

Animal Whisperer*	Athletic	Brawling
Dodge	Endurance	Great Fortitude
Improved Initiative	Iron Will	Lightning Reflexes
Mobility	Natural Born Leader	Natural Compass
Natural Medicine*	Run	Skill Focus (Outdoor Survival)*
Stealthy	Toughness	Tracker
Trapping	Weapon Focus	WP (Axe/Mace)
WP (Black Powder)	WP (Close-Quarters)	WP (Thrown)
Weapon Specialization*		

\* A specialized class feat

## EX-BARBARIANS

A Barbarian who becomes too technologically sophisticated is no longer a true barbarian. If his Technosavvy skill rank ever equals or exceeds 10, the character may no longer earn levels as a barbarian. Furthermore, if a Barbarian who is multiclassed ever improves another class level by more than one level above his current Barbarian class level, may never again raise his Barbarian level, though he retains all of his Barbarian abilities. For example, a character with Barbarian level 2 and army level 2 could take a new level in army and still earn levels as a Barbarian at the next level increase, because his army class level would still only be 1 greater than his Barbarian class level. If the character decided to take another level in army next time, he would no longer be able to earn levels as a barbarian because his army level (4<sup>th</sup>) is now two levels higher than his Barbarian class level.

An ex-Barbarian keeps all abilities previously earned, and no longer suffers a -2 penalty when attempting to use technology related skills.





# BELTER

Core Class

Belters are asteroid miners or prospectors. Many operate small starships while others live and work in small, close-knit communities. Belters have a wide range of skills from starship operations to engineering and working in hostile environments. Belters range from scruffy “one-mule” prospectors who spend months at a time alone in space to highly educated mining engineers with impressive degrees.

**Characteristics:** A Belter’s livelihood and his life depend upon his equipment and his colleagues. Belters are thus unwilling to trust either until it or they have been proven worthy. They tend to be close-mouthed and rather dour in the working environment, and extremely intolerant of waste or incompetence. Belters often show another side of their character when away from work, and may party riotously to let off steam. Some Belters are avid scholars, fascinated by new techniques and ways to wring a little more utility out of their equipment. The great majority are rule-of-thumb engineers using techniques learned from Old Uncle Bob and getting along just fine, thank you very much.

**Background:** Most Belters are the children of Belters or are adopted into the Belting community. Such individuals tend to have a rather rough-and-ready upbringing and education, but are often experts on equipment maintenance and safety. Some “Belters” are actually “Asteroid Miners;” highly skilled engineers in shiny starships. Such individuals are scorned by “true” Belters, and treated as “rich kids playing at Belting.”

**Adventuring:** Belters are self-reliant and skilled with machinery, especially at jury-rigging and adapting old gear to new applications. They can fill many positions aboard a starship and have a good broad set of skills that suit them to freewheeling adventure among the stars.

TABLE: BELTER

	BASE ATTACK BONUS	BASE FORT BONUS	BASE REFLEX BONUS	BASE WILL BONUS	SPECIAL
1 <sup>st</sup>	+0	+0	+0	+2	Starting Feats + Bonus Feat
2 <sup>nd</sup>	+1	+0	+0	+3	Bonus Feat
3 <sup>rd</sup>	+1	+1	+1	+3	
4 <sup>th</sup>	+2	+1	+1	+4	
5 <sup>th</sup>	+2	+1	+1	+4	Bonus Feat
6 <sup>th</sup>	+3	+2	+2	+5	
7 <sup>th</sup>	+3	+2	+2	+5	Bonus Feat
8 <sup>th</sup>	+4	+2	+2	+6	
9 <sup>th</sup>	+4	+3	+3	+6	
10 <sup>th</sup>	+5	+3	+3	+7	Bonus Feat
11 <sup>th</sup>	+5	+3	+3	+7	Bonus Feat
12 <sup>th</sup>	+6/+1	+4	+4	+8	
13 <sup>th</sup>	+6/+1	+4	+4	+8	Bonus Feat
14 <sup>th</sup>	+7/+2	+4	+4	+9	Bonus Feat
15 <sup>th</sup>	+7/+2	+5	+5	+9	
16 <sup>th</sup>	+8/+3	+5	+5	+10	
17 <sup>th</sup>	+8/+3	+5	+5	+10	Bonus Feat
18 <sup>th</sup>	+9/+4	+6	+6	+11	
19 <sup>th</sup>	+9/+4	+6	+6	+11	Bonus Feat
20 <sup>th</sup>	+10/+5	+6	+6	+12	

## GAME RULE INFORMATION

**Class Type:** Core

**Multiclass Restrictions:** You cannot multiclass into the Belter class.

**Abilities:** Education, Intelligence

**Stamina:** 1d6 + CON modifier per level

**Starting Funds:** Cr200

## CLASS SKILLS

Class Skill	Key Ability	Class Skill	Key Ability
Appraise	INT	Bluff	CHA
Demolitions	DEX	Forward Observer	INT
Gambling	INT	Gunnery	WIS
K/Mining	WIS	K/Geology	WIS
Pilot	DEX	P/Prospecting	WIS
Search	INT	Technical (Any)	EDU

**Starting Skill Points:** (6 + INT modifier) x 4

**Skill Points per Level:** 6 + INT modifier

## CLASS FEATURES

All of the following are class features of the Belter:

**Starting Feats:** The Belter begins play with the following feats:

AP (Light)

AP (Vac Suit)

WP (Marksman)

Crewmember

Zero-G/Low Gravity Adaptation

**Bonus Feats:** At 1<sup>st</sup>, 2<sup>nd</sup>, 5<sup>th</sup>, 7<sup>th</sup>, 10<sup>th</sup>, 11<sup>th</sup>, 13<sup>th</sup>, 14<sup>th</sup>, 17<sup>th</sup> and 19<sup>th</sup> level the Belter gains a bonus feat. These feats may be chosen from the list below. If the character already has all of the listed feats, they may select any other feat from the Feats chapter that they are qualified for.

3D Spatial Awareness*	Dumb Luck	Gearhead
Geological Survey	Imp Zero-G/Low Gravity Adaptation	Junkyard Dog*
Jury Rig	Midas Touch*	Miracle Worker
Self-Reliance*	Ship Tactics	Skill Focus (Prospecting)
Vessel (Ship’s Boat)	Vessel (Starships)	WP (Ship’s Weapons)

\*A specialized class feat

## EX-BELTERS

A Belter must always have a P/Prospecting skill rank equal to or higher than his current Belter level. If a Belter’s class level would ever exceed his P/Prospecting skill rank, he may not take another level in the Belter class until his P/Prospecting skill rank is improved sufficiently.

# CONVICT

Service Class

Characters convicted of a crime (rightly or otherwise) will often be sentenced to a period of servitude or confinement. Although their liberty is restricted, characters can still learn a great deal during time spent “inside” or attached to a punishment unit. The Convict class is open to any character receiving Prison as a mishap result in character generation. Normally, a single term (4 years) is served. However, the re-enlistment check is replaced with an Appeal check for this class. Characters who fail to make their Appeal check **MUST** serve another term in prison before attempting it again.

**Characteristics:** Convicts come from all walks of life. A white-collar embezzler will have different values to a street-trash thug convicted for arson or manslaughter. A character’s period of servitude may convince them to “go straight,” or may simply provide opportunities to learn new ways to commit crimes.

**Background:** Convicts can come from any background. Education and training programs may allow a character to change his or her lifestyle upon leaving prison. .

**Adventuring:** A convict may be forced into an adventuring lifestyle for lack of other opportunities, or indeed may be convicted as a result of her adventures! Skills learned in prison, and contacts made there, can be very useful to an adventuring party.

TABLE: CONVICT

	BASE ATTACK BONUS	BASE FORT BONUS	BASE REFLEX BONUS	BASE WILL BONUS	SPECIAL
1 <sup>st</sup>	+0	+1	+0	+2	Starting Feats + Bonus Feat
2 <sup>nd</sup>	+1	+2	+0	+3	Bonus Feat
3 <sup>rd</sup>	+1	+2	+1	+3	
4 <sup>th</sup>	+2	+2	+1	+4	
5 <sup>th</sup>	+2	+3	+1	+4	Bonus Feat
6 <sup>th</sup>	+3	+3	+2	+5	
7 <sup>th</sup>	+3	+4	+2	+5	Bonus Feat
8 <sup>th</sup>	+4	+4	+2	+6	
9 <sup>th</sup>	+4	+4	+3	+6	
10 <sup>th</sup>	+5	+5	+3	+7	Bonus Feat
11 <sup>th</sup>	+5	+5	+3	+7	Bonus Feat
12 <sup>th</sup>	+6/+1	+6	+4	+8	
13 <sup>th</sup>	+6/+1	+6	+4	+8	Bonus Feat
14 <sup>th</sup>	+7/+2	+6	+4	+9	Bonus Feat
15 <sup>th</sup>	+7/+2	+7	+5	+9	
16 <sup>th</sup>	+8/+3	+7	+5	+10	
17 <sup>th</sup>	+8/+3	+8	+5	+10	Bonus Feat
18 <sup>th</sup>	+9/+4	+8	+6	+11	
19 <sup>th</sup>	+9/+4	+8	+6	+11	Bonus Feat
20 <sup>th</sup>	+10/+5	+9	+6	+12	

## GAME RULE INFORMATION

**Class Type:** Service Class

**Multiclass Restrictions:** To multiclass into the Convict class, a character must either be convicted of a crime (in prior experience or in game play) or be a member of the Psionicist, Mercenary or Rogue classes, whose occupation may well lead to a term in prison. Members of these classes may choose to spend a term in prison instead of their normal activities if they wish. At the referee’s discretion, this option can be extended to members of any military classes, representing a period “in the stockade” for infractions or as a prisoner of war.

**Abilities:** Any

**Stamina:** 1d6 + CON modifier per level

**Starting Funds:** None

## CLASS SKILLS

Class Skill	Key Ability	Class Skill	Key Ability
Appraise	INT	Bluff	CHA
Bribery	CHA	Craft (any)	INT/DEX
Entertain (any)	CHA	Forgery	INT/DEX
Gambling	INT	Innuendo	WIS
Hide	DEX	Intimidate	CHA
Knowledge (any)	EDU	Move Silently	DEX
Search	INT	Sense Motive	WIS
Spot	WIS	T/Mechanical	EDU

**Starting Skill Points:** Characters cannot begin as convicts.

**Skill Points per Level:** 4 + INT modifier

## CLASS FEATURES

All of the following are class features of the Convict:

**Starting Feats:** The Convict gains the following feats:

Connections (Underworld)

Old Sweat\*

**Bonus Feats:** At 1<sup>st</sup>, 2<sup>nd</sup>, 5<sup>th</sup>, 7<sup>th</sup>, 10<sup>th</sup>, 11<sup>th</sup>, 13<sup>th</sup>, 14<sup>th</sup>, 17<sup>th</sup> and 19<sup>th</sup> level the Convict gains a bonus feat. These feats may be chosen from the list below. If the character already has all of the listed feats, they may select any other feat from the Feats chapter that they are qualified for.

Alertness	Applied Paranoia*	Brawling
Bruiser*	Concealment*	Connections (Various)
First Aid	Fast Talk	Hobby
Iron Will	Legal Eagle	Prison Rep*
Prison Weasel*	Sixth Sense	Stealthy
Toughness	Wiped Slate*	

\* Special Class Feat detailed below

## EX-CONVICTS

It is not possible to take levels in the Convict class unless the character is actually serving time in a prison or similar penal institution. Once the character has left prison, she retains all skills and feats gained during her time “inside” and has a permanent criminal record unless the Wiped Slate feat is taken.





# CORSAIR

Service Class

Corsairs are pirates and raiders, who make their way by preying on commerce or looting weakly defended outposts. In Vargr society, "Corsair" is an honorable profession, but to most Humans the term refers to an amoral starfaring murderer. Corsairs operate in organized bands, and may even form small fleets for a very daring raid in force. Personnel tend to have both ground and shipboard combat skills, plus the technical skills necessary to operate a ship.

**Characteristics:** Corsairs are generally a rough lot, with discipline enforced through fear or respect rather than a formal system. Violence is an acceptable way of getting what you want, and strength is the only thing that requires respect. Corsairs may sometimes have a strong bond of loyalty to their shipmates or captain, and will generally observe a "code" intended to avoid unnecessary disputes, but outside that small circle they are amoral and vicious.

**Background:** Corsairs come from high or mid-tech worlds. Some have naval experience, others are merchants gone bad. Many are simply violent individuals who sign up as ground fighters and receive on-the-job training. Some crewmembers may be unwilling, forced to make their technical skills available in return for continued survival.

**Adventuring:** Corsairs have many skills suitable for adventurers. Vicious pirates are untrustworthy at best, but some ship-crew mercenaries or semi-official privateer crews have similar skills to corsairs, and are generally a little more wholesome.

TABLE: CORSAIR

	BASE ATTACK BONUS	BASE FORT BONUS	BASE REFLEX BONUS	BASE WILL BONUS	SPECIAL
1 <sup>st</sup>	+1	+1	+0	+2	Starting Feats + Bonus Feat
2 <sup>nd</sup>	+1	+2	+0	+3	Bonus Feat
3 <sup>rd</sup>	+2	+2	+1	+3	
4 <sup>th</sup>	+2	+2	+1	+4	
5 <sup>th</sup>	+3	+3	+1	+4	Bonus Feat
6 <sup>th</sup>	+3	+3	+2	+5	
7 <sup>th</sup>	+4	+4	+2	+5	Bonus Feat
8 <sup>th</sup>	+4	+4	+2	+6	
9 <sup>th</sup>	+5	+4	+3	+6	
10 <sup>th</sup>	+5	+5	+3	+7	Bonus Feat
11 <sup>th</sup>	+6/+1	+5	+3	+7	Bonus Feat
12 <sup>th</sup>	+6/+1	+6	+4	+8	
13 <sup>th</sup>	+7/+2	+6	+4	+8	Bonus Feat
14 <sup>th</sup>	+7/+2	+6	+4	+9	Bonus Feat
15 <sup>th</sup>	+8/+3	+7	+5	+9	
16 <sup>th</sup>	+8/+3	+7	+5	+10	
17 <sup>th</sup>	+9/+4	+8	+5	+10	Bonus Feat
18 <sup>th</sup>	+9/+4	+8	+6	+11	
19 <sup>th</sup>	+10/+5	+8	+6	+11	Bonus Feat
20 <sup>th</sup>	+10/+5	+9	+6	+12	

## GAME RULE INFORMATION

**Class Type:** Service

**Multiclass Restrictions:** A character with Merchant, Navy or Marine background may multiclass into the Corsair class at any time during their prior history, suggesting a period of privateering or other illegal activity. Other characters must be serving in the Corsair prior history, or aboard a corsair vessel during play in order to multiclass as Corsairs.

**Stamina:** 1d8 + CON modifier per level

**Starting Funds:** Cr1000.

## SERVICE SKILLS

Class Skill	Key Ability	Class Skill	Key Ability
Bribery	CHA	Driving	INT/DEX
Forgery	INT/DEX	Forward Observer	INT
Gambling	INT	Gather Information	CHA
Gunnery	WIS	Intimidation	CHA
Leader	INT/CHA	Liaison	CHA
Navigation	EDU	Pilot	INT/DEX
Recruiting	EDU	Search	INT
Technical (any)	EDU		

**Starting Skill Points:** (4 + INT Modifier) x 4. If you are taking Corsair as a multiclass, you do not receive these starting skill points.

**Skill Points per Level:** 4 + INT modifier

## CLASS FEATURES

All of the following are class features of the Corsair:

**Starting Feats:** The Corsair begins play with the following feats:

AP (Light)	Brawling
AP (Vac Suit)	Toughness
WP (Marksman)	

**Bonus Feats:** At 1<sup>st</sup>, 2<sup>nd</sup>, 5<sup>th</sup>, 7<sup>th</sup>, 10<sup>th</sup>, 11<sup>th</sup>, 13<sup>th</sup>, 14<sup>th</sup>, 17<sup>th</sup> and 19<sup>th</sup> level Corsair personnel gain a bonus feat. These feats may be chosen from the list below. If the character already has all of the listed feats, they may select any other feat from the Feats chapter that they are qualified for.

Avert Suspicion*	AP (Medium)	AP (Heavy)
Bushwhacking*	Carousing	Control Band*
Crewmember	Damage Control*	Gearhead
Heavy Metal	Interrogation	Jury Rig
Lightning Raid*	Looooooooooot!!!*	Natural Born Leader
Miracle Worker	Naval Architect	Override Ship Security
Ship's Tactics	Suppress Resistance*	Vessel (Starships)
Vessel (Ship's Boat)	WP (Close Quarters)	WP (Combat Rifleman)
WP (Lasers)	WP (Ship's Weapons)	WP (Swordsman)

\* Special Class Feat detailed below

## EX-CORSAIR PERSONNEL

Personnel who muster-out, retire, are otherwise released from the service and not actively working in the Corsair prior history or aboard a corsair vessel, may not take any additional levels as a member of the Corsair class, though they retain all of the skills and feats they have already acquired. This rule may be waived if the Referee intends to run an active duty campaign with characters playing corsair or privateer personnel.

# DIPLOMAT

*Prestige Class*

The Diplomat is an expert at negotiation and liaison. Diplomats can be found in all walks of life, from business to the military and law enforcement, and most worlds and nations maintain a corps of diplomats to further their interests. Diplomacy is a career often followed by distinguished military officers or nobles. Diplomats tend to be cultured but fairly sedentary individuals, but in their own way they can be as deadly as any sniper.

**Characteristics:** A Diplomat is skilled at observing people, deciding what they want and what they're willing to agree to in order to get it. Some diplomats are pushy "salesmen," some are formal negotiators, and some have unorthodox techniques that defy categorization. Most diplomats have an abiding interest in what makes people act the way they do.

**Background:** Diplomats typically come from a well-off and educated background. Many have a period of service in the armed or merchant services under their belt, or a noble title.

**Adventuring:** Not all problems can be solved by force or deception. Negotiation can open up new avenues and reveal sources of information undreamed-of. A diplomat can often be a formidable trader if she turns her mind to it. An active diplomat may have immunity from customs searches and other benefits.

## GAME RULE INFORMATION

**Class Type:** Service

**Multiclass Restrictions:** To multiclass into the Diplomat class, a character must have earned at least a Bachelor's degree at University, have Education 14+ and Intelligence 12+, or must have a noble title. A character with a military commission may make a straight check vs. DC 6 (with a modifier of +1 per rank above O1 held in the previous service) to enter the service at rank O0.

**Abilities:** Education, Charisma

**Stamina:** 1d4 + CON modifier per level

**Starting Funds:** Cr3000

TABLE: DIPLOMAT

	BASE ATTACK BONUS	BASE FORT BONUS	BASE REFLEX BONUS	BASE WILL BONUS	SPECIAL
1 <sup>st</sup>	+0	+0	+1	+1	Starting Feats + Bonus Feat
2 <sup>nd</sup>	+0	+0	+2	+2	Bonus Feat
3 <sup>rd</sup>	+0	+1	+2	+2	
4 <sup>th</sup>	+1	+1	+2	+2	
5 <sup>th</sup>	+1	+1	+3	+3	Bonus Feat
6 <sup>th</sup>	+1	+2	+3	+3	
7 <sup>th</sup>	+1	+2	+4	+4	Bonus Feat
8 <sup>th</sup>	+2	+2	+4	+4	
9 <sup>th</sup>	+2	+3	+4	+4	
10 <sup>th</sup>	+2	+3	+5	+5	Bonus Feat
11 <sup>th</sup>	+2	+3	+5	+5	Bonus Feat
12 <sup>th</sup>	+3	+4	+6	+6	
13 <sup>th</sup>	+3	+4	+6	+6	Bonus Feat
14 <sup>th</sup>	+3	+4	+6	+6	Bonus Feat
15 <sup>th</sup>	+3	+5	+7	+7	
16 <sup>th</sup>	+4	+5	+7	+7	
17 <sup>th</sup>	+4	+5	+8	+8	Bonus Feat
18 <sup>th</sup>	+4	+6	+8	+8	
19 <sup>th</sup>	+4	+6	+8	+8	Bonus Feat
20 <sup>th</sup>	+5	+6	+9	+9	

## CLASS SKILLS

Class Skill	Key Ability	Class Skill	Key Ability
Appraise	INT	Bluff	CHA
Bribery	CHA	Innuendo	WIS
K/Interstellar Law	EDU	Leader	INT/CHA
Liaison	CHA	P/Diplomat	WIS
Sense Motive	WIS	Spot	WIS

**Starting Skill Points:** (8 + INT modifier) x 4. If you are taking Diplomat as a multiclass, you do not receive these starting skill points.

**Skill Points per Level:** 8 + INT modifier

## CLASS FEATURES

All of the following are class features of the Diplomat:

### Starting Feats:

Carousing
Diplomatic Training*
* A specialized class feat

**Bonus Feats:** At 1<sup>st</sup>, 2<sup>nd</sup>, 5<sup>th</sup>, 7<sup>th</sup>, 10<sup>th</sup>, 11<sup>th</sup>, 13<sup>th</sup>, 14<sup>th</sup>, 17<sup>th</sup> and 19<sup>th</sup> level the Diplomat gains a bonus feat. These feats may be chosen from the list below. If the character already has all of the listed feats, they may select any other feat from the Feats chapter that they are qualified for.

Acting Prodigy	Fast Talk	Back Channel Communications
Connections (Military or Diplomatic)	Credit Line	Diplomatic Complacency*
Dubious History*	Favor Owed*	Impressive Bluster*
Infinite Patience*	Legal Eagle	Natural Born Leader
Official Protest*	Rising Star*	Stubborn as a Mule*

\* A specialized class feat

## EX-DIPLOMATS

Personnel who muster-out, retire, or are otherwise released from the service and not actively working in the Diplomat prior history may not take any additional levels as a member of the Diplomat class, though they retain all of the skills and feats they have already acquired. This rule may be waived if the Referee intends to run an active duty campaign with characters playing members of the Diplomatic service.



# ENGINEER

Prestige Class

The Engineer class has a lot of overlap with the Professional, but there are some important differences. The Engineer is a specialized equipment-user and problem-solver, who is not usually at home in the boardroom or dealing with his financial backers. A Professional working as an engineer will generally be better at such matters; the Engineer is more focused on finishing the job at hand.

Engineers work with technical equipment and gadgets aboard starships or in the field. Their work can take them into hazardous places; so most engineers have at least a basic idea how to deal with dangerous situations. Engineering skills can be learned "on the job" in a rule-of-thumb manner or be the result of years of study at a university. Various types of engineers exist – field engineers working in fields like mining or civil construction, starship, or other vessel engineers, and of course technicians who service and operate complex equipment in support of scientists and doctors are engineers by another name.

**Characteristics:** Engineers are usually intelligent and are often well educated, with good technical skills (particularly those concerning the equipment they work with) and some academic ones, plus "field" experience. They may have picked up good interpersonal, leadership, and even some combat skills while working in frontier environments.

**Background:** Engineers and technicians are trained, though often informally. It is possible to be an Engineer and yet not be able to read, though this is very rare. Engineers can exist in quite low-tech societies, where they design, build, and operate low-tech machines that parallel the functions of higher-tech equipment.

**Adventuring:** The Engineer is an asset to any adventuring group. He or she keeps equipment running and finds practical solutions to problems.

TABLE: ENGINEER

	BASE ATTACK BONUS	BASE FORT BONUS	BASE REFLEX BONUS	BASE WILL BONUS	SPECIAL
1 <sup>st</sup>	+0	+0	+1	+2	Starting Feats + Bonus Feat
2 <sup>nd</sup>	+0	+0	+2	+3	Bonus Feat
3 <sup>rd</sup>	+1	+1	+2	+3	
4 <sup>th</sup>	+1	+1	+2	+4	
5 <sup>th</sup>	+1	+1	+3	+4	Bonus Feat
6 <sup>th</sup>	+2	+2	+3	+5	
7 <sup>th</sup>	+2	+2	+4	+5	Bonus Feat
8 <sup>th</sup>	+2	+2	+4	+6	
9 <sup>th</sup>	+3	+3	+4	+6	
10 <sup>th</sup>	+3	+3	+5	+7	Bonus Feat
11 <sup>th</sup>	+3	+3	+5	+7	Bonus Feat
12 <sup>th</sup>	+4	+4	+6	+8	
13 <sup>th</sup>	+4	+4	+6	+8	Bonus Feat
14 <sup>th</sup>	+4	+4	+6	+9	Bonus Feat
15 <sup>th</sup>	+4	+5	+7	+9	
16 <sup>th</sup>	+5	+5	+7	+10	
17 <sup>th</sup>	+5	+5	+8	+10	Bonus Feat
18 <sup>th</sup>	+5	+6	+8	+11	
19 <sup>th</sup>	+5	+6	+8	+11	Bonus Feat
20 <sup>th</sup>	+5	+6	+9	+12	

## GAME RULE INFORMATION

**Class Type:** Service

**Multiclass Restrictions:** To multiclass into the Engineer

class, a character must have the Gearhead feat and at least 6 skill ranks in a Technical skill. In addition, he or she must be working in a career (in play or prior history) that includes engineering work, such as Professionals, Merchants, Navy, or Scouts.

**Abilities:** Education, Intelligence

**Stamina:** 1d6 + CON modifier per level

**Starting Funds:** Cr1500

## CLASS SKILLS

Class Skill	Key Ability	Class Skill	Key Ability
Demolitions	DEX	Driving	DEX
Forgery	INT/DEX	Gambling	CHA
Knowledge (any)	EDU	Leader	INT/CHA
Liaison	CHA	Astrogation	EDU
Profession (Admin)	WIS	Profession (Engineer)	WIS
Search	WIS	Survival	WIS
Technical (any)	EDU		

**Starting Skill Points:** (6 + INT modifier) \* 4. If you are taking Engineer as a multiclass, you do not receive these starting skill points.

**Skill Points per Level:** 6 + INT modifier

## CLASS FEATURES

All of the following are class features of the Engineer:

**Starting Feats:** The Engineer starts play with the following feats:

AP (Light)	WP (Marksman)
Gearhead	

**Bonus Feats:** At 1<sup>st</sup>, 2<sup>nd</sup>, 5<sup>th</sup>, 7<sup>th</sup>, 10<sup>th</sup>, 11<sup>th</sup>, 13<sup>th</sup>, 14<sup>th</sup>, 17<sup>th</sup> and 19<sup>th</sup> level the Engineer gains a bonus feat. These feats may be chosen from the list below. If the character already has all of the listed feats, they may select any other feat from the Feats chapter that they are qualified for.

AP (Vac Suit)	Brawling	Connections (Engineering Contractors)
Carousing	Civil Engineer*	EW Specialist
Demo Specialist*	Don't Touch That!*	Low-Tech Machinery*
First Aid	Hostile Environment Engineer*	Power Systems Engineer*
Improvised Explosives*	Jury Rig	Vehicle Engineer*
Miracle Worker	Nerves of Steel	Salvager*
Scrounger*		

\*A specialized class feat

## EX-ENGINEERS

Personnel who muster-out, retire, are otherwise released from the service and not actively working in the Engineer prior history or in a job that is primarily concerned with engineering, such as holding a post as a drive hand aboard a corsair, merchant, naval or scout vessel, may not take any additional levels as a member of the Engineer class, though they retain all of the skills and feats they have already acquired.



# ENTERTAINER

## Core Class

The Entertainer is an individual who makes his or her way by amusing others, distracting them from their cares and anxieties. While there are numerous superstars, there are far more mid-level entertainers making a modest living on the circuit, and even more that live more or less hand-to-mouth.

**Characteristics:** An Entertainer is generally personable and presentable, and of course has some skills that can be used to please people. An Entertainer's craft might be music or song, poetry, juggling, acrobatics, stand-up comedy, mime, or any combination of these and other activities.

**Background:** Entertainers can come from any background.

**Adventuring:** After being stuck somewhere, performing for room and board, a chance to move on might be very welcome. An entertainer can be a great cover or distraction for a party, and can bring unique skills to bear on a situation.

## GAME RULE INFORMATION

**Class Type:** Core

**Multiclass Restrictions:** To multiclass as an Entertainer, a character must have 4 or more ranks in an Entertain skill.

**Abilities:** Dexterity, Charisma

**Stamina:** 1d6 + CON modifier per level

**Starting Funds:** Cr1000

TABLE: ENTERTAINER

	BASE ATTACK BONUS	BASE FORT BONUS	BASE REFLEX BONUS	BASE WILL BONUS	SPECIAL
1 <sup>st</sup>	+0	+0	+2	+1	Starting Feats + Bonus Feat
2 <sup>nd</sup>	+0	+0	+3	+2	Bonus Feat
3 <sup>rd</sup>	+0	+1	+3	+2	
4 <sup>th</sup>	+1	+1	+4	+2	
5 <sup>th</sup>	+1	+1	+4	+3	Bonus Feat
6 <sup>th</sup>	+1	+2	+5	+3	
7 <sup>th</sup>	+1	+2	+5	+4	Bonus Feat
8 <sup>th</sup>	+2	+2	+6	+4	
9 <sup>th</sup>	+2	+3	+6	+4	
10 <sup>th</sup>	+2	+3	+7	+5	Bonus Feat
11 <sup>th</sup>	+2	+3	+7	+5	Bonus Feat
12 <sup>th</sup>	+3	+4	+8	+6	
13 <sup>th</sup>	+3	+4	+8	+6	Bonus Feat
14 <sup>th</sup>	+3	+4	+9	+6	Bonus Feat
15 <sup>th</sup>	+3	+5	+9	+7	
16 <sup>th</sup>	+4	+5	+10	+7	
17 <sup>th</sup>	+4	+5	+10	+8	Bonus Feat
18 <sup>th</sup>	+4	+6	+11	+8	
19 <sup>th</sup>	+4	+6	+11	+8	Bonus Feat
20 <sup>th</sup>	+5	+6	+12	+9	

## CLASS SKILLS

Class Skill	Key Ability	Class Skill	Key Ability
Appraise	INT	Balance	DEX
Bluff	CHA	Disguise	CHA
Entertain (any)	CHA	Innuendo	WIS
K/Contract Law	EDU	Liaison	CHA

P/Administration	WIS	P/Entertainer	WIS
Sense Motive	WIS	Spot	WIS
Tumble	DEX		

**Starting Skill Points:** (6 + INT modifier) x 4. If you are taking entertainer as a multiclass, you do not receive these starting skill points.

**Skill Points per Level:** 6 + INT modifier

## CLASS FEATURES

All of the following are class features of the Entertainer:

### Starting Feats:

Talented*
Spotlight Kid*
Connections (Entertainment)

\* A specialized class feat

**Bonus Feats:** At 1<sup>st</sup>, 2<sup>nd</sup>, 5<sup>th</sup>, 7<sup>th</sup>, 10<sup>th</sup>, 11<sup>th</sup>, 13<sup>th</sup>, 14<sup>th</sup>, 17<sup>th</sup> and 19<sup>th</sup> level the Entertainer gains a bonus feat. These feats may be chosen from the list below. If the character already has all of the listed feats, they may select any other feat from the Feats chapter that they are qualified for.

Acting Prodigy	Barter	Brawling
Carousing	Drama Queen*	Fame*
Fast Talk	Sector Class*	Showstopper*
Talented*	Trustworthy	

\* A specialized class feat



# FLYER

Service Class

Most worlds maintain some form of army for their own defense. Usually the army includes a corps of “flyers” responsible for air support, transport, and logistics, and on more advanced worlds, aerospace defense. This force, Close Orbit and Airspace Control Command (COACC) is a branch of the army that mans tracking stations, ground defense batteries, and aerospace or even orbital interceptor craft. The crews of the latter, a relatively small proportion of the total personnel assigned, are termed “Flyers.”

Other personnel assigned to COACC, such as security, technical and support crews, are members of the Army class.

**Characteristics:** Military personnel are trained to act, and flyers in particular are trained to use controlled but ferocious aggression. They have a tendency to engage problems rather than stand about wondering what to do. This does not guarantee the ex-Flyer will come up with the best solution to a problem; merely that he or she will do *something*. Flyers, especially fighter jocks, tend to be brash and arrogant, and very proud of whatever unit they served with.

**Background:** Flyers are smart and dexterous, and tend to be well educated. Many come in through university officer training programs.

**Adventuring:** Military personnel are a great asset to any adventuring group. Their training and weapons skills give advantages in a fight, and Flyers may have other useful skills such as T/Electronics or Survival, which can assist a group in reaching its goals.

TABLE: FLYER

	BASE ATTACK BONUS	BASE FORT BONUS	BASE REFLEX BONUS	BASE WILL BONUS	SPECIAL
1 <sup>st</sup>	+0	+0	+2	+0	Starting Feats + Bonus Feat
2 <sup>nd</sup>	+1	+0	+3	+0	Bonus Feat
3 <sup>rd</sup>	+1	+1	+3	+1	
4 <sup>th</sup>	+2	+1	+4	+1	
5 <sup>th</sup>	+2	+1	+4	+1	Bonus Feat
6 <sup>th</sup>	+3	+2	+5	+2	
7 <sup>th</sup>	+3	+2	+5	+2	Bonus Feat
8 <sup>th</sup>	+4	+2	+6	+2	
9 <sup>th</sup>	+4	+3	+6	+3	
10 <sup>th</sup>	+5	+3	+7	+3	Bonus Feat
11 <sup>th</sup>	+5	+3	+7	+3	Bonus Feat
12 <sup>th</sup>	+6/+1	+4	+8	+4	
13 <sup>th</sup>	+6/+1	+4	+8	+4	Bonus Feat
14 <sup>th</sup>	+7/+2	+4	+9	+4	Bonus Feat
15 <sup>th</sup>	+7/+2	+5	+9	+5	
16 <sup>th</sup>	+8/+3	+5	+10	+5	
17 <sup>th</sup>	+8/+3	+5	+10	+5	Bonus Feat
18 <sup>th</sup>	+9/+4	+6	+11	+6	
19 <sup>th</sup>	+9/+4	+6	+11	+6	Bonus Feat
20 <sup>th</sup>	+10/+5	+6	+12	+6	

## GAME RULE INFORMATION

**Class Type:** Service

**High Tech Flyer (H):** Tech Level 9+

**Mid Tech Flyer (M):** Tech Level 4-8

**Multiclass Restrictions:** Only a character actively working in the Flyer prior history may normally multiclass into the Flyer class. At the Referee’s discretion, characters serving in the Army or Marines may multiclass as Flyers.

**Stamina:** 1d6 + CON modifier per level

**Starting Funds:** Acquired as part of the mustering out benefits after prior history.

## SERVICE SKILLS

Class Skill	Key Ability	Class Skill	Key Ability
Bribery	CHA	Driving	DEX
Forward Observer	INT	Gambling	INT
Gather Information	CHA	Gunnery	WIS
Leader	INT/CHA	Liaison	CHA
P/Administration	WIS	Pilot	INT/DEX
Recruiting	EDU	Sense Motive	WIS
Spot	WIS	Survival	WIS
Technical (any*)	EDU		

\*Communications, Computer, Electronics, Gravitics, Mechanical, Medical, or Sensors. A mid-tech Flyer may only select the T/ Mechanical skill.

**Starting Skill Points:** (6 + INT Modifier) x 4. If you are taking Flyer as a multiclass, you do not receive these starting skill points.

**Skill Points per Level:** 6 + INT modifier

## CLASS FEATURES

All of the following are class features of the Flyer:

**Starting Feats:** The Flyer begins play with the following feats:

Mid Tech	High Tech
WP (Marksman)	WP (Marksman)
WP (Combat Rifleman)	WP (Combat Rifleman)
WP (Vehicular Weapons)	WP (Vehicular Weapons)
AP (Light)	AP (Light)
Vessel (Aircraft)	AP (Vac Suit)
	Vessel (Aircraft)

**Bonus Feats:** At 1<sup>st</sup>, 2<sup>nd</sup>, 5<sup>th</sup>, 7<sup>th</sup>, 10<sup>th</sup>, 11<sup>th</sup>, 13<sup>th</sup>, 14<sup>th</sup>, 17<sup>th</sup> and 19<sup>th</sup> level Flyer personnel gain a bonus feat. These feats may be chosen from the list below. If the character already has all of the listed feats, they may select any other feat from the Feats chapter that they are qualified for.

Mid Tech	High Tech
AP (Vac Suit)	Brawling
Brawling	Command Presence*
Command Presence*	Defensive Maneuver*
Defensive Maneuver*	Dogfight*
Dogfight*	Fighter Leader*
Fighter Leader*	Heavy Metal
Heavy Metal	Hoser*
Hoser*	PMOS
PMOS	Vessel (Aircraft)
Ride-By Attack	Vessel (Grav)
Vessel (Aircraft)	Vessel (Ground)
Vessel (Ground)	Vessel (Ship’s Boat)
WP (Heavy Wpns)	WP (Heavy Weapons)
WP (Lasers)	WP (Lasers)
WP (Vehicular)	WP (Vehicular)

\* A specialized class feat

## EX-FLYERS

Flyers who muster-out, retire, are otherwise released from the service and not actively working in the Flyer prior history, may not take any additional levels as a member of the Flyer class, though they retain all of the skills and feats they have already acquired. This rule may be waived if the Referee intends to run an active duty campaign with characters playing military personnel.

# LAW ENFORCER

Service Class

There are many types of Law Enforcer, from beat cops to detectives, from corporate security officials to bounty hunters and skip tracers. What they all have in common is a mission to keep the peace and enforce the rules (though the laws they uphold may be very different, depending upon their background). Most Enforcers start out in an organized police or security unit, and most stay there. Those that move on to freelance work often operate on the fringes of the law themselves, breaking a few rules to keep the general peace or to eliminate serious felons.

Some enforcers have a narrow field of interest, for example the skip tracers who repossess stolen starships on behalf of their owners, while others are general upholders of the law and keepers of the peace. Not all Law Enforcers are "official." Some are contracted mercenaries and others are simply vigilantes.

Law enforcers need to be capable of dealing with violent situations, so often have good combat skills. Knowledge of relevant law and some "street" skills are useful too.

**Characteristics:** An Enforcer's outlook varies according to their background. A vigilante might be motivated by a strong code of conduct and a desire to right some (or every!) wrong. A professional security or police officer will normally respect the laws they uphold and the society that those laws protect, and generally find crime and criminals of all kinds distasteful. Bounty Hunters and Skip Tracers may simply work for the money, and actually be more or less criminals themselves.

**Background:** Law Enforcers can come from any background. Detectives and senior or specialist officers often have a university education, while many street cops, security personnel, and bounty hunters are ex-military.

**Adventuring:** Law enforcers are sometimes assigned to pursue dangerous felons, or may make a living as freelance security operatives or bounty hunters. Ex-law enforcement personnel may well find their streetwise, weapons and technical skills useful during a life of adventure after their career has ended.

TABLE: LAW ENFORCER

	BASE ATTACK BONUS	BASE FORT BONUS	BASE REFLEX BONUS	BASE WILL BONUS	SPECIAL
1 <sup>st</sup>	+0	+1	+1	+2	Starting Feats + Bonus Feat
2 <sup>nd</sup>	+1	+2	+2	+3	Bonus Feat
3 <sup>rd</sup>	+2	+2	+2	+3	
4 <sup>th</sup>	+3	+2	+2	+4	
5 <sup>th</sup>	+3	+3	+3	+4	Bonus Feat
6 <sup>th</sup>	+4	+3	+3	+5	
7 <sup>th</sup>	+5	+4	+4	+5	Bonus Feat
8 <sup>th</sup>	+6/+1	+4	+4	+6	
9 <sup>th</sup>	+6/+1	+4	+4	+6	
10 <sup>th</sup>	+7/+2	+5	+5	+7	Bonus Feat
11 <sup>th</sup>	+8/+3	+5	+5	+7	Bonus Feat
12 <sup>th</sup>	+9/+4	+6	+6	+8	
13 <sup>th</sup>	+9/+4	+6	+6	+8	Bonus Feat
14 <sup>th</sup>	+10/+5	+6	+6	+9	Bonus Feat
15 <sup>th</sup>	+11/+6/+1	+7	+7	+9	
16 <sup>th</sup>	+12/+7/+2	+7	+7	+10	
17 <sup>th</sup>	+12/+7/+2	+8	+8	+10	Bonus Feat
18 <sup>th</sup>	+13/+8/+3	+8	+8	+11	
19 <sup>th</sup>	+14/+9/+4	+8	+8	+11	Bonus Feat
20 <sup>th</sup>	+15/+10/+5	+9	+9	+12	

## GAME RULE INFORMATION

**Class Type:** Service Class

**Multiclass Restrictions:** To multiclass into the Law Enforcer class a character must serve at least one term in the Law Enforcer prior history (see Prior History) or be employed in a suitable capacity during play.

**Abilities:** Intelligence, Wisdom

**Stamina:** 1d8 + CON modifier per level

**Starting Funds:** Cr2000

## CLASS SKILLS

Class Skill	Key Ability	Class Skill	Key Ability
Appraise	INT	Bluff	CHA
Driving	DEX	Gambling	INT
Gather Information	CHA	Intimidate	CHA
Knowledge (Forensics)	EDU	Knowledge (Interstellar Law)	EDU
Knowledge (Other Law)	EDU	Leader	INT
Move Silently	DEX*	Search	WIS
Sense Motive	WIS	Spot	WIS
Technical (any)*	EDU		

\*Communications, Computer, Electronics, Medical, Sensors

**Starting Skill Points:** (5+ INT modifier) \* 4. If you are taking Law Enforcer as a multiclass, you do not receive these starting skill points.

**Skill Points per Level:** 5 + INT modifier

## CLASS FEATURES

All of the following are class features of the Law Enforcer:

**Starting Feats:** The Law Enforcer begins play with the following feats:

AP (Light)	WP (Marksman)
AP (Medium Armor)	

**Bonus Feats:** At 1<sup>st</sup>, 2<sup>nd</sup>, 5<sup>th</sup>, 7<sup>th</sup>, 10<sup>th</sup>, 11<sup>th</sup>, 13<sup>th</sup>, 14<sup>th</sup>, 17<sup>th</sup> and 19<sup>th</sup> level the Law Enforcer gains a bonus feat. These feats may be chosen from the list below. If the character already has all of the listed feats, they may select any other feat from the Feats chapter that they are qualified for.

Alertness	AP (Heavy)	Brawling
Control & Restraint*	Dodge	Far Shot
Improved Critical	Improved Initiative	Improved Unarmed Strike
Interrogation	Point Blank Shot	Police Sniper*
Precise Shot	Presence*	Quick Draw
Rapid Shot	Shot on the Run	Street Smart*
SWAT*	Tactics I*	Toughness
Uncanny Dodge*	Weapon Focus	WP (Grappler)
WP (Combat Rifleman)	Weapon Specialization*	Vessel/Ground Vehicles

Vessel/Grav Vehicles

\* A specialized class feat

## EX-LAW ENFORCERS

It is not possible to take levels in the Law Enforcer class after a character has mustered out, unless they are working in some kind of security/law enforcement capacity. As a general rule, ex-law enforcement personnel are respected by the authorities and despised by criminals wherever they go.





# MARINE

Service Class

The Marine Corps is a specialized fighting force. Its troopers gain impressive combat skills and some shipboard experience. Marines are adept at fighting in zero-g and other hostile environments.

**Characteristics:** Marines are tough and team-oriented. They are sometimes a little contemptuous of the Army, and claim not to be able to comprehend the Navy's way of doing things. Marines are exceptionally proud of their unit and of the Marine Corps in general. The Marines are often used as a hammer to smash the government's problems, and many Marines retain the "break it now, let someone else worry about questions and stuff" attitude.

**Background:** Marines are generally recruited on mid to high tech worlds. Physical standards are high, and trained higher. As close cousins to the Navy, the Marines have a higher proportion of Noble officers than the Army (the Scouts have almost none!). Marines also tend to be intelligent and flexible, since they have to operate complex weapon systems in highly fluid combat environments.

**Adventuring:** A Marine is an impressive one-person fighting force, and may have useful secondary skills like T/Electronics or Gunnery. A Marine uniform is less well regarded than a Naval one, but ex-Marines are generally treated with respect wherever they go.

## GAME RULE INFORMATION

**Class Type:** Service Class

**Multiclass Restrictions:** Only a character actively working in the marines prior history may multiclass into the marines class.

**Stamina:** 1d10 + CON modifier per level

**Starting Funds:** Acquired as part of the mustering out benefits after prior history.

TABLE: MARINE

	BASE ATTACK BONUS	BASE FORT BONUS	BASE REFLEX BONUS	BASE WILL BONUS	SPECIAL
1 <sup>st</sup>	+1	+2	+0	+1	Starting Feats + Bonus Feat
2 <sup>nd</sup>	+2	+3	+0	+2	Bonus Feat
3 <sup>rd</sup>	+3	+3	+1	+2	
4 <sup>th</sup>	+4	+4	+1	+2	
5 <sup>th</sup>	+5	+4	+1	+3	Bonus Feat
6 <sup>th</sup>	+6/+1	+5	+2	+3	
7 <sup>th</sup>	+7/+2	+5	+2	+4	Bonus Feat
8 <sup>th</sup>	+8/+3	+6	+2	+4	
9 <sup>th</sup>	+9/+4	+6	+3	+4	
10 <sup>th</sup>	+10/+5	+7	+3	+5	Bonus Feat
11 <sup>th</sup>	+11/+6/+1	+7	+3	+5	Bonus Feat
12 <sup>th</sup>	+12/+7/+2	+8	+4	+6	
13 <sup>th</sup>	+13/+8/+3	+8	+4	+6	Bonus Feat
14 <sup>th</sup>	+14/+9/+4	+9	+4	+6	Bonus Feat
15 <sup>th</sup>	+15/+10/+5	+9	+5	+7	
16 <sup>th</sup>	+16/+11/+6/+1	+10	+5	+7	
17 <sup>th</sup>	+17/+12/+7/+2	+10	+5	+8	Bonus Feat
18 <sup>th</sup>	+18/+13/+8/+3	+11	+6	+8	
19 <sup>th</sup>	+19/+14/+9/+4	+11	+6	+8	Bonus Feat
20 <sup>th</sup>	+20/+15/+10/+5	+12	+6	+9	

## SERVICE SKILLS

Class Skill	Key Ability	Class Skill	Key Ability
Bribery	CHA	Combat Engineering	INT
Demolitions	DEX	Driving	DEX
Forward Observer	INT	Gambling	INT
Gather Information	CHA	Gunnery	WIS
Leader	INT/CHA	Liaison	CHA
P/Administration	WIS	Pilot	INT/DEX
Recruiting	EDU	Sense Motive	WIS
Spot	WIS	Survival	WIS
Technical (any*)	EDU		

\*Communications, Computer, Electronics, Gravitics, Mechanical, Medical, or Sensors

**Starting Skill Points:** (2 + INT Modifier) x 4. If you are taking Marines as a multiclass, you do not receive these starting skill points.

**Skill Points per Level:** 2 + INT modifier

## CLASS FEATURES

All of the following are class features of the Marine:

**Starting Feats:** The Marine begins play with the following feats:

AP (Light Armor)	WP (Combat Rifleman)
AP (Medium Armor)	WP (Swordsman)
AP (Vac Suit)	Weapon Focus (Cutlass)
WP (Marksman)	

**Bonus Feats:** At 1<sup>st</sup>, 2<sup>nd</sup>, 5<sup>th</sup>, 7<sup>th</sup>, 10<sup>th</sup>, 11<sup>th</sup>, 13<sup>th</sup>, 14<sup>th</sup>, 17<sup>th</sup> and 19<sup>th</sup> level the Marine gains a bonus feat. These feats may be chosen from the list below. If the character already has all of the listed feats, they may select any other feat from the Feats chapter that they are qualified for.

AP (Battledress)	Brawling	Command Presence*
Crewmember	Drop Trooper	EVA
Heavy Metal	High Morale*	Hostile Environment Operations
Improved Zero-G /Low Grav Adaptation	PMOS	Second Wind*
Tactics I*	Tactics II*	Toughness
Vessel (Aircraft)	Vessel (Grav)	Vessel (Ground)
Vessel (Ship's Boat)	Weapon Focus	WP (Heavy Weapons)
WP (High Energy)	WP (Lasers)	WP (Ship's Weapons)
WP (Vehicular)	Weapon Specialization*	Zero-G Combat
Zero-G/Low Gravity Adaptation		

\* A specialized class feat

## EX-MARINE PERSONNEL

Marine personnel who muster-out, retire, are otherwise released from the service and not actively working in the Marine prior history may not take any additional levels as a member of the marine class, though they retain all of the skills and feats they have already acquired. This rule may be waived if the Referee intends to run an active duty campaign with characters playing military personnel.

# MARTIAL ARTIST

## Core Class

Anyone can learn to fight, and anyone can get some martial arts training. However, those who wish to truly master the arts of personal combat must devote considerable time and effort to the task, and for this reason the study of martial arts can be considered to be a service. Many martial artists make their living at mundane jobs – clerks, barmen, janitors and so on, while some make a career out of using their skills and work in security. There is of course no reason why a member of an armed service – or any other profession – cannot also be a martial artist. The fact that it is a service class merely represents the level of commitment required to be good at the martial arts. A character can only gain levels in Martial Artist while actively pursuing their studies. This does not stop them from serving terms in other professions or services during Prior History, but Martial Artist levels can only be gained from terms the character spent as a member of a military service, the Scouts, Law Enforcement, Corsairs, or Mercenaries – plus of course terms spent as a Martial Artist.

Once in play, a martial artist can continue to gain levels so long as his or her commitment to the martial arts is unbroken. This is a matter for appropriate roleplaying, and the Referee must decide what level of commitment is required.

There are many styles of martial arts. Some emphasize striking, like Muay Thai and Karate, others grappling and wrestling, like Sombo and Combat Judo. Most styles, such as Vale Tudo and Ju-Jitsu, are balanced between striking and grappling techniques, and a smart fighter gains at least some skill in each area. Specialist arts, such as the low-g art Lae Kal, also exist, as well as alien and variant-Human arts. The Martial Artist class is representative of them all, and it is up to the player to tailor his or her character to fit a desired style.

Most martial arts are unarmed for the most part, but do at least include some weapons work (knives and sticks are common). Some styles include handguns and esoteric weapons, but this is fairly unusual. Skills and feats are thus heavily biased towards close-quarters hand-to-hand combat. It is also possible to create a fencer, perhaps a noble with aspirations of being a great duelist, with these rules.

**Characteristics:** Almost all martial arts are built upon principles of respect and dedication. A martial artist will generally be a “physical” person, fit and willing to use hands-on solutions to problems, but relatively few are outright thugs. Most arts have at least a basic philosophy behind them, and some have highly mystical backgrounds. A few martial artists are thus enlightened “Zen warriors” but the majority are simply individuals who possess good fighting skills as a result of long training, and have a healthy respect for the consequences of violence. Some follow a personal code of honor, but this is not always the case.

**Background:** Martial artists come from all walks of life; poor kids trying to get out of the slums with a career in the tournaments, professionals seeking self-defense skills, serving military or law enforcement personnel seeking an edge in hand-to-hand combat, and the occasional bar fighter who just wants to get better at slugging people.

**Adventuring:** Martial artists often work in security or protect others, and their quest for new teachers or opponents will sometimes lead them into adventure. They bring excellent hand-to-hand skills to an adventuring group, plus a general level of physical prowess that is hard to match.

## GAME RULE INFORMATION

**Class Type:** Service

**Multiclass Restrictions:** Martial Artists can multiclass freely in play, so long as their continued study and training is roleplayed.

**Abilities:** Dexterity, Constitution

**Stamina:** 1d10 + CON modifier per level

**Starting Funds:** Cr250

TABLE: MARTIAL ARTIST

	BASE ATTACK BONUS	BASE FORT BONUS	BASE REFLEX BONUS	BASE WILL BONUS	SPECIAL
1 <sup>st</sup>	+0	+1	+1	+0	Starting Feats + Bonus Feat
2 <sup>nd</sup>	+1	+2	+2	+0	Bonus Feat
3 <sup>rd</sup>	+2	+2	+2	+1	
4 <sup>th</sup>	+3	+2	+2	+1	
5 <sup>th</sup>	+3	+3	+3	+1	Bonus Feat
6 <sup>th</sup>	+4	+3	+3	+2	
7 <sup>th</sup>	+5	+4	+4	+2	Bonus Feat
8 <sup>th</sup>	+6/+1	+4	+4	+2	
9 <sup>th</sup>	+6/+1	+4	+4	+3	
10 <sup>th</sup>	+7/+2	+5	+5	+3	Bonus Feat
11 <sup>th</sup>	+8/+3	+5	+5	+3	Bonus Feat
12 <sup>th</sup>	+9/+4	+6	+6	+4	
13 <sup>th</sup>	+9/+4	+6	+6	+4	Bonus Feat
14 <sup>th</sup>	+10/+5	+6	+6	+4	Bonus Feat
15 <sup>th</sup>	+11/+6/+1	+7	+7	+5	
16 <sup>th</sup>	+12/+7/+2	+7	+7	+5	
17 <sup>th</sup>	+12/+7/+2	+8	+8	+5	Bonus Feat
18 <sup>th</sup>	+13/+8/+3	+8	+8	+6	
19 <sup>th</sup>	+14/+9/+4	+8	+8	+6	Bonus Feat
20 <sup>th</sup>	+15/+10/+5	+9	+9	+6	

## CLASS SKILLS

Class Skill	Key Ability	Class Skill	Key Ability
Balance	DEX	Bluff	CHA
Driving	DEX	Hide	DEX
Intimidate	CHA	Jump	STR
Leader	INT	Listen	WIS
Move Silently	DEX*	Sense Motive	WIS
Spot	WIS	Tumble	DEX

**Starting Skill Points:** (4 + INT modifier) x 4. If you are taking Martial Artist as a multiclass, you do not receive these starting skill points.

**Skill Points per Level:** 4 + INT modifier

## CLASS FEATURES

All of the following are class features of the Martial Artist:

**Starting Feats:** The Martial Artist begins play with the following feats:

Brawling	Improved Unarmed Strike
Toughness	

**Bonus Feats:** At 1<sup>st</sup>, 2<sup>nd</sup>, 5<sup>th</sup>, 7<sup>th</sup>, 10<sup>th</sup>, 11<sup>th</sup>, 13<sup>th</sup>, 14<sup>th</sup>, 17<sup>th</sup> and 19<sup>th</sup> level the Martial Artist gains a bonus feat. These feats may be chosen from the list below. If the character already has all of the listed feats, they may select any other feat from the Feats chapter that they are qualified for.

Acrobatics	Blast*	Body Conditioning*
Combat Reflexes	Combat Specialization*	Dodge
Enhanced Striking*	Evasion*	Great Fortitude
Improved Critical	Mobility	One-Hit Kill*
Spring Attack	Shoot Attack*	Toughness
Weapon Focus	WP (Grappler)*	WP (CQW)*
Weapon Specialization		

\*A special class feat described below







# MERCENARY

## Core Class

The Mercenary is inclined towards combat and violence. Some are actual mercenary soldiers, while others are bar fighters, gunmen, bouncers, martial artists, security officers and so on. The Mercenary finds it easy to learn about combat and related matters such as stealth and hostile-environment skills.

**Characteristics:** The Mercenary may be a simple thug, a realist willing to accept violence as a fact of life, or some kind of “enlightened warrior” who seeks truths and inner peace while battling all comers. Most Mercenaries are often willing to take a direct and sometimes brutal approach to problems, and to accept risk or even casualties in order to achieve their goals. Very few are murderous, sociopathic thugs and most have a healthy respect for the consequences of violent action.

**Background:** Mercenaries have been exposed to violence at various times, and usually have some formal combat training. Service in the interstellar or planetary armed forces is a common route. Others might have trained with a mercenary unit or a megacorporation’s security arm, or may have learned their skills in a martial arts dojo or on the streets of a rough neighborhood.

**Adventuring:** Some problems require force to overcome, and these are the people to supply it. Mercs have the skills to use personal weapons effectively, and often have the ability to operate military equipment such as secure communications gear, combat vehicles, and explosives.

TABLE: MERCENARY

	BASE ATTACK BONUS	BASE FORT BONUS	BASE REFLEX BONUS	BASE WILL BONUS	SPECIAL
1 <sup>st</sup>	+1	+2	+0	+1	Starting Feats + Bonus Feat
2 <sup>nd</sup>	+2	+3	+0	+2	Bonus Feat
3 <sup>rd</sup>	+3	+3	+1	+2	
4 <sup>th</sup>	+4	+4	+1	+2	
5 <sup>th</sup>	+5	+4	+1	+3	Bonus Feat
6 <sup>th</sup>	+6/+1	+5	+2	+3	
7 <sup>th</sup>	+7/+2	+5	+2	+4	Bonus Feat
8 <sup>th</sup>	+8/+3	+6	+2	+4	
9 <sup>th</sup>	+9/+4	+6	+3	+4	
10 <sup>th</sup>	+10/+5	+7	+3	+5	Bonus Feat
11 <sup>th</sup>	+11/+6/+1	+7	+3	+5	Bonus Feat
12 <sup>th</sup>	+12/+7/+2	+8	+4	+6	
13 <sup>th</sup>	+13/+8/+3	+8	+4	+6	Bonus Feat
14 <sup>th</sup>	+14/+9/+4	+9	+4	+6	Bonus Feat
15 <sup>th</sup>	+15/+10/+5	+9	+5	+7	
16 <sup>th</sup>	+16/+11/+6/+1	+10	+5	+7	
17 <sup>th</sup>	+17/+12/+7/+2	+10	+5	+8	Bonus Feat
18 <sup>th</sup>	+18/+13/+8/+3	+11	+6	+8	
19 <sup>th</sup>	+19/+14/+9/+4	+11	+6	+8	Bonus Feat
20 <sup>th</sup>	+20/+15/+10/+5	+12	+6	+9	

## GAME RULE INFORMATION

**Class Type:** Core

**Multiclass Restrictions:** To multiclass into the Mercenary class a character must have served at least one term in the Army, Marines, or Navy prior history (see Prior History).

**Abilities:** Dexterity, Intelligence

**Stamina:** 1d10 + CON modifier per level

**Starting Funds:** Cr2000

## CLASS SKILLS

Class Skill	Key Ability	Class Skill	Key Ability
Bluff	CHA	Driving	DEX
Gambling	INT	Hide	DEX
Intimidate	CHA	Leader	INT
Move Silently	DEX	Spot	WIS
Technical (any)*	EDU		

\* Communications, Mechanical, Medical, or Sensors

**Starting Skill Points:** (2 + INT modifier) x 4. If you are taking Mercenary as a multiclass, you do not receive these starting skill points.

**Skill Points per Level:** 2 + INT modifier

## CLASS FEATURES

All of the following are class features of the Mercenary:

**Starting Feats:** The Mercenary begins play with the following feats:

AP (Light)
AP (Medium Armor)
AP (Vac Suit)
WP (Marksman)
WP (Combat Rifleman)

**Bonus Feats:** At 1<sup>st</sup>, 2<sup>nd</sup>, 5<sup>th</sup>, 7<sup>th</sup>, 10<sup>th</sup>, 11<sup>th</sup>, 13<sup>th</sup>, 14<sup>th</sup>, 17<sup>th</sup> and 19<sup>th</sup> level the Mercenary gains a bonus feat. These feats may be chosen from the list below. If the character already has all of the listed feats, they may select any other feat from the Feats chapter (pg. 00) that they are qualified for.

Alertness	AP (Heavy)	Brawling
Cross Training*	Defensive Roll*	Dodge
Evasion*	Far Shot	Heavy Metal
Improved Critical	Improved Initiative	Improved Unarmed Strike
Opportunist*	Point Blank Shot	Precise Shot
Quick Draw	Rapid Shot	Shot on the Run
Sneak Attack*	Tactics I*	Toughness
Uncanny Dodge*	Weapon Focus	Weapon Specialization*
Vessel/Ground Vehicles	Vessel/Watercraft	Zero-G/Low Grav Adaptation

\* A specialist class feat detailed below



# MERCHANTS

## Core Class

The Merchant is usually a trader rather than a shopkeeper. He or she may be a highly paid corporate factor or a member of the crew of a beat-up old merchant starship. Merchants are adept at thinking on their feet, seeking out new business opportunities, and at talking or shooting their way out of situations their business sense has got them into.

**Characteristics:** Merchants tend to have good interpersonal skills (the exception being arrogant high-powered brokers or those who do their business via data transfer in high-tech cities) and related skills like Gather Information or K/Interstellar Law that help get the deal done. The sort of merchant who becomes a player-character tends to be a risk-taker and is often willing to venture into seedy, dangerous places in order to make a profit. These characters can usually take care of themselves with fists or firearms.

**Background:** Merchants (especially those that own or crew starships) are often from a well-off or educated background. Others may have signed on as part of a Free Trader crew and gradually acquired trading skills as they served aboard in a technical capacity.

**Adventuring:** With their broad and general skilset, Merchants make excellent adventurers. They are good at getting information and finding adventure leads and can usually obtain hard-to-get equipment. Merchants often also have shipboard skills, making them doubly useful to a party with a starship.

## GAME RULE INFORMATION

**Class Type:** Core

**Multiclass Requirements:** To multiclass into the Merchant class a character must be actively working as a merchant in prior history (see Prior History), or must be an active crewmember of a working starship of any type.

**Abilities:** Education, Intelligence, Dexterity

**Stamina:** 1d6 + CON modifier per level

**Starting Funds:** Cr1000

TABLE: MERCHANT

	BASE ATTACK BONUS	BASE FORT BONUS	BASE REFLEX BONUS	BASE WILL BONUS	SPECIAL
1 <sup>st</sup>	+0	+1	+0	+1	Starting Feats + Bonus Feat
2 <sup>nd</sup>	+0	+2	+0	+2	Bonus Feat
3 <sup>rd</sup>	+0	+2	+1	+2	
4 <sup>th</sup>	+1	+2	+1	+2	
5 <sup>th</sup>	+1	+3	+1	+3	Bonus Feat
6 <sup>th</sup>	+1	+3	+2	+3	
7 <sup>th</sup>	+1	+4	+2	+4	Bonus Feat
8 <sup>th</sup>	+2	+4	+2	+4	
9 <sup>th</sup>	+2	+4	+3	+4	
10 <sup>th</sup>	+2	+5	+3	+5	Bonus Feat
11 <sup>th</sup>	+2	+5	+3	+5	Bonus Feat
12 <sup>th</sup>	+3	+6	+4	+6	
13 <sup>th</sup>	+3	+6	+4	+6	Bonus Feat
14 <sup>th</sup>	+3	+6	+4	+6	Bonus Feat
15 <sup>th</sup>	+3	+7	+5	+7	
16 <sup>th</sup>	+4	+7	+5	+7	
17 <sup>th</sup>	+4	+8	+5	+8	Bonus Feat
18 <sup>th</sup>	+4	+8	+6	+8	
19 <sup>th</sup>	+4	+8	+6	+8	Bonus Feat
20 <sup>th</sup>	+5	+9	+6	+9	

## CLASS SKILLS

Class Skill	Key Ability	Class Skill	Key Ability
Appraise	INT	Bluff	CHA
Bribery	CHA	Broker	INT
Driving	DEX	Gambling	INT
Gather Information	CHA	K/Interstellar Law	EDU
Liaison	CHA	Pilot	INT/DEX
Professional (Any)	WIS	Technical (Any)	EDU
Trader	INT		

**Starting Skill Points:** (7 + INT modifier) x 4. If you are taking Merchant as a multiclass, you do not receive these starting skill points.

**Skill Points per Level:** 7 + INT modifier

## CLASS FEATURES

All of the following are class features of the Merchant:

**Starting Feats:** The Merchant begins play with the following feats:

AP (Light)

AP (Vac Suit)

Barter

WP (Marksman)

**Bonus Feats:** At 1<sup>st</sup>, 2<sup>nd</sup>, 5<sup>th</sup>, 7<sup>th</sup>, 10<sup>th</sup>, 11<sup>th</sup>, 13<sup>th</sup>, 14<sup>th</sup>, 17<sup>th</sup> and 19<sup>th</sup> level the Merchant gains a bonus feat. These feats may be chosen from the list below. If the character already has all of the listed feats, they may select any other feat from the Feats chapter that they are qualified for.

Calculating Eye*	Carousing	Chief Steward*
Connections (Merchants)	Fast Talk	Gearhead
Jury Rig	Market Analyst*	Miracle Worker
Narrow Escape*	Ship Tactics	Steward*
Vessel (Ship's Boat)	Vessel (Starship)	Zero-G/Low Gravity Adaptation

\* A specialized class feat

## EX-MERCHANTS

If a character is no longer an actively working Merchant as part of prior history, or is no longer a working crewmember of some type of starship (owner or not), they may no longer raise their level as a Merchant. The character may once again start raising their Merchant level if they once again become a crewmember aboard a working starship.

## NAVY

Service Class

The Navy and the various system defense squadrons require educated, intelligent personnel to operate technical systems and weapons, or to fly and navigate the spacecraft and starships of the service. Naval service is very prestigious. Ex-Navy characters will have basic skills in routine shipboard tasks and vac suit operations, plus the skills of their specialist department. This is most likely to be Engineering, Gunnery, Flight, or "Crew." The latter are general personnel who fulfill many jobs aboard ships and at installations. Highly educated characters or those from a good family are likely to be officers.

**Characteristics:** Naval personnel are generally intelligent and well educated. Like the Army, the Navy instills a fierce pride in its crews. Many ex-Navy personnel remain on the "reserve" list ready to be called up for service. Their dress uniform will come out for formal occasions. Naval personnel know that they are held in high regard as defenders of the stars. Some are rather contemptuous of the Army.

**Background:** Naval personnel are drawn from high-tech worlds. They are usually well educated and should be reasonably dexterous (for low-g maneuvering). Naval officers are often drawn from among the Nobility. This is especially true of ship commanders and flight branch officers. Others (gunnery and engineering, for example) are likely to be well-educated commoners.

**Adventuring:** Naval personnel have excellent shipboard skills, and may also have contacts in the service. They will have taken liberty in many ports across charted space, and should have a decent set of interpersonal skills too. While less skilled at combat than Army characters, the Navy does train its people with weapons in addition to their technical skill.

TABLE: NAVY

	BASE ATTACK BONUS	BASE FORT BONUS	BASE REFLEX BONUS	BASE WILL BONUS	SPECIAL
1 <sup>st</sup>	+0	+0	+0	+2	Starting Feats + Bonus Feat
2 <sup>nd</sup>	+1	+0	+0	+3	Bonus Feat
3 <sup>rd</sup>	+1	+1	+1	+3	
4 <sup>th</sup>	+2	+1	+1	+4	
5 <sup>th</sup>	+2	+1	+1	+4	Bonus Feat
6 <sup>th</sup>	+3	+2	+2	+5	
7 <sup>th</sup>	+3	+2	+2	+5	Bonus Feat
8 <sup>th</sup>	+4	+2	+2	+6	
9 <sup>th</sup>	+4	+3	+3	+6	
10 <sup>th</sup>	+5	+3	+3	+7	Bonus Feat
11 <sup>th</sup>	+5	+3	+3	+7	Bonus Feat
12 <sup>th</sup>	+6/+1	+4	+4	+8	
13 <sup>th</sup>	+6/+1	+4	+4	+8	Bonus Feat
14 <sup>th</sup>	+7/+2	+4	+4	+9	Bonus Feat
15 <sup>th</sup>	+7/+2	+5	+5	+9	
16 <sup>th</sup>	+8/+3	+5	+5	+10	
17 <sup>th</sup>	+8/+3	+5	+5	+10	Bonus Feat
18 <sup>th</sup>	+9/+4	+6	+6	+11	
19 <sup>th</sup>	+9/+4	+6	+6	+11	Bonus Feat
20 <sup>th</sup>	+10/+5	+6	+6	+12	

### GAME RULE INFORMATION

**Class Type:** Service

**Multiclass Restrictions:** Only a character actively working in the Navy prior history may multiclass into the Navy class.

**Stamina:** 1d6 + CON modifier per level

**Starting Funds:** Acquired as part of the mustering out benefits after prior history.

### SERVICE SKILLS

Class Skill	Key Ability	Class Skill	Key Ability
Bribery	CHA	Driving	INT/DEX
Forgery	INT/DEX	Forward Observer	INT
Gambling	INT	Gather Information	CHA
Gunnery	WIS	Leader	INT/CHA
Liaison	CHA	Navigation	EDU
Pilot	INT/DEX	P/Administration	WIS
Recruiting	EDU	Survival	WIS
Technical (any)	EDU		

**Starting Skill Points:** (6 + INT Modifier) x 4. If you are taking Navy as a multiclass, you do not receive these starting skill points.

**Skill Points per Level:** 6 + INT modifier

### CLASS FEATURES

All of the following are class features of the Navy:

**Starting Feats:** The Navy begins play with the following feats:

AP (Light)
AP (Vac Suit)
WP (Marksman)
WP (Laser)

**Bonus Feats:** At 1<sup>st</sup>, 2<sup>nd</sup>, 5<sup>th</sup>, 7<sup>th</sup>, 10<sup>th</sup>, 11<sup>th</sup>, 13<sup>th</sup>, 14<sup>th</sup>, 17<sup>th</sup> and 19<sup>th</sup> level Naval personnel gain a bonus feat. These feats may be chosen from the list below. If the character already has all of the listed feats, they may select any other feat from the Feats chapter that they are qualified for.

AP (Battle Dress)	Brawling	Carousing
Command Presence*	Technical Cross Training*	Damage Control*
EW Specialist	Fleet Tactics	Gearhead
Heavy Metal	Interrogation	Jury Rig
Natural Born Leader	Miracle Worker	Naval Architect
PMOS	Ship's Tactics	Vessel (Starships)
Vessel (Ship's Boat)	WP (Ship's Weapons)	WP (Swordsman)

\* A specialized class feat

### EX-NAVY PERSONNEL

Navy personnel who muster-out, retire, are otherwise released from the service and not actively working in the Navy prior history, may not take any additional levels as a member of the Navy class, though they retain all of the skills and feats they have already acquired. This rule may be waived if the Referee intends to run an active duty campaign with characters playing military personnel.





# NOBLE

Core Class

Nobles generally move in high-powered circles, meeting rich, powerful or well-respected individuals in the course of their activities. They often serve as diplomats or act as representatives for interest groups. Many Nobles have a specific vocation, such as Naval Officer or Diplomat, while others are freelance trouble-shooters or members of a higher noble's household or court.

**Characteristics:** While some Nobles are rich playboys, most are skilled and dedicated, either born into a tradition of service or elevated to their rank in recognition of their past deeds. Either way, Nobles tend to be skilled at leading and directing people and have a get-things-done mentality. The vast majority of nobles would be very reluctant to act against the interests of the government or the people it represents.

**Background:** A character can be a member of the nobility in two general ways. They can be born into a noble family or elevated for exceptional service. This can be military or diplomatic service or in recognition of scientific or artistic brilliance. Nobles tend to be well-educated and cultured individuals, or are expected to become so after their elevation.

**Adventuring:** Having a Noble in the party opens doors. Red tape tends to vanish and officials are often more polite and efficient than towards other characters. A Noble will tend to get better results than a commoner when trying to take charge of a situation, however good their respective ideas may be. A Noble's skills are primarily in leadership and diplomacy, but many Nobles develop proficiency with weapons – particularly the dueling sword – and may have high combat skill levels due to a previous career, for example in the Navy.

TABLE: NOBLE

	BASE ATTACK BONUS	BASE FORT BONUS	BASE REFLEX BONUS	BASE WILL BONUS	SPECIAL
1 <sup>st</sup>	+0	+0	+0	+2	Starting Feats + Bonus Feat
2 <sup>nd</sup>	+1	+0	+0	+3	Bonus Feat
3 <sup>rd</sup>	+1	+1	+1	+3	
4 <sup>th</sup>	+2	+1	+1	+4	
5 <sup>th</sup>	+2	+1	+1	+4	Bonus Feat
6 <sup>th</sup>	+3	+2	+2	+5	
7 <sup>th</sup>	+3	+2	+2	+5	Bonus Feat
8 <sup>th</sup>	+4	+2	+2	+6	
9 <sup>th</sup>	+4	+3	+3	+6	
10 <sup>th</sup>	+5	+3	+3	+7	Bonus Feat
11 <sup>th</sup>	+5	+3	+3	+7	Bonus Feat
12 <sup>th</sup>	+6/+1	+4	+4	+8	
13 <sup>th</sup>	+6/+1	+4	+4	+8	Bonus Feat
14 <sup>th</sup>	+7/+2	+4	+4	+9	Bonus Feat
15 <sup>th</sup>	+7/+2	+5	+5	+9	
16 <sup>th</sup>	+8/+3	+5	+5	+10	
17 <sup>th</sup>	+8/+3	+5	+5	+10	Bonus Feat
18 <sup>th</sup>	+9/+4	+6	+6	+11	
19 <sup>th</sup>	+9/+4	+6	+6	+11	Bonus Feat
20 <sup>th</sup>	+10/+5	+6	+6	+12	

## GAME RULE INFORMATION

**Class Type:** Core

**Multiclass Restrictions:** To multiclass into the Noble class, a character must have Social Standing 16+

**Abilities:** Social Standing, Education, Intelligence

**Stamina:** 1d6 + CON modifier per level

## CLASS SKILLS

Class Skill	Key Ability	Class Skill	Key Ability
Appraise	INT	Bluff	SOC/CHA
Bribery	SOC/CHA	Craft (any)	INT
Entertain (any)	CHA	Gather Information	CHA
Innuendo	WIS	Intimidate	SOC/CHA
Knowledge (any)	EDU	Leader	INT
Liaison	SOC/CHA	Profession (any*)	WIS
Read/Write Language	None	Sense Motive	WIS
Speak Language	None		

\* As appropriate for a noble.

**Starting Skill Points:** (6 + INT modifier) \* 4. If you are taking Noble as a multiclass, you do not receive these starting skill points.

**Skill Points per Level:** 6 + INT modifier

## CLASS FEATURES

All of the following are class features of the Noble:

**Starting Feats:** The Noble begins play with the following feats:

AP (Light)

WP (Swordsman)

WP (Marksman)

**Bonus Feat:** At 1<sup>st</sup>, 2<sup>nd</sup>, 5<sup>th</sup>, 7<sup>th</sup>, 10<sup>th</sup>, 11<sup>th</sup>, 13<sup>th</sup>, 14<sup>th</sup>, 17<sup>th</sup> and 19<sup>th</sup> level the Noble receives a bonus feat that may be selected from any of the open or combat related feats or from the list below.

Carousing	Noble Presence*	Connections
Fast Talk	Hobby	Interrogation
Iron Will	Legal Eagle	Natural Born Leader
Noble Indignance*	Patronage*	Trustworthy
Trust Fund*	Vessel (any)	

\*A specialized class feat

# PROFESSIONAL

## Core Class

Professionals are individuals whose job is highly skilled and technical but essentially hands-on. This includes many engineers, medical professionals, and scientists. Note that a scientist may be either an Academic or a Professional depending on how inclined to field work he or she is. Professionals are better able to handle themselves in the field than Academics, but otherwise have similar skills.

**Characteristics:** Professionals are usually highly intelligent and well educated, with good technical skills rather than academic ones. Used to working in the field, they are practical individuals who are likely to have picked up good interpersonal, leadership, and even some combat skills while working in frontier environments. They are more interested in *how* rather than *why*, which is seen as the Academics' preserve.

**Background:** Professionals are well trained and/or educated. This usually requires that they come from a mid-tech or higher background, or have either spent some time in the services or attended an offworld university. Many professional engineers or field scientists started their career with a stint in a highly technical service such as the Navy.

**Adventuring:** The Professional is a highly useful individual in a high-tech environment. Professionals may include starship personnel, engineers of various sorts and medical experts, all of whom can be highly useful in an adventuring group.

## GAME RULE INFORMATION

**Class Type:** Core

**Multiclass Restrictions:** To multiclass into the Professional class, a character must have at least 4 skill ranks in at least one Craft, Professional, or Technical skill, or 4 skill ranks in Pilot, Navigation, or Driving skill.

**Abilities:** Education, Intelligence

**Stamina:** 1d6 + CON modifier per level

**Starting Funds:** Cr2500

TABLE: PROFESSIONAL

	BASE ATTACK BONUS	BASE FORT BONUS	BASE REFLEX BONUS	BASE WILL BONUS	SPECIAL
1 <sup>st</sup>	+0	+0	+0	+2	Starting Feats + Bonus Feat
2 <sup>nd</sup>	+0	+0	+0	+3	Bonus Feat
3 <sup>rd</sup>	+0	+1	+1	+3	
4 <sup>th</sup>	+1	+1	+1	+4	
5 <sup>th</sup>	+1	+1	+1	+4	Bonus Feat
6 <sup>th</sup>	+1	+2	+2	+5	
7 <sup>th</sup>	+1	+2	+2	+5	Bonus Feat
8 <sup>th</sup>	+2	+2	+2	+6	
9 <sup>th</sup>	+2	+3	+3	+6	
10 <sup>th</sup>	+2	+3	+3	+7	Bonus Feat
11 <sup>th</sup>	+2	+3	+3	+7	Bonus Feat
12 <sup>th</sup>	+3	+4	+4	+8	
13 <sup>th</sup>	+3	+4	+4	+8	Bonus Feat
14 <sup>th</sup>	+3	+4	+4	+9	Bonus Feat
15 <sup>th</sup>	+3	+5	+5	+9	
16 <sup>th</sup>	+4	+5	+5	+10	
17 <sup>th</sup>	+4	+5	+5	+10	Bonus Feat
18 <sup>th</sup>	+4	+6	+6	+11	
19 <sup>th</sup>	+4	+6	+6	+11	Bonus Feat
20 <sup>th</sup>	+5	+6	+6	+12	

## CLASS SKILLS

Class Skill	Key Ability	Class Skill	Key Ability
Appraise	INT	Craft (any)	INT
Driving	DEX	Entertain (any)	CHA
Gambling	CHA	Knowledge (any)	EDU
Leader	INT/CHA	Liaison	CHA
Astrogation	EDU	Pilot	INT/DEX
Profession (any)	WIS	Survival	WIS
Technical (any)	EDU	Trader	INT
Speak Language	None		

**Starting Skill Points:** (7 + INT modifier) x 4. If you are taking Professional as a multiclass, you do not receive these starting skill points.

**Skill Points per Level:** 7 + INT modifier

## CLASS FEATURES

All of the following are class features of the Professional:

**Starting Feats:** The Professional Starts play with the following feats:

AP (Light)
Professional Specialty

**Bonus Feats:** At 1<sup>st</sup>, 2<sup>nd</sup>, 5<sup>th</sup>, 7<sup>th</sup>, 10<sup>th</sup>, 11<sup>th</sup>, 13<sup>th</sup>, 14<sup>th</sup>, 17<sup>th</sup> and 19<sup>th</sup> level the Professional gains a bonus feat. These feats may be chosen from the list below. If the character already has all of the listed feats, they may select any other feat from the Feats chapter that they are qualified for.

Acrobatics	Acting Prodigy	AP (Vac Suit)
Athletic	Barter	Brawling
Carousing	Connections	Credit Line
EW Specialist	Fast Talk	Gearhead
Hacker	Hobby	Interrogation
Jury Rig	Legal Eagle	Miracle Worker
Naval Architect	Professional Skill Focus*	Professional Specialty*
Research	Tracker	Trapping
Trustworthy	Vessel (any except starship)	Vessel Specialization

WP (Swordsman)

\*A specialized class feat



*Core Class*

**Characteristics:** Not all Rogues are criminals, and most would stop short of murder and other serious crimes. However, most are willing to take a liberal approach to laws and conventions. It is wise not to ask the ship's assistant engineer where the spares came from, nor to inquire closely how those weapons permits came to be issued so quickly. Rogues exist in all walks of life. What they all have in common is a certain streetwise savvy and a willingness to use whatever methods seem likely to get a result. Some Rogues are slimy weasels, some are thugs and bullies. Others are charming individuals or just ordinary people who are willing to bend the rules a little.

**Adventuring:** The Rogue is the classic adventurer. A wide range of skills makes the character highly useful to any group. Stealth and interpersonal skills, coupled with some weapons proficiency, makes the Rogue a go-anywhere, do-anything individual.

### TABLE: ROGUE

	<i><u>BASE ATTACK BONUS</u></i>	<i><u>BASE FORT BONUS</u></i>	<i><u>BASE REFLEX BONUS</u></i>	<i><u>BASE WILL BONUS</u></i>	<i><u>SPECIAL</u></i>
1 <sup>st</sup>	+0	+0	+2	+0	Starting Feats + Bonus Feat
2 <sup>nd</sup>	+1	+0	+3	+0	Bonus Feat
3 <sup>rd</sup>	+2	+1	+3	+1	
4 <sup>th</sup>	+3	+1	+4	+1	
5 <sup>th</sup>	+3	+1	+4	+1	Bonus Feat
6 <sup>th</sup>	+4	+2	+5	+2	
7 <sup>th</sup>	+5	+2	+5	+2	Bonus Feat
8 <sup>th</sup>	+6/+1	+2	+6	+2	
9 <sup>th</sup>	+6/+1	+3	+6	+3	
10 <sup>th</sup>	+7/+2	+3	+7	+3	Bonus Feat
11 <sup>th</sup>	+8/+3	+3	+7	+3	Bonus Feat
12 <sup>th</sup>	+9/+4	+4	+8	+4	
13 <sup>th</sup>	+9/+4	+4	+8	+4	Bonus Feat
14 <sup>th</sup>	+10/+5	+4	+9	+4	Bonus Feat
15 <sup>th</sup>	+11/+6/+1	+5	+9	+5	
16 <sup>th</sup>	+12/+7/+2	+5	+10	+5	
17 <sup>th</sup>	+12/+7/+2	+5	+10	+5	Bonus Feat
18 <sup>th</sup>	+13/+8/+3	+6	+11	+6	
19 <sup>th</sup>	+14/+9/+4	+6	+11	+6	Bonus Feat
20 <sup>th</sup>	+15/+10/+5	+6	+12	+6	

**Class Type:** Core

**Abilities:** Dexterity, Intelligence

**Starting Funds: Cr2500**

<i>Class Skill</i>	<i>Key Ability</i>	<i>Class Skill</i>	<i>Key Ability</i>
Appraise	INT	Bluff	CHA/SOC
Bribery	CHA	Disguise	CHA
Driving	DEX	Forgery	INT/DEX
Gambling	INT	Gather Information	CHA
Hide	DEX	Innuendo	WIS
Intimidate	CHA/SOC	Listen	WIS
Move Silently	DEX*	Search	INT
Sense Motive	WIS	Spot	WIS
T/Mechanical or Electronics	EDU		

**Skill Points per Level:** 4 + INT modifier

All of the following are class features of the Rogue:

AP (Light)
AP (Medium)
WP (Swordsman)
WP (Marksman)

Alertness	Dumb Luck	Brawling
Carousing	Fast Talk	Fence Stolen Goods *
Hacker	Improved Search *	Sixth Sense
Smuggling *	Spot Trouble*	Stealthy
Toughness	Tracker	

\*A specialized class feat



## SAILORS

### Service Class

Most worlds maintain some form of armed forces. Of these, Ground Force Command is usually the largest in terms of manpower. Maritime Force Command (the 'wet navy') is generally the smallest branch of the Ground Forces. However, wherever there are bodies of water it is necessary to police and secure them, and in some cases (such as water worlds) Maritime Force Command can be very large indeed.

Members of the wet navy are termed "Sailors."

**Characteristics:** Military personnel are trained to act rather than dither, though maritime personnel are generally cautious and measured in their response to problems. Technical skills are very important in the maritime environment.

**Background:** Sailors are smart and well educated.

**Adventuring:** Military personnel are a great asset to any adventuring group. Their training and weapons skills give advantages in a fight, and sailors may have other useful skills such as T/Electronics or Survival, which can assist a group in reaching its goal.

### GAME RULE INFORMATION

**Class Type:** Service

**Tech Level:** High (TL 9+), Mid (TL 4-8), Low (TL 1-3)

**Multiclass Restrictions:** Only a character actively working in the Sailor prior history may multiclass into the Sailor class.

**Stamina:** 1d6 + CON modifier per level

**Starting Funds:** Acquired as part of the mustering out benefits after prior history.

### SERVICE SKILLS

#### High Tech/Mid-Tech Sailor

<i>Class Skill</i>	<i>Key Ability</i>	<i>Class Skill</i>	<i>Key Ability</i>
Bribery	CHA	Combat Engineering	INT
Demolitions	DEX	Driving	DEX
Forward Observer	INT	Gambling	INT
Gather Information	CHA	Gunnery	WIS
Leader	INT/CHA	Liaison	CHA
Navigation	EDU	P/Administration	WIS
Pilot	INT/DEX	Recruiting	EDU
Sense Motive	WIS	Spot	WIS
Survival	WIS	Swim	(STR)
Technical (any*)	EDU		

\* High-Tech: Communications, Computer, Electronics, Gravitics, Mechanical, Medical, or Sensors. Mid-Tech: Mechanical only.

#### Low-Tech Sailor

<i>Class Skill</i>	<i>Key Ability</i>	<i>Class Skill</i>	<i>Key Ability</i>
Bribery	CHA	Gambling	INT
Gather Information	CHA	Handle Animal	CHA
Leader	INT/CHA	Liaison	CHA
Navigation	EDU	Recruiting	EDU
Spot	WIS	Survival	WIS

**Starting Skill Points:** (6 + INT Modifier) x 4. If you are taking Sailor as a multiclass, you do not receive these starting skill points.

**Skill Points per Level:** 6 + INT modifier

### CLASS FEATURES

All of the following are class features of the Sailors:

**Starting Feats:** The Sailor begins play with the following feats:

<i>Low Tech</i>	<i>Mid Tech</i>	<i>High Tech</i>
V (Watercraft)	V (Watercraft)	V (Watercraft)
WP (Black Powder)	WP (Marksman)	WP (Marksman)
WP (Swordsman)	WP (Cbt Rifleman)	WP (Cbt Rifleman)
AP (Light)	AP (Light)	AP (Light)
		AP (Medium)
		AP (Vac Suit)

**Bonus Feats:** At 1<sup>st</sup>, 2<sup>nd</sup>, 5<sup>th</sup>, 7<sup>th</sup>, 10<sup>th</sup>, 11<sup>th</sup>, 13<sup>th</sup>, 14<sup>th</sup>, 17<sup>th</sup> and 19<sup>th</sup> level Sailor personnel gain a bonus feat. These feats may be chosen from the list below. If the character already has all of the listed feats, they may select any other feat from the Feats chapter that they are qualified for.

<i>Low Tech</i>	<i>Mid Tech</i>	<i>High Tech</i>
Able Seaman*	Able Seaman*	AP (Battledress)
Brawling	AP (Vac Suit)	Brawling
Cmd Presence*	Brawling	Cmd Presence*
Maritime Tactics*	Command Presence*	Heavy Metal
Mounted Combat	Heavy Metal	Maritime Tactics*
PMOS	Maritime Tactics*	PMOS
Sea Dog*	PMOS	Sea Dog*
Shield Proficiency	Sea Dog*	Shiphhandling*
Shiphhandling*	Shiphhandling*	V (Aircraft)
Trample	V (Aircraft)	V (Grav)
	V (Ground)	V (Ground)
	WP (Hvy Weapons)	WP (Hvy Weapons)
	WP (Lasers)	WP (Lasers)
	WP (Vehicular)	WP (vehicular)

\* A specialized class feat

TABLE: SAILOR

	<i>BASE ATTACK BONUS</i>	<i>BASE FORT BONUS</i>	<i>BASE REFLEX BONUS</i>	<i>BASE WILL BONUS</i>	<i>SPECIAL</i>
1 <sup>st</sup>	+0	+1	+1	+0	Starting Feats + Bonus Feat
2 <sup>nd</sup>	+1	+2	+2	+0	Bonus Feat
3 <sup>rd</sup>	+1	+2	+2	+1	
4 <sup>th</sup>	+2	+2	+2	+1	
5 <sup>th</sup>	+2	+3	+3	+1	Bonus Feat
6 <sup>th</sup>	+3	+3	+3	+2	
7 <sup>th</sup>	+3	+4	+4	+2	Bonus Feat
8 <sup>th</sup>	+4	+4	+4	+2	
9 <sup>th</sup>	+4	+4	+4	+3	
10 <sup>th</sup>	+5	+5	+5	+3	Bonus Feat
11 <sup>th</sup>	+5	+5	+5	+3	Bonus Feat
12 <sup>th</sup>	+6/+1	+6	+6	+4	
13 <sup>th</sup>	+6/+1	+6	+6	+4	Bonus Feat
14 <sup>th</sup>	+7/+2	+6	+6	+4	Bonus Feat
15 <sup>th</sup>	+7/+2	+7	+7	+5	
16 <sup>th</sup>	+8/+3	+7	+7	+5	
17 <sup>th</sup>	+8/+3	+8	+8	+5	Bonus Feat
18 <sup>th</sup>	+9/+4	+8	+8	+6	
19 <sup>th</sup>	+9/+4	+8	+8	+6	Bonus Feat
20 <sup>th</sup>	+10/+5	+9	+9	+6	

### EX-SAILORS

Sailors who muster-out, retire, are otherwise released from the service and not actively working in the Sailor prior history, may not take any additional levels as a member of the Sailor class, though they retain all of the skills and feats they have already acquired. This rule may be waived if the Referee intends to run an active duty campaign with characters playing military personnel.



# SCOUTS

Service Class

The Interstellar Scout Service is an excellent place to gain experience as an adventurer. The Scouts train their personnel in a wide range of skills ranging from starship operations to planetary survival. Most personnel will have served in Communications, Survey, or Exploration and will have specialist skills to match the office they served in.

**Characteristics:** Scouts are resourceful generalists used to having a great deal of personal latitude in order to complete their mission. They are trained to operate in a wide range of environments and to deal with almost anyone from any part of charted space. They are highly motivated problem-solvers with a cosmopolitan outlook.

**Background:** The Scouts recruit people from all walks of life. Whatever background they have will be broadened and deepened by training and experience. The only real requirements are intelligence and integrity.

**Adventuring:** Scouts are excellent adventurers with a broad range of skills. They are also a source of adventure leads, as they can be brought back into service at any time.

TABLE: SCOUT

	BASE ATTACK BONUS	BASE FORT BONUS	BASE REFLEX BONUS	BASE WILL BONUS	SPECIAL
1 <sup>st</sup>	+0	+0	+1	+1	Starting Feats + Bonus Feat
2 <sup>nd</sup>	+1	+0	+2	+2	Bonus Feat
3 <sup>rd</sup>	+2	+1	+2	+2	
4 <sup>th</sup>	+3	+1	+2	+2	
5 <sup>th</sup>	+3	+1	+3	+3	Bonus Feat
6 <sup>th</sup>	+4	+2	+3	+3	
7 <sup>th</sup>	+5	+2	+4	+4	Bonus Feat
8 <sup>th</sup>	+6/+1	+2	+4	+4	
9 <sup>th</sup>	+6/+1	+3	+4	+4	
10 <sup>th</sup>	+7/+2	+3	+5	+5	Bonus Feat
11 <sup>th</sup>	+8/+3	+3	+5	+5	Bonus Feat
12 <sup>th</sup>	+9/+4	+4	+6	+6	
13 <sup>th</sup>	+9/+4	+4	+6	+6	Bonus Feat
14 <sup>th</sup>	+10/+5	+4	+6	+6	Bonus Feat
15 <sup>th</sup>	+11/+6/+1	+5	+7	+7	
16 <sup>th</sup>	+12/+7/+2	+5	+7	+7	
17 <sup>th</sup>	+12/+7/+2	+5	+8	+8	Bonus Feat
18 <sup>th</sup>	+13/+8/+3	+6	+8	+8	
19 <sup>th</sup>	+14/+9/+4	+6	+8	+8	Bonus Feat
20 <sup>th</sup>	+15/+10/+5	+6	+9	+9	

## GAME RULE INFORMATION

**Class Type:** Service

**Initial Requirements:** The character must come from a world with some form of interstellar or spacefaring capability. Intelligence 10+ and Dexterity 8+ are also required. Once you have finished creating a Scout character you are obligated to spend at least one term (4 years) serving in the Scout prior history (see Prior History). You may choose to defer the enlistment term and attend University first if desired (see Higher Education).

**Multiclass Restrictions:** Only a character actively working in the Scout prior history may multiclass into the scouts class.

**Abilities:** Education, Dexterity

**Stamina:** 1d8 + CON modifier per level

**Starting Funds:** Acquired as part of the mustering out benefits after prior history.

## SERVICE SKILLS

Class Skill	Key Ability	Class Skill	Key Ability
Bribery	INT	Driving	DEX
Forgery	INT/DEX	Gambling	INT
Gather Information	CHA	Gunnery	WIS
Leader	INT/CHA	Liaison	CHA
Navigation	EDU	P/Administration	WIS
P/Survey	WIS	Pilot	INT/DEX
Ride	DEX	Spot	WIS
Survival	WIS	Technical (any)	EDU
Trader	INT		

**Starting Skill Points:** (4 + INT Modifier) x 4. If you are taking Scouts as a multiclass, you do not receive these starting skill points.

**Skill Points per Level:** 4 + INT modifier

## CLASS FEATURES

All of the following are class features of the Scout:

**Starting Feats:** The Scout begins play with the following feats:

AP (Vac Suit)

AP (Light)

WP (Marksman)

**Bonus Feats:** At 1<sup>st</sup>, 2<sup>nd</sup>, 5<sup>th</sup>, 7<sup>th</sup>, 10<sup>th</sup>, 11<sup>th</sup>, 13<sup>th</sup>, 14<sup>th</sup>, 17<sup>th</sup> and 19<sup>th</sup> level the Scout gains a bonus feat. These feats may be chosen from the list below. If the character already has all of the listed feats, they may select any other feat from the Feats chapter that they are qualified for.

Barter	Brawling	Carousing
Contact Specialist*	EW Specialist	Hacker
Gearhead	Geological Survey	Imp Zero-G/ Low Gravity Adaptation
Jack of all Trades*	Naval Architecture	Negotiator*
Obscure Knowledge*	PMOS	Ship's Tactics
Vessel (Starships)	Vessel (Ship's Boat)	Vessel (Grav)
Vessel (Water)	Vessel (Ground)	WP (Lasers)
WP (Ship's Weapons)	Xeno-Medicine	Zero-G Combat
Zero-G/Low Gravity Adaptation		

\* A specialized class feat

## EX-SCOUT PERSONNEL

There is really no such thing as a retired Scout. All Scouts who "retire" or muster-out from the Scout Service are placed on inactive reserve status (usually known as "Detached Duty," though some Scouts are detached for other reasons than retirement) and subject to recall and activation at any time for any duration and for any purpose the Scout Service deems necessary. Because of this, unlike other services (Army, Navy, and Marines), Scouts may continue to earn additional levels as a Scout even when not on active-duty.

# TRAVELLER

## Core Class

The Traveller is someone who makes his or her living away from home. Travellers need a balance of abilities – specialist career skills and enabling skills in the interpersonal or combat fields, to allow them to get the job done without interference. Travellers may be starship crew, corporate employees, particularly rugged field scientists, or freelancers such as engineers or journalists.

**Characteristics:** Usually a Traveller has a job that takes them out into the wider universe. Travellers tend to be resourceful individuals who have met and survived many unusual situations. Their other characteristics are usually dictated by their profession.

**Background:** Anyone can be a Traveller. Most are from mid-tech or higher worlds, and tend to have a prior history in one of the services. Many members of the Scout Service are Travellers.

**Adventuring:** The Traveller is another excellent adventurer class. Travellers have a wide range of skills and aptitudes and can tackle many situations.

## GAME RULE INFORMATION

**Class Type:** Core

**Initial Requirements:** Any starting character may become a Traveller.

**Multiclass Restrictions:** None.

**Abilities:** Education, Intelligence, Dexterity

**Stamina:** 1d6 + CON modifier per level

**Starting Funds:** Cr5000

TABLE: TRAVELLER

	BASE ATTACK BONUS	BASE FORT BONUS	BASE REFLEX BONUS	BASE WILL BONUS	SPECIAL
1 <sup>st</sup>	+0	+0	+1	+1	Starting Feats + Bonus Feat
2 <sup>nd</sup>	+1	+0	+2	+2	Bonus Feat
3 <sup>rd</sup>	+1	+1	+2	+2	
4 <sup>th</sup>	+2	+1	+2	+2	
5 <sup>th</sup>	+2	+1	+3	+3	Bonus Feat
6 <sup>th</sup>	+3	+2	+3	+3	
7 <sup>th</sup>	+3	+2	+4	+4	Bonus Feat
8 <sup>th</sup>	+4	+2	+4	+4	
9 <sup>th</sup>	+4	+3	+4	+4	
10 <sup>th</sup>	+5	+3	+5	+5	Bonus Feat
11 <sup>th</sup>	+5	+3	+5	+5	Bonus Feat
12 <sup>th</sup>	+6/+1	+4	+6	+6	
13 <sup>th</sup>	+6/+1	+4	+6	+6	Bonus Feat
14 <sup>th</sup>	+7/+2	+4	+6	+6	Bonus Feat
15 <sup>th</sup>	+7/+2	+5	+7	+7	
16 <sup>th</sup>	+8/+3	+5	+7	+7	
17 <sup>th</sup>	+8/+3	+5	+8	+8	Bonus Feat
18 <sup>th</sup>	+9/+4	+6	+8	+8	
19 <sup>th</sup>	+9/+4	+6	+8	+8	Bonus Feat
20 <sup>th</sup>	+10/+5	+6	+9	+9	

## CLASS SKILLS

Class Skill	Key Ability	Class Skill	Key Ability
Bribery	CHA/SOC	Craft	INT
Driving	DEX	Entertain	CHA
Gambling	INT	Gather Information	CHA
Gunnery	WIS	Innuendo	WIS
Knowledge (any)	EDU	Leader	INT
Liaison	CHA/SOC	Navigation	EDU
Pilot	INT/DEX	Profession	WIS
Read/Write Language	None	Speak Language	None
Technical (any)	EDU	Trader	INT
Use Alien Devices*	WIS		

\* Exclusive Skill

**Starting Skill Points:** (6 + INT modifier) x 4. If you are taking Traveller as a multiclass, you do not receive these starting skill points.

**Skill Points per Level:** 6 + INT modifier

## CLASS FEATURES

All of the following are class features of the Traveller:

**Starting Feats:** The Traveller begins play with the following feats:

AP (Light)
AP (Medium)
WP (Marksman)

**Bonus Feats:** At 1<sup>st</sup>, 2<sup>nd</sup>, 5<sup>th</sup>, 7<sup>th</sup>, 10<sup>th</sup>, 11<sup>th</sup>, 13<sup>th</sup>, 14<sup>th</sup>, 17<sup>th</sup> and 19<sup>th</sup> level the Traveller gains a bonus feat. These feats may be chosen from the list below. If the character already has all of the listed feats, they may select any other feat from the Feats chapter that they are qualified for.

Alertness	Brawling	Carousing
EW Specialist	Fast Talk	Gearhead
Hacker	Hobby	Improved Zero-G/Low Gravity Adaptation
Jack of all Trades*	Jury Rig	Linguist*
Miracle Worker	Obscure Knowledge*	Ship Tactics
Sixth Sense	Tactics I*	Toughness
Trustworthy	Vessel (any)	Weapon (Ship's Weapons)
Well Connected*	Xeno-Empathy	Zero-G/Low Gravity Adaptation





# PRESTIGE CLASSES

## ACE PILOT

*Prestige Class*

Some pilots are just plain special, with skills far beyond the ordinary. Some are smugglers, some naval fighter pilots, others serve in the Scout Service or do amazing things with a humble Free Trader starship.

**Characteristics:** Ace Pilots are usually arrogantly confident and just can't do something the safe and easy way if there's a flashier option. Most have dangerous hobbies like racing performance grav bikes. The typical Ace is obsessed with pushing the limits of his abilities and his craft, and is often insubordinate when given orders.

**Background:** Ace Pilots can gain their basic skills in a variety of services and careers. Anywhere that a character can find a suitable vehicle, he can become an Ace Pilot. Thus they can be found among Army grav tank pilots, Marine assault pilots or even commercial shuttle crewmembers.

**Adventuring:** An Ace Pilot can do things with a vehicle or starship that almost defy belief. They can land where a lesser pilot would simply crash, evade pursuit or give the captain an edge in space combat. If the team has a vehicle, an Ace Pilot can get the most out of it.

### GAME RULE INFORMATION

**Requirements:** To become an Ace Pilot, a character must meet the following requirements:

**Skills:** Pilot 8+

**Feats:** Ship Tactics, and Vessel/Starship, Vessel/Small Craft, Vessel/Grav, or Vessel/Aircraft.

**Stamina Dice:** d8 + CON modifier per level.

TABLE: ACE PILOT

	Base Attack Bonus	Base Fort Save	Base Ref Save	Base Will Save	Special
1 <sup>st</sup>	+0	+0	+2	+0	Vessel Specialization
2 <sup>nd</sup>	+1	+0	+3	+0	Personal Vessel
3 <sup>rd</sup>	+1	+1	+3	+1	Unpredictable Maneuvers
4 <sup>th</sup>	+2	+1	+4	+1	Vessel/Starship, Vessel/Small Craft or Vessel/ Aircraft
5 <sup>th</sup>	+2	+1	+4	+1	Vessel Specialization
6 <sup>th</sup>	+3	+2	+5	+2	Personal Vessel
7 <sup>th</sup>	+3	+2	+5	+2	Ace Evasion
8 <sup>th</sup>	+4	+2	+6	+2	Vessel/Starship, Vessel/Small Craft or Vessel/ Aircraft
9 <sup>th</sup>	+4	+3	+6	+3	Vessel Specialization
10 <sup>th</sup>	+5	+3	+7	+3	Personal Vessel

### CLASS SKILLS

The following are the class skills available to an Ace Pilot:

Class Skill	Key Ability	Class Skill	Key Ability
Driving	DEX	Gambling	INT
Gather Information	CHA	Gunnery	WIS
Knowledge (*)	EDU	Leader	INT/CHA
Pilot	INT/DEX	Recruiting	EDU
Spot	WIS	Survival	WIS
T/Communications	EDU	T/Computer	EDU
T/Electronics	EDU	T/Mechanical	DEX

**Skill Points at Each Additional Level:** 2 + INT modifier

\* Relevant to vehicles, piloting etc.

### CLASS FEATURES

All of the following are class features of the Ace Pilot:

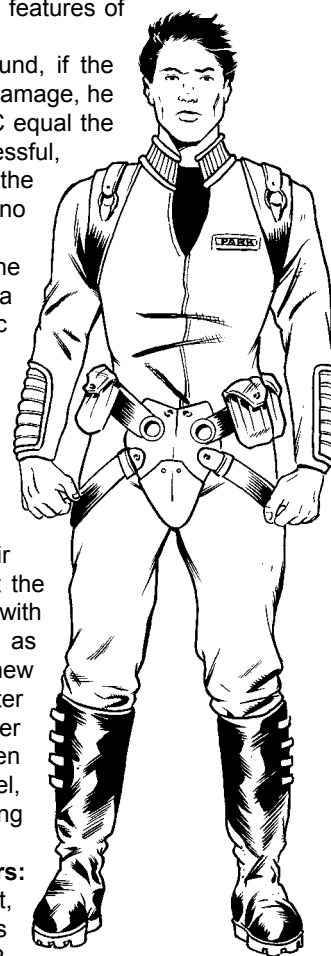
**Ace Evasion:** Once per round, if the vehicle an Ace is flying is hit for damage, he may make a Pilot skill check (DC equal the attack roll made to hit). If successful, the Ace has managed to evade the attack and the vehicle takes no damage.

**Personal Vessel:** The character has chosen and in a sense, bonded with, a specific vehicle. When flying this specific vessel the character may add +4 to all piloting and gunnery skill checks. A character may only select one specific vessel per vehicle type (Starship, Small Craft, or Aircraft). A character may select a new vessel as their personal vessel at any time, but the character has only a +2 bonus with either vessel for the first year as they become accustomed to the new vessel and its idiosyncrasies. After a year of transition the character will enjoy the full +4 bonus when piloting the newly selected vessel, and lose all bonuses when piloting the former vessel.

**Unpredictable Maneuvers:** When an Ace Pilot is flying a craft, and makes any maneuver that is a Move action, they may add +2 to the AC (not AR) of the vessel against incoming computer (non-gunner) controlled attacks.

**Vessel Specialization:** The character is extremely familiar with a given general class of ship or craft, such as 200-ton Free Traders, 100-ton Scout Ships, or 50-ton Fighters. When flying a vessel of this type the character may add +2 to all piloting and gunnery skill checks.

**Vessel/Starship, Vessel/Small Craft, or Vessel/Aircraft:** The character may select any of these three feats that they do not already have. If the character already has all three feats, they may select any feat from the general Feats list that they are qualified for.



# ANCIENTS HUNTER

## Prestige Class

The Ancients Hunter is a rogue scientist determined to unravel the mysteries of the Ancients (or some other enigma) despite the fact that the truth has eluded large, well-funded government investigation teams for centuries. Ancients Hunters tend to collect snippets of knowledge, and know a fair amount about a great many different subjects, though they rarely have the deep specialist knowledge of the true academic.

Ancients hunters are usually “field” workers, often using distinctly unscientific methods to drive directly to their goals. They often have little regard for the niceties of scientific principle or archaeological technique when conducting a dig at a suspected Ancients site. Generally dismissed and often despised as cranks by the rest of the scientific community, Ancients Hunters return the contempt of their “peers.”

**Characteristics:** Like the Academic, the Ancients Hunter is skilled at and interested in gaining knowledge, but most have at least some idea how to handle “field” situations. Others just employ people to handle the rough stuff. It is difficult to characterize such a varied group. What they all do have in common is the ability to draw amazing (and, usually, wildly wrong) conclusions from seemingly (and often truly) unrelated pieces of information, and an inquisitive nature that extends to wanting to know how everything around them works, what’s behind every hill and wall, and how it all fits together.

**Background:** Ancients Hunters come from a range of backgrounds, from academic to military. Their background not only determines what extra skills they bring to the job, but also their approach. Most have a middling to good education and a high intelligence, but this is not a hard and fast rule. There are some real idiots out there, bulldozing their way around the galaxy looking for the answers to the great mystery after seeing an Ancients site on the news.

**Adventuring:** Searching for the Ancients is by definition an adventure, and of course the hunter must pay his or her way, perhaps by undertaking other adventures. Ancients Hunters can be relied upon to get themselves into trouble as they pursue the answers.

## GAME RULE INFORMATION

**Class Type:** Prestige Class

**Requirements:** To become an Ancients Hunter, a character must possess the following skills and feats:

**Skills:** Rank 5+ in K/Ancients, Rank 5+ in Gather Information

**Feats:** Research/Ancients

**Multiclass Restrictions:** An Ancients Hunter may multiclass freely

**Abilities:** Education, Intelligence

**Stamina:** 1d6 + CON modifier per level

**Starting Funds:** Cr500

## CLASS SKILLS

Class Skill	Key Ability	Class Skill	Key Ability
Ancients Lore*	EDU	Decipher Script*	INT
Gather Information	CHA	Intuit Direction	WIS
Knowledge (any)	EDU	Navigation	EDU
P/Prospecting	WIS	P/Survey	WIS
Read/Write Language	None	Speak Language	None
Technical (any)	EDU	Use Alien Devices*	WIS

\* Exclusive Skill

**Skill Points per Level:** 6 + INT modifier

TABLE: ANCIENTS HUNTER

	BASE ATTACK BONUS	BASE FORT BONUS	BASE REFLEX BONUS	BASE WILL BONUS	SPECIAL
1 <sup>st</sup>	+0	+0	+0	+2	Fixation
2 <sup>nd</sup>	+0	+0	+0	+3	Mental Agility I
3 <sup>rd</sup>	+0	+1	+1	+3	Enhanced Search I, Wacky Theory I
4 <sup>th</sup>	+1	+1	+1	+4	Gut Feeling I
5 <sup>th</sup>	+1	+1	+1	+4	Mental Agility II
6 <sup>th</sup>	+1	+2	+2	+5	Enhanced Search II
7 <sup>th</sup>	+1	+2	+2	+5	Device Aptitude I, Wacky Theory II
8 <sup>th</sup>	+2	+2	+2	+6	Gut Feeling II
9 <sup>th</sup>	+2	+3	+3	+6	Mental Agility III
10 <sup>th</sup>	+2	+3	+3	+7	Device Aptitude II, Wacky Theory III

## CLASS FEATURES

All of the following are class features of the Ancients Hunter:

**Fixation:** The Ancients Hunter becomes obsessed with finding out the truth about the Ancients and their civilization. He is not easily diverted from this goal, and will sometimes be tempted beyond reason by rumors or hints about an Ancients device or treasure. The character must make a Will save at DC 15 if he wishes to undertake an action if there is an alternative that will lead to more clues or an actual site or device. He gains a bonus of 2 to resist attempts to dissuade him from undertaking an action that will lead him closer. This bonus/penalty applies to interactions too. For example, a character offered an Ancients device at an outrageous price will feel that he must buy it or otherwise obtain it unless he makes the penalized Will save. This feature can get Ancients Hunters into real trouble.

**Mental Agility:** The character has the ability to pull together random pieces of information and draw conclusions from them. This trait does not only apply to Ancients lore, but may be used in any mystery situation. The Ancients Hunter can use this trait once per game month to guess the answer to any mystery about which he has at least some clues. The player may ask the Referee a specific question, such as “Who is behind these pirate attacks?” or “Which world is the best possibility for an Ancients site within five parsecs?” or even “Is there some way I could get out of this cell?” and will receive a fairly specific answer. The random cascade of information does not lead to a reliable conclusion every time. The Referee should secretly determine the truth of his or her answer, and give an equally detailed response either way. A character with Mental Agility I will be wrong 75% of the time. Mental Agility II allows a 50% chance of a correct answer. Mental Agility III gives a 75% chance of a correct answer. There is no real need to explain the character’s reasoning, since it would be incomprehensible to most normal people. The Referee should make up an answer in the event of a wrongly-drawn conclusion, and even a correct conclusion may not be much actual use. Ancients Hunters spend a lot of time chasing wild hunches.

**Enhanced Search:** The Ancients Hunter has developed a knack for finding Ancients sites and artifacts. With Enhanced Search I, he gains a +2 bonus to any Survey, Sensors, or similar skills used to physically locate an Ancients site, and to Search or Spot rolls to find artifacts or features within the site. Enhanced Search II gives a +5 bonus to these skills.

**Wacky Theory:** The Ancients Hunter has come up with a borderline-plausible theory that explains some aspect of the Ancients and relates them to some facet of science or modern society. This theory is virtually impossible to prove, but will gain



the character a little air time in the media and maybe a scientific paper if she makes it public. Doing so attracts the derision of the scientific community, who will publicly snub the theorist, but the theory will gain a few devotees (mainly cranks and fellow Ancients Hunters) even after it is discredited. The chance that the theory is actually correct is of course infinitesimally small. This does not prevent the hunter from going on to create new theories as she learns more about the Ancients.

**Gut Feeling:** Maybe the Ancients Hunter has been exposed to one Ancients device too many, or maybe he has just developed a small degree of instinctive understanding of the way the Ancients (who were psionically adept) think. Whichever, the character has gained a “sense” about psionic phenomena. The talent is erratic, and the character will not gain psionic abilities from having it. Whenever the character is in the presence of a psionics-using individual or a psionically-linked device (other than mechanical ones like shield helmets, he may gain a feeling that there is “something special” about it. Make a Wisdom check at DC 15 to sense this. The talent also extends to places where powerful psionic talents or devices were used, and in addition gives a +2 bonus to all saves and other attempts to resist psionic manipulation or assault, whether the character senses them or not.

**Device Aptitude:** The hunter is attuned to Ancients devices and has an increased chance to operate them or figure them out, or at least to avoid breaking them. Device Aptitude I gives and a +2 bonus to all saves to avoid injury from mis-operated Ancients devices, and allows the character to make a Wisdom check at DC 20 any time she does something that will damage a device or otherwise cause an unexpected and detrimental result. If the check is successful, the character flinches away in time with a profound feeling that she should NOT DO THAT! Aptitude II gives a +2 bonus to all attempts to figure out Ancients devices and reduces the Wisdom check DC to 15.

### Special Skills

**Decipher Script** and **Use Alien Devices** are standard T20 skills, useable only by certain classes (including the Ancients Hunter).

**Ancients Lore:** Ancients Lore is a special skill, available only to Hunters. It is very expensive to learn, at 5 skill points per rank, and differs from K/Ancients in one important way. K/Ancients represents the body of conventional knowledge possessed by Human scientists about the Ancients; known sites, phenomena, standard theories (and a few of the more acceptable Wacky ones) and so on. Much of the information known by a character with K/Ancients is mundane and (in many cases) just plain wrong. Ancients Lore is the truth about the Ancients. Who they were, what they did and how they did it, even how their devices work. Ancients Lore is viewed by conventional scientists as the “Unified Crank Theory” since it contradicts some fundamental principles of science, history, and common sense. However, a character with this skill can use it to figure out what a site was when it was functioning, how a device works, etc. The DC of any given investigation should be assigned by the Referee. Simple sites will start at DC 15, more unusual ones at 25 or even 35. Devices begin at DC 20 for the simplest artifacts. A character confronted with a site or a device, who makes his Ancients Lore check, can explain the function of the site or object, and gains a +5 bonus to all attempts to operate a device.

## BIG GAME HUNTER

Prestige Class

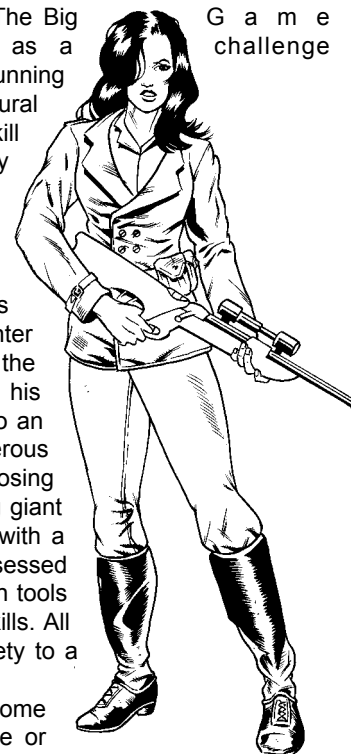
The worlds of charted space have produced some terrifyingly

powerful or cunning creatures. The Big Hunter takes their existence as a challenge and matches his stealth and cunning against their formidable natural abilities. He may or may not kill the animal after stalking it; many hunters use a holocamera rather than a rifle.

**Characteristics:** A Hunter is self-reliant and confident in his or her abilities. Often contemptuous of clumsy city-dwellers, the Hunter is proud of his knowledge of the environment and the habits of his prey. He may take this attitude to an extreme, seeking ever more dangerous creatures to stalk, or choosing ridiculous challenges like hunting giant armored carnivores armed only with a crossbow. Other hunters are obsessed with obtaining the finest high-tech tools and gadgets to augment their skills. All Hunters prefer stealth and subtlety to a direct approach to problems.

**Background:** A Hunter can come from any background, though he or she will usually have a “Backwoods” upbringing. A Hunter’s most important attributes are intelligence and stealth skills – plus weapon proficiency, of course.

**Adventuring:** Hunters can be very useful in the wilds of a planet, and often have good weapon skills too. An individual may know several powerful people, having acted as a guide on safaris or hunting trips, or may have poached rare animals for a rich person’s collection.



Game challenge

### GAME RULE INFORMATION

**Requirements:** To become a Hunter, a character must meet the following requirements:

**BAB:** 5+

**Skills:** Survival 4+, P/Hunting 6+

**Feats:** Tracker

**Stamina Dice:** d8 + CON modifier per level

TABLE: BIG GAME HUNTER

	Base Attack Bonus	Base Fort Save	Base Ref Save	Base Will Save	Special
1st	+1	+0	+1	+1	Trapping
2nd	+2	+0	+2	+2	Sixth Sense
3rd	+3	+1	+2	+2	Far Shot
4th	+4	+1	+2	+2	Species Specialization
5th	+5	+1	+3	+3	Deliberate Shot
6th	+6/+1	+2	+3	+3	Animal Specialization
7th	+7/+2	+2	+4	+4	Intuitive Tracking
8th	+8/+3	+2	+4	+4	Species Specialization
9th	+9/+4	+3	+4	+4	Animal Specialization
10th	+10/+5	+3	+5	+5	Animal Specialization

### CLASS SKILLS

The following are the class skills available to a hunter:



## PSIONICIST

### Prestige Class

Many individuals who possess psionic powers belong to another career or character class and leave perfectly normal lives; psionics are merely a part of such a life. Others study psi phenomena and may or may not possess actual abilities. These are Academics for the most part. The Psionicist is someone for whom the main focus in life is the use and development of psionic skills. They will make their living any way they can while searching for insight into the nature of their powers and new sources of teaching. The Psionicist may hold down a steady job or wander randomly throughout known space; each is very different.

The dedicated Psionicist has certain advantages over those whose powers are merely one facet of their life. The main advantage is the fact that the various spheres of influence are developed as class skills rather than cross-class skills, allowing more rapid progression. Additionally, a psionicist gains access to new areas of ability as his or her knowledge grows. However, many psionicists do still multiclass, as the events of their lives result in picking up other skills.

**Characteristics:** Some Psionicists are pragmatic in outlook, some mystical. The thing they all have in common is that psi powers are the focal point of their very being. Most are individualists yet highly loyal to those who have taught them or shown them kindness. A craving to learn more about their powers and to develop them to the utmost is common to most Psionicists.

**Background:** A Psionicist may come from any background at all. Psi abilities manifest according to no known genetic or social criteria, so a psi can be literally anyone.

**Adventuring:** Psionicists can be trouble magnets, since psi use is outlawed in the Imperium. However, their unique skills can be an immense asset to any adventuring party. Psionicists often have secondary skills that allow them to make a decent living as they search for new teachers and knowledge. These skills may be almost anything, but usually include Streetwise and Interpersonal skills due to the covert nature of the psi community. These secondary skills and contacts can be of great use to a party of adventurers, and of course the search for new knowledge can lead to fresh adventures for the Psionicist and his/her companions.

### GAME RULE INFORMATION

**Enlistment Requirements:** Special. To enter the Psionicist class, an individual must have completed training with an institute or "psionic master." Characters with a low (but above zero) Psi strength score can enter the class, but will never amount to much. Any character who has attended the Psionics Institute may enter the Psionicist class. For details of how to find suitable teaching, see the Prior History chapter.

**Multiclass Restrictions:** It is not really possible to multiclass into the Psionicist class. Any character who has completed training at a Psionics Institute may join the class, but from that point on they are a Psionicist first and everything else second.

A practicing Psionicist may multiclass, but may not gain levels in any other class if her Psionicist level is equal to or half less than her character level. I.e. a level 6 character who is a level 3 psionicist could gain her 7<sup>th</sup> level in Psionicist or another class. A level 3 character who has only 1 Psionicist level MUST take the new level in the Psionicist class. If a Psionicist ever voluntarily takes a level in another class such that she no longer has half or more of her levels in Psionicist, she ceases to be a Psionicist. Note that this does not apply to a character who came late in life to psionicism and who is "catching up" to the half-levels status.

**Stamina:** 1d6 + CON modifier per level

Class Skill	Key Ability	Class Skill	Key Ability
Animal Empathy*	CHA	Gambling	INT
Handle Animal	CHA	Hide	DEX
Intuit Direction	WIS	Jump	STR
Knowledge (Species)**	EDU	Liaison	CHA
Leader	INT	Listen	WIS
Move Silently	DEX	Navigation	EDU
Ride	DEX	Search	INT
Spot	WIS	Survival	WIS
T/Medical	EDU		

\* Exclusive Skill

\*\* Species include those noted under Species Specialty, below.

**Skill Points at Each Additional Level:** 4 + INT modifier

### CLASS FEATURES

All of the following are class features of the Big Game Hunter:

**Species Specialty:** The Hunter has studied and learned the habits and tendencies of a general category of animal types such as Pouncers or Grazers. Add +2 to all Tracking and Survival checks when hunting the specified category of animals.

Carnivores	Herbivores	Omnivores	Scavengers
Siren	Filter	Gatherer	Carrion-eater
Pouncer	Intermittent	Eater	Reducer
Killer	Grazer	Hunter	Hijacker
Trapper			Intimidator
Chaser			

**Animal Specialization:** The character has studied and learned the habits and tendencies of a specific (named) animal such as Grizzly Bears, or the Greater Crested Tusk-Boar. Requires Species Specialization (for the appropriate animal category). Add +4 to all Tracking and Survival checks when hunting this specific animal.

**Deliberate Shot:** Once per combat the Hunter may "ready" a shot as a free action rather than standard action. For example, a Hunter moves to cover and sets up a deliberate shot allowing him to shoot the next creature to emerge from the nearby lake. Without the feat he could not both move and ready the shot.

**Intuitive Tracking:** The skilled Hunter eventually develops an "intuition" when it comes to tracking their prey, often allowing him to pick up a trail even after it has "gone cold." In situations where the Hunter fails a P/Hunting skill check while tracking a creature, or in situations where the Hunter would not normally be allowed to make a skill check to pick up the trail of a creature, he may make a Wisdom check (DC15). If successful, he has managed to guess the correct direction the prey has taken.

**Leaving the Psionicist Class:** Psionicism is not a job but a way of being. Once committed to it, an individual is unlikely to “leave.” However, some do. A character who abandons his studies keeps all his abilities, including the maximum limits on his sphere of influence ranks as if they were class skills. However, he is no longer a psionicist and cannot re-enter the class except in highly unusual circumstances. Such a character can continue to develop his psi skill levels as if they were cross-class skills (if he has not renounced his calling and ceased to use his skills) so long as they are not already higher than the cross-class limit of (level+3)/2. If this is the case, they remain at this high level but cannot be increased.

If a character chooses to violate the Multiclassing restrictions and gains levels in a different class, he ceases to be a psionicist, since he can no longer maintain the focus and dedication required. Levels already possessed at the time the character joins the psionicist class do not cause this, of course, but characters dedicating themselves to the pursuit of psionic skills are pledging themselves to a difficult way of life, and should be aware that their new calling will eat up their next few levels at least.

Characters thus do not muster out of the psionicist service in the manner of other classes, but they do still gain mustering-out benefits at the end of prior history in the same manner as other characters. This represents items and finances gained along the way, and in the possession of the character at this turning point of the life of the character, when he or she becomes an adventurer.

**Special:** The Psionicist does not follow the standard Prestige Class format. In many ways, it is more like a Service Class.

**TABLE: PSIONICIST**

	Base Attack Bonus	Base Fort Bonus	Base Reflex Bonus	Base Will Bonus	Special
1 <sup>st</sup>	+0	+0	+0	+2	Starting Feats
2 <sup>nd</sup>	+0	+0	+0	+3	
3 <sup>rd</sup>	+0	+1	+1	+3	Bonus Feat
4 <sup>th</sup>	+1	+1	+1	+4	
5 <sup>th</sup>	+1	+1	+1	+4	New Sphere of Influence
6 <sup>th</sup>	+1	+2	+2	+5	
7 <sup>th</sup>	+1	+2	+2	+5	Bonus Feat
8 <sup>th</sup>	+2	+2	+2	+6	
9 <sup>th</sup>	+2	+3	+3	+6	New Sphere of Influence
10 <sup>th</sup>	+2	+3	+3	+7	
11 <sup>th</sup>	+2	+3	+3	+7	Bonus Feat
12 <sup>th</sup>	+3	+4	+4	+8	
13 <sup>th</sup>	+3	+4	+4	+8	New Sphere of Influence
14 <sup>th</sup>	+3	+4	+4	+9	
15 <sup>th</sup>	+3	+5	+5	+9	Bonus Feat
16 <sup>th</sup>	+4	+5	+5	+10	
17 <sup>th</sup>	+4	+5	+5	+10	New Sphere of Influence
18 <sup>th</sup>	+4	+6	+6	+11	
19 <sup>th</sup>	+4	+6	+6	+11	Bonus Feat
20 <sup>th</sup>	+5	+6	+6	+12	

## PSIONIC SPHERES OF INFLUENCE

Telepathy  
Clairvoyance  
Telekinesis  
Awareness  
Teleportation

Initially a Psionicist will only have the abilities gained from his or her training, but as a result of the devoted pursuit of greater power and knowledge, he or she will eventually be able to access others. Once a Psionicist is able to work with a sphere, they must begin developing their skill in use it. Each sphere is developed as if it were a separate class skill for the Psionicist.

A Psionicist's skill rank with a Sphere of Influence dictates which Psionic Talents they are able to use. Each Talent lists the Sphere of Influence that must be available to the Psionicist, along with a minimum skill rank in the Sphere that must be possessed before it may be employed. Of course the Psionicist must also have sufficient Psi strength with which to power the Talent as well before using it.

## CLASS SKILLS

Class Skill	Key Ability	Class Skill	Key Ability
Appraise	INT	Craft (any)	INT
Driving	DEX	Knowledge (any)	EDU
Navigation	EDU	P/Admin	WIS
Psionic/Awareness	Psi	Psionic/Clairvoyance	Psi
Psionic/Telekinesis	Psi	Psionic/Telepathy	Psi
Psionic/Teleportation	Psi	T/Communications	EDU
T/Computer	EDU	T/Electronics	EDU
T/Mechanical	DEX	T/Medical	EDU

Skill Points per Level: 4 + INT modifier

## CLASS FEATURES

All of the following are class features of the Psionicist:

**Starting Feats:** The Psionicist begins play with the following feats:

AP (Light)

**Bonus Feats:** At 3<sup>rd</sup>, 7<sup>th</sup>, 11<sup>th</sup>, 15 and 19<sup>th</sup> level the Psionicist gains a bonus feat. These feats may be chosen from the list below. If the character already has all of the listed feats, they may select any other feat that they are qualified for.

Dodge	Gearhead	Geological Survey
Hacker	Instruction	Legal Eagle
Makeup Artist/ Costumer	Negotiator	Psionic Focus*
Psionic Specialization*	Steward	Vessel
Weapon Proficiency/ Marksman		

\* Indicates a special class feat

**Psionic Focus:** The Psionicist has trained long and hard in a single sphere of psionic activity and is highly proficient in its use. This feat can be taken by any Psionicist who has a psi rating of 5+ and 5 or more skill ranks in the relevant sphere. The base cost of using a power from the chosen sphere is reduced by 1. The feat can be taken more than once, but different spheres must be chosen each time.

**Psionic Specialization:** The Psionicist has developed a very high level of ability in a single sphere of activity. This feat requires the Psionic Focus feat in the same sphere. Range costs for

abilities within the chosen sphere are reduced by 2. The feat can be taken more than once, but a different sphere must be chosen each time.

Psionic Talents are found in The *Travellers Handbook* and chapter 10 of this book, and work exactly as described there. Note that rather than having to take each talent as a separate feat, members of the Psionist class automatically gain access to the talents within their spheres as their skill rank in that sphere reaches the threshold required to use that talent.

### EX-PSIONICISTS

As noted above, most Psionists do not “leave the service” – it is a way of life more than a job. Some do allow their studies to lapse and become “people with psionic powers” rather than true Psionists (see Leaving the Psionist Class, above). Such characters can be considered ex-Psionists and can never rejoin the class.

## TAS FIELD REPORTER

### Prestige Class

The Travellers’ Aid Society (TAS) is constantly updating its guides and providing its members with impartial, “insider” reports on events across charted space. A Field Reporter researches and prepares these reports. In some quarters a TAS press card is highly respected. In others, it is an incitement to being beaten up and dumped in an alley. TAS reporters are known for sticking their noses deeply into matters that some people feel should not concern outsiders. They experience a fair amount of danger in their work.

**Characteristics:** Integrity and Inquisitiveness are the two main traits of the TAS reporter. An ability to write decent copy is useful too. Most reporters like to travel and enjoy investigating whatever they find. Some are glory hounds who get a kick out of dragging skeletons out of closets, while others are simply dedicated to reporting the truth. Whatever his or her motivation, a reporter is unable to resist digging deeply into anything that promises to be even remotely interesting.

**Background:** Most TAS reporters are well educated and have experience in some other field before joining the TAS staff. This gives the specialist insider information that makes TAS reports so much deeper than most conventional journalism.

**Adventuring:** A TAS Reporter is, by definition, an adventurer. He or she will always be on the lookout for a story, and will probably generate adventure leads by his or her investigations. Reporters have good interpersonal skills and can usually take care of themselves in a fight. Some have computer hacking or intrusion skills for less-than-legal research.

### GAME RULE INFORMATION

**Requirements:** To become a TAS Field Reporter, a character must meet the following requirements:

**Skills:** P/Journalism 4+, Gather Information 8+, T/Electronics 4+

**Stamina Dice:** d6 + CON modifier per level.

TABLE: TAS FIELD REPORTER

	Base Attack Bonus	Base Fort Save	Base Ref Save	Base Will Save	Special
1 <sup>st</sup>	+0	+0	+1	+1	Press Pass and Expense Account
2 <sup>nd</sup>	+0	+0	+2	+2	Connections +1
3 <sup>rd</sup>	+0	+1	+2	+2	Research +1
4 <sup>th</sup>	+1	+1	+2	+2	Connections +2
5 <sup>th</sup>	+1	+1	+3	+3	Carousing
6 <sup>th</sup>	+1	+2	+3	+3	Connections +3/ Research +2
7 <sup>th</sup>	+1	+2	+4	+4	TAS Membership
8 <sup>th</sup>	+2	+2	+4	+4	Connections +4
9 <sup>th</sup>	+2	+3	+4	+4	Research +3
10 <sup>th</sup>	+2	+3	+5	+5	Connections +5

### CLASS SKILLS

The following are the class skills available to a TAS Field Reporter:





Class Skill	Key Ability	Class Skill	Key Ability
Administration	INT	Bluff	CHA
Bribery	CHA	T/Communications	EDU
T/Computer	EDU	Liaison	CHA
Gather Information	CHA	Intimidate	CHA
Knowledge	EDU	Listen	WIS
Profession/Journalist	WIS	Read/Write Language	None
Sense Motive	WIS	Speak Language	None

**Skill Points at Each Additional Level:** 8 + INT modifier

### CLASS FEATURES

All of the following are class features of the TAS Field Reporter:

**Carousing:** At 5<sup>th</sup> level a TAS reporter automatically gains this standard feat. If the character has already selected this feat, they may select any other standard feat there are qualified for instead.

**Connections** Beginning at 2<sup>nd</sup> level and at every level after that (4<sup>th</sup>, 6<sup>th</sup>, 8<sup>th</sup>, and 10<sup>th</sup>) the reporter will develop an increasing range of contacts and informants in their personal news and information-gathering network. Add +1 per Connection bonus to any Gather Information checks when utilizing these contacts.

**Expense Account:** A reporter has an open expense account equal to Cr5000 per level per month. Expense funds not used one month do not carry over to the next month. If not used they are lost at the end of the month. These funds must be spent on story-related expenses, and the reporter must turn in a detailed expense report at the end of each month to account for its use. Any equipment or other non-consumable/expendable items must be turned into the local TAS bureau office. If the reporter wishes to keep an item bought using the expense account, he or she must reimburse the TAS bureau the full cost. If an expense report is not turned in, the amount spent will be deducted from the next month's expense account.

**Press Pass:** Having a valid press pass will gain a reporter access to some areas, people and information not available to the general public, such as the scene of a crime or access to certain governmental records. As a reporter becomes more experienced (and typically more well known) the value of their press pass also grows. For every 2 class levels, the TAS Field Reporter may add +1 to any Bluff or Intimidate skill check when dealing with authorities or company bureaucrats in an attempt to gain access to an area, view documents, or interview someone.

This may only be attempted once per encounter with any given group or individual.

**Research:** The character is skilled at sifting and analyzing data and information from various sources for the clues and evidence needed to put a report together. Allows the synergetic use of Knowledge and another information-related skill together with Gather Information skill. Beginning at 3<sup>rd</sup> level and at every 3<sup>rd</sup> level after that (6<sup>th</sup> and 9<sup>th</sup>), the character earns a +1 Research bonus.

Circumstances	Gather Knowledge Roll Adjustment
Multiple Sources	-1 per Knowledge or other skill used, if more than one is involved.
Per Research bonus	+1
Per Successful Source Skill Check	+5

**TAS Membership:** By 7<sup>th</sup> level, the TAS Reporter has usually done sufficient good work for the bureau that they are rewarded with a free membership in the Traveller's Aid Society.





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Skills represent the capabilities of a character beyond his or her combat ability. Detailed for each class is a list of skills that are its “class skills.” Any skill not listed for the class is considered a “cross-class skill.” Class skills represent those skills that a member of the class will usually spend the most time using. Cross-class skills are everything else.

The use of skills is an integral part of **T20** gaming. The things a character knows how to do – and how well she knows how to do them – will be more important than how well the character fights or what her attributes may be in many situations. Decisions as to which skills to develop are thus highly important ones, and may determine success or failure in future adventures.

## SKILL BASICS

The following section outlines the basic mechanics of using skills in a **T20** game.

### CLASS SKILLS

Any skill listed for the class in which a character is taking their current level is considered a class skill. Class skills cost 1 skill point per +1 rank improvement. They can be developed to a maximum rank of (character level +3).

### CROSS-CLASS SKILLS

Any skill that is not a class skill is considered a cross-class skill. Cross-class skills can usually (see Closed Skills, below) be developed at a cost of 2 skill points per rank, to a maximum of (character level+3)/2. Characters who develop cross-class skills will be less effective in their specialist field than a more focused individual, but the range of challenges faced by **Traveller** characters is such that a basic capability in many areas is desirable.

### CLOSED SKILLS

Some skills are not available except to a member of a certain class. These skills are developed as class skills by those that can gain them, and cannot be gained at all by members of different classes.

### SKILL RANK

A character’s ability with a skill is measured in “ranks.” A skill may have a rank ranging from 0 to a maximum of 23. When a skill check is made, a character’s rank in that skill is added to the roll. The maximum number of ranks a character can have in a class skill is equal to that character’s level +3. The maximum number of ranks a character can have in a cross-class skill is half that number (do not round up or down).

### TRAINED AND UNTRAINED SKILLS

Some skills can be attempted by anyone, whether they have been trained in the field or not. These represent things that a normal person could attempt whether they had received instruction or not, such as swimming or climbing. If a character with no skill ranks attempts an untrained skill, he or she receives all ability and situational modifiers but no skill bonus.

Certain skills are Trained skills, meaning that they cannot be attempted by someone who does not have the requisite skill. Of course, anyone can attempt brain surgery or fiddle with the Astrogation computer, but there is no chance of success. No roll is permitted.

However, some feats give a “zero rank” in a given skill. For

example, Cross-Training allows a character to attempt class skills that he does not possess as if he had a rank of zero; First Aid allows a character to attempt T/Medical skills similarly. When a character with a “zero rank” in a skill attempts it, the check is made as if the character were attempting an untrained skill i.e. the character receives all ability and situational modifiers, but no skill bonus to the roll.

### SKILL POINTS

Characters have a number of skill points based on their race and their class levels. Class skills require 1 skill point per rank; cross-class skills require 2 skill points per rank.

### CASCADE SKILLS

Some skills, specifically Craft, Entertain, Knowledge, Profession, and Technical are “cascade skills” meaning that they can represent more than one specific field of endeavor. When a cascade skill is selected, the character must immediately decide on the specific field of endeavor for that skill. Each cascade skill will list one or more example fields of endeavor that may be chosen from, or the character may come up with a new appropriate endeavor with the approval of the Referee.

In this book and throughout **T20** products, all cascade skills will be written in the following format: *First Letter of the Cascade Skill Type (C, E, K, P, or T) / The Specific Field of Endeavor*. For example, a character with the Technical skill chooses Electronics as his field of endeavor with the skill. This would be written as T/ Electronics. If he had the Craft skill and selected Pottery, it would be written as C/Pottery.

## USING SKILLS

When the character uses a skill, the character makes a skill check to determine how successful they are. The higher the result on the character’s skill check, the better the outcome. Based on the circumstances, the character’s result must match or beat a Difficulty Class (DC) to use the skill successfully. The harder the task, the higher the DC, i.e. the higher the number the character needs to roll.

To make a skill check, roll 1d20 and add the character’s skill modifier for that skill. The skill modifiers include:

- 1) The character’s rank with the skill
- 2) The character’s ability modifier for that skill’s key ability
- 3) Any racial bonuses with the skill
- 4) Any armor check penalty
- 5) Any other miscellaneous modifiers that may be applicable.

See the skill description for details.

If the result of the 1d20 roll + the modifiers equals or exceeds the DC, the test is successful. Any other result is a failure. A “natural 20” on the die roll is not an automatic success. A “natural 1” on the die roll is not an automatic failure.

### DIFFICULTY CLASS

The Difficulty Class or DC is the number that the character must equal or exceed when attempting a skill check roll for the task to be successful.



Type	DC	Example
Simple	0	Walk across the floor
Very Easy	5	Climb a ladder
Easy	10	Climb a knotted rope
Average	15	Plot a course to a familiar star system
Hard	20	Jump a horse over an obstacle while riding
Difficult	25	Swim in churning, storm driven water
Formidable	30	Remove a bullet from a victim.
Challenging	35	Plot a course to an uncharted star, while under fire and without a computer.
Incredible	40	Convince the judge that a pardon scrawled on the back of a cocktail napkin really is from the planetary governor
Nearly Impossible	45	Perform brain surgery with a low-tech field surgical kit, under fire, in the rain, while wounded

## DEGREE OF SUCCESS

A character's degree of success is determined by how much better than the DC the roll turns out to be.

DC or higher	Success
DC+10 or higher	Great Success
DC+20 or higher	Incredible Success

## OPPOSED CHECKS

An opposed check is used when another character or NPC directly opposes a skill check. For example a character attempting to Bluff her way past a customs officer would be an opposed skill check against the custom officer's Sense Motive check. The character makes her Bluff skill check roll and the Referee makes a Sense Motive skill check roll for the customs officer. If the character's Bluff skill check roll is higher than the customs officer's Sense Motive check roll, the custom officer believes the character's bluff.

In the case of a tie, the side with the higher appropriate ability scores for their skill wins. If there is still a tie, both sides roll the skill checks again.

## RETRYING

In general, the character can try a skill check again if it fails, and can keep trying indefinitely. Some skills, however, have consequences of failure that must be taken into account. Some skills are virtually useless once a character has failed on an attempt to accomplish a particular task. For most skills, when a character has succeeded once at a given task, additional successes are meaningless.

If a skill carries no penalties for failure, the player can choose to can Take 20 and assume that the character keeps at it long enough to succeed eventually.

## UNTRAINED SKILL CHECKS

Generally, if a character attempts to use a skill they don't possess any skill ranks in, the character makes a skill check as normal. The character does get to add all modifiers other than skill rank though, such as the ability modifier for the skill's key ability.

However, many skills can only be used if the character is trained in the skill. Skills that cannot be used untrained are marked with a "No" in the "Untrained" column on Table: Skills.

## FAVORABLE AND UNFAVORABLE CONDITIONS

Some situations may make a skill easier or harder to use, resulting in a bonus or penalty added into the skill modifier for the skill check or a change to the DC of the skill check.

The Referee can alter the odds of success in four ways to take into account exceptional circumstances:

1. Give the skill user a +2 bonus to represent circumstances that improve performance.
2. Give the skill user a -2 penalty to represent conditions that hamper performance.
3. Reduce the DC by 2 to represent circumstances that make the task easier.
4. Increase the DC by 2 to represent circumstances that make the task harder.

A bonus to the character's skill modifier and a reduction in the check's DC have the same result: they create a better chance that the character will succeed. But they represent different circumstances, and sometimes that difference is important.

## TIME AND SKILL CHECKS

Using a skill might take a round, take no time, or take several rounds or even longer. Most skill uses are standard actions, move-equivalent actions, or full-round actions. Types of actions define how long activities take to perform within the framework of a combat round (6 seconds) and how movement is treated with respect to the activity. Some skill checks are instant and represent reactions to an event, or are included as part of an action. These skill checks are not actions. Other skill checks represent part of movement. The distance the character jumps when making a Jump check, for example, is part of the character's movement. Some skills take more than a round to use, and the skill descriptions often specify how long these skills take to use.

**Taking 10:** When the character is not in a rush and is not being threatened or distracted, the character may choose to Take 10. Instead of rolling 1d20 for the skill check, calculate the character's result as if the character had rolled a 10.

**Taking 20:** When the character has plenty of time (generally 2 minutes for a skill that can normally be checked in 1 round, one full-round action, or one standard action), and when the skill being attempted carries no penalties for failure, the character can Take 20. Instead of rolling 1d20 for the skill check, calculate the character's result as if the character had rolled a 20. Taking 20 means the character is trying until he or she finally gets it right. Taking 20 takes about twenty times as long as making a single check would take.

## COMBINING SKILL CHECKS

When more than one character tries the same skill at the same time and for the same purpose, their efforts may overlap.

**Individual Events:** Often, several characters attempt some action and each succeeds or fails on her own. An example of this would be a group of characters climbing up a rope. All are performing the same action at the same time, but each must make a separate Climb skill check to see if they succeed or fail.

**Teamwork:** Sometimes the individual PCs are essentially reacting to the same situation, but they can work together and help each other out. In this case, one character is considered the leader of the effort and makes a skill check, while each team member makes a separate skill check against DC 10 (Taking 10 is not permitted on this check). For each team member who succeeds, the leader gets a +2 circumstance bonus (as per the rule for favorable conditions). In many cases, a character's help

will not be beneficial, or only a limited number of characters can help at once. The Referee may limit cooperation as seems fitting for the conditions.

**Skill Synergy:** It is also possible for a character to have two skills that work well together. In general, having 5 or more ranks in one skill gives the character a +2 synergy bonus on skill checks with its synergistic skills, as noted in the skill description.

### ABILITY CHECKS

Sometimes a character tries to do something to which no specific skill really applies. In these cases, the character makes an ability check. An ability check is the roll of 1d20 plus the appropriate ability modifier. Essentially, the character is making an untrained skill check. The Referee assigns a Difficulty Class depending upon the circumstances and the task being carried out.

\* Armor check penalty, if any, also applies.

**C** Class Skill

• Cross-Class Skill

**X** You can't buy this skill because it's exclusive to another class

Academic	Aca
Athlete	Ath
Belter	Blt
Barbarian	Bbn
Entertainer	Ent
Mercenary	Mry
Merchant	Mct
Noble	Nbl
Professional	Prf
Rogue	Rog
Traveller	Trv

Army, High-Tech	Aht
Army, Mid-Tech	Amt
Army, Low-Tech	Alt
Flyer, High-Tech	Fht
Flyer, Mid-Tech	Fmt
Marines	Mar
Navy	Nav
Sailor, High-Tech	Sht
Sailor, Mid-Tech	Smt
Sailor, Low-Tech	Slt

Convict	CON
Corsair	Cor
Diplomat	Dip
Engineer	Eng
Law Enforcer	Law
Martial Artist	Mrt
Medic	Med
Scout	Sct

Ace Pilot	Ace
Ancient Hunter	Anc
Big Game Hunter	Bgh
Psionicist	Psi
TAS Field Reporter	TAS

**NOTE:** Only those cascade skills that are specific to certain classes (and thus differ from their parent cascade) are listed here. The characteristics of all other cascade skills are identical to those for the parent cascade. (E.g. T/Computer and T/Electronic are identical in characteristics to all other T/ cascade skills).



**TABLE: SKILLS (CORE CLASSES)**

Skill	Aca	Ath	Bbn	Blt	Ent	Mry	Mct	Nbl	Prf	Rog	Trv	Untrained	Key Ability
Animal Empathy	X	X	C	X	X	X	X	X	X	X	X	No	CHA
Appraise	•	•	•	C	C	•	C	C	C	C	•	Yes	INT
Balance	•	C	•	•	C	•	•	•	•	•	•	Yes	DEX*
Bluff	•	•	•	C	•	C	C	C	•	C	•	Yes	CHA
Bribery	•	•	•	•	C	•	C	C	•	C	C	Yes	CHA
Broker	•	•	•	•	•	•	C	•	•	•	•	No	INT
Climb	•	C	C	•	•	•	•	•	•	•	•	Yes	STR*
Combat Engineering	•	•	•	•	•	•	•	•	•	•	•	No	INT
Craft [cascade skill]	C	•	C	•	•	•	•	C	•	•	C	Yes	INT
Decipher Script	C	X	X	X	X	X	X	X	X	X	X	No	INT
Demolitions	•	•	•	C	•	•	•	•	•	•	•	No	DEX
Disguise	•	•	•	•	C	•	•	•	•	C	•	Yes	CHA
Driving	C	C	C	•	•	C	C	•	C	C	C	Yes	DEX
Entertain [cascade skill]	•	•	C	•	C	•	•	C	C	•	C	Yes	CHA
Forgery	•	•	•	•	•	•	•	•	•	C	•	Yes	INT/DEX
Forward Observer	•	•	•	C	•	•	•	•	•	•	•	No	INT
Gambling	•	•	•	C	•	C	C	•	C	•	C	Yes	INT
Gather Information	C	C	C	•	•	•	•	C	•	C	C	Yes	CHA
Gunnery	•	•	•	C	•	•	•	•	•	•	C	Yes	WIS
Handle Animal	•	C	C	•	•	•	•	•	•	•	•	No	CHA
Hide	•	•	C	•	•	C	•	•	•	•	•	Yes	DEX*
Innuendo	•	•	•	•	C	•	C	•	•	C	C	No	WIS
Intimidate	•	•	•	•	•	C	•	C	•	C	•	Yes	CHA
Intuit Direction	•	•	C	•	•	•	•	•	•	•	•	No	WIS
Jump	•	C	C	•	•	•	•	•	•	•	•	Yes	STR*
Knowledge [cascade skill]	C	C	•	•	C	•	•	C	C	•	C	No	EDU
K/Geology	C	•	•	C	•	•	•	C	C	•	•	No	EDU
K/Interstellar Law	C	•	•	•	•	•	C	C	C	•	•	No	EDU
K/Mining	C	•	•	C	•	•	•	C	C	•	•	No	EDU
K/Specific Sport	C	C	•	•	•	•	•	C	C	•	•	No	EDU
Leader	C	•	•	•	•	C	•	C	C	•	C	Yes	INT/CHA
Liaison	C	•	•	•	C	•	C	C	C	•	C	No	CHA
Listen	•	•	C	•	•	•	•	•	•	C	•	Yes	WIS
Move Silently	•	•	C	•	•	C	•	•	•	C	•	Yes	DEX*
Navigation	C	•	•	•	•	•	C	•	C	•	C	No	EDU
Pilot	•	•	•	C	•	•	C	•	•	•	C	No	INT/DEX
Profession [cascade skill]	•	C	•	•	C	•	C	C	C	•	C	No	WIS
P/Administration	C	•	•	•	•	•	•	C	C	•	C	No	WIS
P/Specific Sport	•	C	•	•	•	•	•	C	C	•	C	No	WIS
P/Prospecting	•	•	•	C	•	•	•	C	C	•	C	No	WIS
Read/Write Language	C	•	•	•	•	•	•	C	•	•	C	No	None
Recruiting	•	•	•	•	•	•	•	•	•	•	•	Yes	EDU
Ride	•	C	C	•	•	•	•	•	•	•	•	Yes	DEX
Search	•	•	•	C	•	•	•	•	•	C	•	Yes	INT
Sense Motive	•	•	•	•	C	•	•	C	•	C	•	Yes	WIS
Speak Language	C	•	•	•	•	•	•	C	C	•	C	No	None
Spot	•	•	C	•	C	C	•	•	•	C	•	Yes	WIS
Survival	C	•	C	•	•	•	•	•	C	•	•	Yes	WIS
Swim	•	C	C	•	•	•	•	•	•	•	•	Yes	STR
Technical [cascade skill]	C	•	•	C	•	C	C	•	C	•	C	No	EDU
T/Astrogration	C	•	•	C	•	•	C	•	C	•	C	No	EDU
T/Communications	C	•	•	C	•	C	C	•	C	•	C	No	EDU
T/Computer	C	•	•	C	•	•	C	•	C	•	C	No	EDU
T/Electronics	C	•	•	C	•	•	C	•	C	C	C	No	EDU
T/Engineering	C	•	•	C	•	•	C	•	C	•	C	No	EDU
T/Gravitics	C	•	•	C	•	•	C	•	C	•	C	No	EDU
T/Mechanical	C	•	•	C	•	C	C	•	C	C	C	No	EDU
T/Medical	C	•	•	C	•	C	C	•	C	•	C	No	EDU
T/Sensors	C	•	•	C	•	C	C	•	C	•	C	No	EDU
Technosavvy	X	X	•	X	X	X	X	X	X	X	X	No	INT
Trader	•	•	•	•	•	•	C	•	C	•	C	Yes	INT
Tumble	•	C	C	•	C	•	•	•	•	•	•	No	DEX*
Use Alien Devices	C	X	X	X	X	X	X	X	X	X	C	No	WIS



TABLE: SKILLS (MILITARY SERVICE CLASSES)

Skill	Aht	Amt	Alt	Fht	Fmt	Mar	Nav	Sht	Smt	Slt	Untrained	Key Ability
Animal Empathy	X	X	X	X	X	X	X	X	X	X	No	CHA
Appraise	•	•	•	•	•	•	•	•	•	•	Yes	INT
Balance	•	•	•	•	•	•	•	•	•	•	Yes	DEX*
Bluff	•	•	•	•	•	•	•	•	•	•	Yes	CHA
Bribery	C	C	C	C	C	C	C	C	C	C	Yes	CHA
Broker	•	•	•	•	•	•	•	•	•	•	No	INT
Climb	•	•	•	•	•	•	•	•	•	•	Yes	STR*
Combat Engineering	C	C	C	•	•	C	•	C	C	•	No	INT
Craft [cascade skill]	•	•	•	•	•	•	•	•	•	•	Yes	INT
Decipher Script	X	X	X	X	X	X	X	X	X	X	No	INT
Demolitions	C	•	•	•	•	C	•	C	C	•	No	DEX
Disguise	•	•	•	•	•	•	•	•	•	•	Yes	CHA
Driving	C	C	•	C	C	C	C	C	C	•	Yes	DEX
Entertain [cascade skill]	•	•	•	•	•	•	•	•	•	•	Yes	CHA
Forgery	•	•	•	•	•	•	C	•	•	•	Yes	INT/DEX
Forward Observer	•	•	•	C	C	C	C	C	C	•	No	INT
Gambling	•	•	C	C	C	C	C	C	C	C	Yes	INT
Gather Information	C	C	C	C	C	C	C	C	C	C	Yes	CHA
Gunnery	C	C	•	C	C	C	C	C	C	•	Yes	WIS
Handle Animal	•	•	C	•	•	•	•	•	•	C	No	CHA
Hide	•	•	•	•	•	•	•	•	•	•	Yes	DEX*
Innuendo	•	•	•	•	•	•	•	•	•	•	No	WIS
Intimidate	•	•	•	•	•	•	•	•	•	•	Yes	CHA
Intuit Direction	•	•	•	•	•	•	•	•	•	•	No	WIS
Jump	•	•	•	•	•	•	•	•	•	•	Yes	STR*
Knowledge [cascade skill]	•	•	•	•	•	•	•	•	•	•	No	EDU
K/Geology	C	•	•	•	•	•	•	•	•	•	No	EDU
K/Interstellar Law	C	•	•	•	•	•	•	•	•	•	No	EDU
K/Mining	C	•	•	•	•	•	•	•	•	•	No	EDU
Leader	C	C	C	C	C	C	C	C	C	C	Yes	INT/CHA
Liaison	C	C	C	C	C	C	C	C	C	C	No	CHA
Listen	•	•	•	•	•	•	•	•	•	•	Yes	WIS
Move Silently	•	•	•	•	•	•	•	•	•	•	Yes	DEX*
Navigation	•	•	•	•	•	•	C	C	C	C	No	EDU
Pilot	C	C	•	C	C	C	C	C	C	•	No	INT/DEX
Profession [cascade skill]	•	•	•	•	•	•	•	•	•	•	No	WIS
P/Administration	C	C	•	C	C	C	C	C	C	•	No	WIS
P/Prospecting	•	•	•	•	•	•	•	•	•	•	No	WIS
Read/Write Language	•	•	•	•	•	•	•	•	•	•	No	None
Recruiting	C	C	C	C	C	C	C	C	C	C	Yes	EDU
Ride	•	•	C	•	•	•	•	•	•	•	Yes	DEX
Search	•	•	•	•	•	•	•	•	•	•	Yes	INT
Sense Motive	C	C	•	C	C	C	•	C	C	•	Yes	WIS
Speak Language	•	•	•	•	•	•	•	•	•	•	No	None
Spot	C	C	C	C	C	C	•	C	C	C	Yes	WIS
Survival	C	C	C	C	C	C	C	C	C	C	Yes	WIS
Swim	•	•	•	•	•	•	•	C	C	C	Yes	STR
Technical [cascade skill]	•	•	•	•	•	•	C	C	•	•	No	EDU
T/Astrogation	•	•	•	•	•	•	C	•	•	•	No	EDU
T/Communications	C	•	•	C	•	C	C	C	•	•	No	EDU
T/Computer	C	•	•	C	•	C	C	C	•	•	No	EDU
T/Electronics	C	•	•	C	•	C	C	C	•	•	No	EDU
T/Engineering	•	•	•	•	•	•	C	•	•	•	No	EDU
T/Gravitics	C	•	•	C	•	C	C	C	•	•	No	EDU
T/Mechanical	C	C	•	C	C	C	C	C	C	C	No	EDU
T/Medical	C	•	•	C	•	C	C	C	•	•	No	EDU
T/Sensors	C	•	•	C	•	C	C	C	•	•	No	EDU
Technosavvy	X	X	X	X	X	X	X	X	X	X	No	INT
Trader	•	•	•	•	•	•	•	•	•	•	Yes	INT
Tumble	•	•	•	•	•	•	•	•	•	•	No	DEX*
Use Alien Devices	X	X	X	X	X	X	X	X	X	X	No	WIS

**TABLE: SKILLS (PARAMILITARY AND NON-MILITARY SERVICE CLASSES)**

Skill	CON	Cor	Dip	Eng	Law	Mrt	Med	Sct	Untrained	Key Ability
Animal Empathy	X	X	X	X	X	X	X	X	No	CHA
Appraise	C	•	C	•	C	•	•	•	Yes	INT
Balance	•	•	•	•	•	C	•	•	Yes	DEX*
Bluff	C	•	C	•	C	C	•	•	Yes	CHA
Bribery	C	C	C	•	•	•	•	C	Yes	CHA
Broker	•	•	•	•	•	•	•	•	No	INT
Climb	•	•	•	•	•	•	•	•	Yes	STR*
Combat Engineering	•	•	•	•	•	•	•	•	No	INT
Craft [cascade skill]	C	•	•	•	•	•	•	•	Yes	INT
Decipher Script	X	X	X	X	X	X	X	X	No	INT
Demolitions	•	•	•	C	•	•	•	•	No	DEX
Disguise	•	•	•	•	•	•	•	•	Yes	CHA
Driving	•	C	•	C	C	C	C	C	Yes	DEX
Entertain [cascade skill]	C	•	•	•	•	•	•	•	Yes	CHA
Forgery	C	C	•	C	•	•	•	C	Yes	INT/DEX
Forward Observer	•	C	•	•	•	•	•	•	No	INT
Gambling	C	C	•	C	C	•	•	C	Yes	INT
Gather Information	•	C	•	•	C	•	C	C	Yes	CHA
Gunnery	•	C	•	•	•	•	•	C	Yes	WIS
Handle Animal	•	•	•	•	•	•	•	•	No	CHA
Hide	C	•	•	•	•	C	•	•	Yes	DEX*
Innuendo	C	•	C	•	•	•	•	•	No	WIS
Intimidate	C	C	•	•	C	•	•	•	Yes	CHA
Intuit Direction	•	•	•	•	•	•	•	•	No	WIS
Jump	•	•	•	•	•	C	•	•	Yes	STR*
Knowledge [cascade skill]	C	•	•	C	•	•	C	•	No	EDU
K/Biology	C	•	•	•	•	•	C	•	No	EDU
K/Disease	C	•	•	•	•	•	C	•	No	EDU
K/Forensics	C	•	•	C	C	•	C	•	No	EDU
K/Geology	C	•	•	C	•	•	C	•	No	EDU
K/Interstellar Law	C	•	C	C	C	•	C	•	No	EDU
K/Medical Specialization	C	•	•	•	•	•	C	•	No	EDU
K/Mining	C	•	•	C	•	•	C	•	No	EDU
K/(Other) Law	C	•	•	C	C	•	C	•	No	EDU
K/Pharmacy	C	•	•	•	•	•	C	•	No	EDU
K/Toxicology	C	•	•	•	•	•	C	•	No	EDU
Leader	•	C	C	C	C	C	•	C	Yes	INT/CHA
Liaison	•	•	C	C	•	•	•	C	No	CHA
Listen	•	•	•	•	•	C	•	•	Yes	WIS
Move Silently	C	•	•	•	C	C	•	•	Yes	DEX*
Navigation	•	C	•	•	•	•	•	C	No	EDU
Pilot	•	C	•	•	•	•	•	C	No	INT/DEX
Profession [cascade skill]	•	•	•	•	•	•	•	•	No	WIS
P/Administration	•	•	•	C	•	•	C	C	No	WIS
P/Engineer	•	•	•	C	•	•	•	•	No	WIS
P/Diplomat	•	•	C	•	•	•	•	•	No	WIS
P/Medic	•	•	•	•	•	•	C	•	No	WIS
P/Prospecting	•	•	•	•	•	•	•	•	No	WIS
P/Survey	•	•	•	•	•	•	•	C	No	WIS
Read/Write Language	•	•	•	•	•	•	•	•	No	None
Recruiting	•	C	•	•	•	•	•	•	Yes	EDU
Ride	•	•	•	•	•	•	•	C	Yes	DEX
Search	C	C	•	C	C	•	•	•	Yes	INT
Sense Motive	C	•	C	•	C	C	•	•	Yes	WIS
Speak Language	•	•	•	•	•	•	•	•	No	None
Spot	C	•	C	•	C	C	•	C	Yes	WIS
Survival	•	•	•	C	•	•	•	C	Yes	WIS
Swim	•	•	•	•	•	•	•	•	Yes	STR
Technical [cascade skill]	•	C	•	C	•	•	C	C	No	EDU
T/Astrogration	•	C	•	C	•	•	•	C	No	EDU
T/Communications	•	C	•	C	C	•	•	C	No	EDU
T/Computer	•	C	•	C	C	•	C	C	No	EDU
T/Electronics	•	C	•	C	C	•	C	C	No	EDU
T/Engineering	•	C	•	C	•	•	•	C	No	EDU
T/Gravitics	•	C	•	C	•	•	•	C	No	EDU
T/Mechanical	•	C	•	C	•	•	•	C	No	EDU
T/Medical	•	C	•	C	C	•	C	C	No	EDU
T/Sensors	•	C	•	C	•	•	C	C	No	EDU
Technosavvy	X	X	X	X	X	X	X	X	No	INT
Trader	•	•	•	•	•	•	•	•	Yes	INT
Tumble	•	•	•	•	•	C	•	•	No	DEX*
Use Alien Devices	X	X	X	X	X	X	X	X	No	WIS

TABLE: SKILLS (PRESTIGE CLASSES)

Skill	Ace	Anc	Bgh	Psi	TAS	Untrained	Key Ability
Ancients Lore	X	C	X	X	X	No	EDU
Animal Empathy	X	X	C	X	X	No	CHA
Appraise	•	•	•	C	•	Yes	INT
Balance	•	•	•	•	•	Yes	DEX*
Bluff	•	•	•	•	C	Yes	CHA
Bribery	•	•	•	•	C	Yes	CHA
Broker	•	•	•	•	•	No	INT
Climb	•	•	•	•	•	Yes	STR*
Combat Engineering	•	•	•	•	•	No	INT
Craft [ <i>cascade skill</i> ]	•	•	•	C	•	Yes	INT
Decipher Script	X	C	X	X	X	No	INT
Demolitions	•	•	•	•	•	No	DEX
Disguise	•	•	•	•	•	Yes	CHA
Driving	C	•	•	C	•	Yes	DEX
Entertain [ <i>cascade skill</i> ]	•	•	•	•	•	Yes	CHA
Forgery	•	•	•	•	•	Yes	INT/DEX
Forward Observer	•	•	•	•	•	No	INT
Gambling	C	•	C	•	•	Yes	INT
Gather Information	C	C	•	•	C	Yes	CHA
Gunnery	C	•	•	•	•	Yes	WIS
Handle Animal	•	•	C	•	•	No	CHA
Hide	•	•	C	•	•	Yes	DEX*
Innuendo	•	•	•	•	•	No	WIS
Intimidate	•	•	•	•	C	Yes	CHA
Intuit Direction	•	C	C	•	•	No	WIS
Jump	•	•	C	•	•	Yes	STR*
Knowledge [ <i>cascade skill</i> ]	•	C	•	C	C	No	EDU
K/(Animal Type)	•	•	C	•	C	No	EDU
K/Geology	•	C	•	•	C	No	EDU
K/Interstellar Law	•	C	•	•	C	No	EDU
K/Mining	•	C	•	•	C	No	EDU
Leader	C	•	C	•	•	Yes	INT/CHA
Liaison	•	•	C	•	C	No	CHA
Listen	•	•	C	•	•	Yes	WIS
Move Silently	•	•	C	•	•	Yes	DEX*
Navigation	•	C	C	C	•	No	EDU
Pilot	C	•	•	•	•	No	INT/DEX
Profession [ <i>cascade skill</i> ]	•	•	•	C	•	No	WIS
P/Administration	•	•	•	C	C	No	WIS
P/Journalist	•	•	•	C	C	No	WIS
P/Prospecting	•	C	•	C	•	No	WIS
P/Survey	•	C	•	C	•	No	WIS
Psionic/Awareness	X	X	X	C	X	No	Psi
Psionic/Clairvoyance	X	X	X	C	X	No	Psi
Psionic/Telekinesis	X	X	X	C	X	No	Psi
Psionic/Telepathy	X	X	X	C	X	No	Psi
Psionic/Teleportation	X	X	X	C	X	No	Psi
Read/Write Language	•	C	•	•	C	No	None
Recruiting	C	•	•	•	•	Yes	EDU
Ride	•	•	C	•	•	Yes	DEX
Search	•	•	C	•	•	Yes	INT
Sense Motive	•	•	•	•	C	Yes	WIS
Speak Language	•	C	•	•	C	No	None
Spot	C	•	C	•	•	Yes	WIS
Survival	C	•	C	•	•	Yes	WIS
Swim	•	•	•	•	•	Yes	STR
Technical [ <i>cascade skill</i> ]	•	C	•	•	•	No	EDU
T/Astrogration	•	C	•	•	•	No	EDU
T/Communications	C	C	•	C	C	No	EDU
T/Computer	C	C	•	C	C	No	EDU
T/Electronics	C	C	•	C	•	No	EDU
T/Engineering	•	C	•	•	•	No	EDU
T/Gravitics	•	C	•	•	•	No	EDU
T/Mechanical	C	C	•	C	•	No	EDU
T/Medical	•	C	C	C	•	No	EDU
T/Sensors	•	C	•	•	•	No	EDU
Technosavvy	X	X	X	X	X	No	INT
Trader	•	•	•	•	•	Yes	INT
Tumble	•	•	•	•	•	No	DEX*
Use Alien Devices	X	C	X	X	X	No	WIS



## SKILL DESCRIPTIONS

Each skill description is typically detailed in the following format. If a section does not apply to a skill, it will not appear in the description format.

### SKILL NAME (KEY ABILITY)

*Trained Only; Armor Check Penalty; [Class Name] Only*

The skill name line includes the following information:

**Key Ability:** The abbreviation of the ability whose modifier applies to the skill check. Some skills have two key abilities listed, in which case the character may choose to use the ability they have the higher score in. Exceptions: Speak Language has "None" listed as its key ability because the use of this skill does not require a check.

**Trained Only:** If "Trained Only" is included in the skill name line, the character must have at least 1 rank in the skill to use it. If it is omitted, the skill can be used untrained (with a rank of 0). If any special notes apply to trained or untrained use, they are covered in the Special section (see below).

**Armor Check Penalty:** Apply any armor check penalty to skill checks for this skill.

**[Class Name] Only:** The skill is exclusive to a certain class or classes. Only characters of the named classes may learn or use the skill. If it is omitted, the skill is not exclusive and may be used by a character of any class.

The skill name line is followed by a general description of what using the skill represents. After the description are three other types of information:

**Check:** What the character can do with a successful skill check, how much time it takes to make a check, and the DC of the check.

**Retry:** Any conditions that apply to successive attempts to use the skill successfully. If this paragraph is omitted, the skill can be retried without any inherent penalty other than consuming additional time.

**Special:** Any extra facts that apply to the skill, such as rules regarding untrained use, or if this skill has a synergistic relationship with other skills, or benefits that certain characters receive because of class or race.

### ANCIENTS LORE (EDU)

*Trained Only; Ancients Hunters Only*

The character has collected a vast range of seemingly unrelated information on the Ancients, and has managed to make links between some fragments. This allows the occasional insight into the nature of the Ancients and their devices. Most of the things "known" to a student of Ancients Lore are contradictory, incomplete, tenuous, and often wildly wrong. Attempts to explain conclusions drawn using this skill to non-Ancients Lore students come out as little more than gobbledygook. However, there are enough right guesses and instinctive connections among the character's misconceptions and wacky theories that occasionally she will be able to discern the function or even the way to use an Ancients site, device, or inscription.

Ancients Lore is exclusive to the Ancients Hunter class, and is very expensive to learn at 5 skill points per rank. It differs from K/Ancients in one important way. K/Ancients represents the body of conventional knowledge possessed by Human scientists about the Ancients: known sites, phenomena, standard theories, and so on. Much of the information known by a character with K/Ancients is mundane and (in many cases) just plain wrong.

**Check:** When confronted with an Ancients site or device, the Ancients Hunter may make a skill check at a DC determined by the Referee to see if she can apply her knowledge to it. Simple

sites will start at DC 15, more unusual ones at 25 or even 35. Devices begin at DC 20 for the simplest artifacts. If the character makes her check, she can at explain the function of the site or object (at least in general terms), and gains a +5 bonus to all attempts to operate a device, avoid hazards of a site, etc.

**Retry:** No retry is possible. Either a character can make the right connections and apply the right knowledge to any given site, or she can't. A retry is allowed if the character has gained at least one level as an Ancients Hunter since the last visit to a given site or attempt to study a device.

### ANIMAL EMPATHY (CHA)

*Trained Only; Barbarians and Big Game Hunters Only*

The character has the ability to influence the reactions of animals such as calming a barking dog, or soothing a stalking carnivore before it pounces.

**Check:** The character can improve the attitude of an animal with a successful check. To use the skill, the character and the animal must be able to study each other, noting each other's body language, vocalizations, and general demeanor. This means that the character must be within 10 meters under normal conditions.

Generally, influencing an animal in this way takes 1 minute, but it might take more or less time.

**Retry:** As with attempts to influence people, retries on the same animal generally don't work (or don't work any better), whether the character has succeeded or not.

### APPRAISE (INT)

The character is adept at determining the value of an object, from artwork dating back to the Ziru Sirka to rare artifacts plucked from the shifting sands of Saanshakase.

**Check:** The character can appraise common or well-known objects to within 10% of their value (DC 12). Failure means the character estimates the value at 50% to 150% of actual value. The Referee secretly rolls 2d6+3, multiplies by 10%, multiplies the actual value by that percentage, and tells the character that value for the item.

Rare or exotic items require a successful check against DC 15, 20, or higher. If successful, the character estimates the value at 70% to 130% of its actual value. The Referee secretly rolls 2d4+5, multiplies by 10%, multiplies the actual value by that percentage, and tells the character that value for the item. Failure means the character cannot estimate the item's value.

An electronic or optical magnifying aid such as a jeweler's lens or an electronic equivalent gives a +2 circumstance bonus to Appraise checks involving any item that is small or highly detailed, such as a gem. A merchant's scale or similar device gives a +2 circumstance bonus to Appraise checks involving any items that are valued by weight, including anything made of precious metals. These bonuses stack.

Appraising an item takes 1 minute.

**Retry:** Not on the same object, regardless of success.

**Special:** The check may be made untrained. For common items, failure means no estimate. For rare items, success means an estimate of 50% to 150% (2d6+3 times 10%).

### BALANCE (DEX)

*Armor Check Penalty*

The character is skilled at keeping his or her balance in precarious situations such as walking the ledge on the outside of a building, a slippery or unstable surface, or any similar environment.

**Check:** The character can walk on a precarious surface as a move-equivalent action. A successful check lets the character move at half the character's speed along the surface for 1 round.

A failure means that the character cannot move for 1 round. A failure by 5 or more means that the character falls.

The difficulty varies with the surface:

Surface	DC
18–30 cm wide	10
5–17 cm wide	15
Less than 5 cm wide	20
Uneven Floor	10
Surface Angled	+5*
Surface Slippery	+5*

\*Cumulative, if both apply, use both.

**Being Attacked while Balancing:** Attacks against the character are made as if the character were off balance: They gain a +2 attack bonus, and the character loses any Dexterity bonus to AC. If the character has 5 or more ranks in Balance, then the character can retain the Dexterity bonus to AC (if any) in the face of attacks. If the character takes damage, the character must make a check again to stay balanced.

**Accelerated Movement:** The character can try to walk a precarious surface more quickly than normal. If the character accepts a –5 penalty, the character can move at normal speed as a move-equivalent action. (Moving twice the character's speed in a round requires two checks.)

**Special:** If the character has 5 or more ranks in Tumble, the character gets a +2 synergy bonus on Balance checks.

### BLUFF (CHA)

The character has the ability to convince others of even the most outrageous of stories through a combination of fast-talking, body language, misdirection and other tricks of the trade.

**Check:** A Bluff check is opposed by the target's Sense Motive check. Favorable and unfavorable circumstances weigh heavily on the outcome of a bluff. Two circumstances can weigh against the character: The bluff is hard to believe, or the action that the target is to take goes against the target's self-interest, nature, personality, orders, etc. If it is important, the Referee can distinguish between a bluff that fails because the target doesn't believe it and one that fails because it just asks too much of the target. For instance, if the target gets a +10 bonus because the bluff demands something risky of them, and the Sense Motive check succeeds by 10 or less, then the target didn't so much see through the bluff as prove reluctant to go along with it. If the target succeeds by 11 or more, he has seen through the bluff (and would have done so even if it had not entailed any demand on him).

A successful Bluff check indicates that the target reacts as the character wishes, at least for a short time (usually 1 round or less) or believes something that the character wants him to believe.

A bluff requires interaction between the character and the target. Creatures unaware of the character cannot be bluffed. A bluff always takes at least 1 round (and is at least a full-round action) but can take much longer if the character tries something elaborate.

**Feinting in Combat:** The character can also use Bluff to mislead an opponent in combat so that he cannot dodge the character's attack effectively. Doing so is a miscellaneous standard action that does not draw an attack of opportunity. If the character is successful, the next attack the character makes against the target does not allow him to use his Dexterity bonus

to Armor Class (if any). This attack must be made on or before the bluffing character's next turn. Feinting in this way against an alien is difficult because it is harder to read a strange creature's body language; the character suffers a –4 penalty. Against a creature of animal Intelligence (1 or 2) bluffing is even harder; the character suffers a –8 penalty. Against a non-intelligent creature, bluffing is impossible.

**Creating a Diversion to Hide:** The character can use Bluff to help the character hide. A successful Bluff check can give the character the momentary diversion the character needs to attempt a Hide check while people are aware of the character.

**Retry:** Generally, a failed Bluff check makes the target too suspicious for a bluffer to try another ruse in the same circumstances. For feinting in combat, the character may retry freely, though each feint attempt is a new miscellaneous standard action.

**Special:** Having 5 or more ranks in Bluff gives the character a +2 synergy bonus on Intimidate checks and a +2 synergy bonus on Innuendo checks to transmit a message. Also, if the character has 5 or more ranks of Bluff, they get a +2 synergy bonus on Disguise checks when they act "in character" to fit the disguise and a +2 synergy bonus on P/Administration checks when attempting to get past customs or other situations requiring paperwork or similar bureaucratic hassles.

Nobles with the *Noble Indignance* class feature may use their Social Standing in place of Charisma as the key ability for this skill.

### BRIBERY (CHA)

The character has experience in bribing petty and not-so-petty officials in order to circumvent regulations or ignore cumbersome laws.

**Check:** If the bribe is less than the minimum bribe required, the attempt will automatically fail. Characters may offer more than the minimum bribe required and receive a –1 on the DC for each multiple of the bribe offered. For example, a character trying to bribe a 4<sup>th</sup> level official to ignore a minor smuggling infraction would have to offer a minimum bribe of Cr200. If the character offered Cr400 instead the character could subtract –1 from the task DC. If Cr600 were offered, the character could subtract –2 from the task DC, etc.

Offense	DC	Minimum Bribe
Petty Crime or Infraction	5 + World Law Level	Cr10 per level of official
Misdemeanor, Minor Infraction	10 + World Law Level	Cr50 per level of official
Serious Crime, Serious Infraction	15 + World Law Level	Cr100 per level of official
Major Felony, Grievous Infraction	20 + World Law Level	Cr500 per level of official

Modifiers	DC Modifier
No skill ranks	+5
Per doubling of bribe amount	-1

**Retry:** If the first offer is refused, a character may make a second attempt at twice the previous value of the bribe.

**Special:** If both attempts are refused (failed), the Referee should have the character make an opposed Charisma ability check vs. the World Law Level (1d20 + Law Level). If this also fails, the NPC will bring the character up on charges of attempted

bribery.

Nobles with the *Noble Indignance* class feature may use their Social Standing in place of Charisma as the key ability for this skill.

### BROKER (INT)

A broker is skilled in facilitating the purchase and resale of commercial goods, as per the Trade and Commerce rules.

**Check:** A character may apply their Broker skill whenever they must consult the Trade and Commerce Actual Value Table (See THB).

### CLIMB (STR)

#### *Armor Check Penalty*

The character is proficient at traversing many types of surfaces, including ropes, rock faces, building facades, etc, with and without tools and other climbing equipment.

**Check:** With each successful Climb check, the character can advance up, down, or across a slope or a wall or other steep incline (or even a ceiling with handholds) at one-half the character's speed as a miscellaneous full-round action. The character can move half that far (one-fourth of the character's speed) as a miscellaneous move-equivalent action. A slope is considered to be any incline of less than 60 degrees; a wall is any incline of 60 degrees or steeper.

A failed Climb check means that the character makes no progress, and a check that fails by 5 or more means that the character falls from whatever height he has already attained.

A climber's kit gives a +2 circumstance bonus to Climb checks.

The DC of the check depends on the conditions of the climb. The following examples are for a normal Human under standards gravitic and atmospheric conditions. High gravity, wind etc will raise the DC of the task.

DC	Example Wall or Surface
0	A slope too steep to walk up. A knotted rope with a wall to brace against.
5	A rope with a wall to brace against, or a knotted rope.
10	A surface with ledges to hold on to and stand on, such as a very rough wall or a sailing ship's rigging.
15	Any surface with adequate handholds and footholds (natural or artificial), such as a very rough natural rock surface or an unknotted rope.
20	An uneven surface with some narrow handholds and footholds, such as a typical wall in a ruined structure.
25	A rough surface, such as a natural rock wall or a brick wall.
25	Overhang or ceiling with handholds but no footholds.
—	A perfectly smooth, flat, vertical surface cannot be climbed.

#### *Modifiers*

−10*	Climbing a chimney (artificial or natural) or other location where one can brace against two opposite walls (reduces DC by 10).
−5*	Climbing a corner where the character can brace against perpendicular walls (reduces DC by 5).
+5*	Surface is slippery (increases DC by 5).

\*These modifiers are cumulative; use any and all that apply.

Since the character can't move to avoid a blow while climbing, enemies can attack as if the character were stunned: An attacker gets a +2 bonus, and the character loses any Dexterity bonus to Armor Class.

It is not possible to use a shield while climbing.

Any time the character takes damage while climbing, make a Climb check against the DC of the slope or wall. Failure means the character falls from his current height and sustains the appropriate falling damage.

**Accelerated Climbing:** The character tries to climb more quickly than normal. As a miscellaneous full-round action, the character can attempt to cover the character's full speed in climbing distance, but suffers a −5 penalty on Climb checks AND the character must make two checks each round. Each successful check allows the character to climb a distance equal to one-half the character's speed. By accepting the −5 penalty, the character can move this far as a move-equivalent action rather than as a full-round action.

#### **Making the character's Own Handholds and Footholds:**

The character can make his or her own handholds and footholds by pounding pitons into a wall. Doing so takes 1 minute per piton, and one piton is needed per 1 meter. As with any surface with handholds and footholds, a wall with pitons in it has a DC of 15. In the same way, a climber with a hand axe or similar implement can cut holds in an ice wall.

**Catching One's Self When Falling:** It is practically impossible to catch one's self on a wall or other vertical surface while falling. Make a Climb check (DC = wall's DC + 20) to do so. A slope is a lot easier to catch one's self on (DC = slope's DC + 10).

### COMBAT ENGINEERING (INT)

#### *Trained Only*

The individual has practical experience as well as training in a variety of combat engineering skills.

Combat engineering involves the rapid construction of field fortifications, their camouflage, the assessment of their ability to withstand enemy fire, mine and sensor placement and clearance, temporary bridge building, etc.

**Camouflage:** A combat engineer is able to hide and disguise combat emplacements, fortifications, and even vehicles, making them much harder to spot by both ground and aerial observation. The base DC to Spot a camouflaged item is 25 + the Combat Engineering skill of the character that set up the camouflage.

It is also easier for a character with this skill to spot likely locations of enemy positions, and recognize signs of camouflaging. When searching for enemy emplacements the Referee should make a secret skill check for the character against a DC equal to the camouflage rating of the emplacements (if any). A Spot check can also be used in place of Combat Engineering skill when trying to spot enemy emplacements, but this incurs a −4 penalty to the roll.

**Booby Traps and Land Mines:** The combat engineer is trained in setting up and detecting booby traps and land mines. When setting up a booby trap or laying a minefield, the character makes his Combat Engineering skill check to set the DC, as for camouflage.

**Retry:** Can only be attempted once per day for any given task.

**Special:** A character with 5 or more ranks in Combat Engineering will enjoy a +2 synergy bonus on Demolitions skill checks when placing demo charges on buildings, combat emplacements, or similar structures.

### CRAFT (INT/DEX)

Craft is actually a number of separate skills. For instance, the



character could have the skill Craft (Gunsmithing). The character's ranks in that skill don't affect any checks the character happens to make for painting or woodworking, for example. The character could have several Craft skills, each with its own ranks, each purchased as a separate skill.

A Craft skill is specifically focused on creating items of utility and/or beauty such as custom weaponry, sculpting, painting, woodworking, pottery, and similar tasks. When this skill is selected, the character immediately must pick a specific type of craft that is represented by the skill.

**Check:** The character can practice a trade and make a decent living, earning about half the check result x 40 in Credits per week of dedicated work. The character knows how to use the tools of the trade, how to perform the craft's daily tasks, how to supervise untrained helpers, and how to handle common problems. (Untrained laborers and assistants earn an average of Cr75 per day.)

However, the basic function of the Craft skill is to allow the character to make an item of the appropriate type. The DC depends on the difficulty of the item created. The DC, the character's check results, and the price of the item determine how long it takes to make the item. The item's finished price also determines the cost of raw materials. (In the game world, it is the skill level required, the time required, and the raw materials required that determine an item's price. That's why the item's price and DC determine how long it takes to make the item and the cost of the raw materials.)

All crafts require artisan's tools to give the best chance of success; if improvised tools are used instead, the check is made with a -2 circumstance penalty.

To determine how much time and money it takes to make an item:

1. Have the Referee set a DC for the item to be crafted.
2. Pay one-third the item's final value in raw materials.
3. Make a skill check representing one week's work.

If the check succeeds, find the current "work value" by multiplying the check result by the DC and dividing by 10. If the work value equals the price of the item, then the character has completed the item. If the work value is double or triple the price of the item then the character has completed the task in one-half or one-third the time, and so on. If the work value is less than the price, it represents the progress the character has made this week. Record the result and make a check for the next week. Each week the character makes more progress until the total work value reaches the price of the item.

If the character fails the check, he makes no progress this week. If the character fails by 5 or more, the character ruins half the raw materials and will have to pay half the original raw material cost again. A failure by 10 or more indicates the whole piece is ruined. All work value is lost and new materials must be obtained for the character to start over.

**Progress by the Day:** The character can make checks by the day instead of by the week, in which case the character's progress (result times DC) is at one tenth the weekly rate.

**Creating Masterwork Items:** The character can make a masterwork item (an item that conveys a bonus to its use through its exceptional craftsmanship). To create a masterwork version of an item on the table below, the character creates the masterwork component as if it were a separate item in addition to the standard item. The masterwork component has its own price and DC. Once both the standard component and the masterwork component are completed, the masterwork item is finished. (Note: The price the character pays for the masterwork component is one-third of the given amount, just as it is for the price in raw materials.)

Masterwork tools add a +2 circumstance bonus to related

skill checks (if any). Masterwork weapons add a +1 bonus to attack rolls. Masterwork items usually sell for at least twice their normal value.

**TABLE: Craft Construction**

Item	Craft	DC
Small Firearms	Gunsmithing	12
Medium Firearms	Gunsmithing	15
Machineguns	Gunsmithing	18
Bows, Crossbows	Weaponsmith	15
Small Melee Weapons	Weaponsmith	10
Medium Melee Weapons	Weaponsmith	12
Large Melee Weapons	Weaponsmith	15
Very simple item	Varies	5
Typical item	Varies	10
High-quality item	Varies	15
Complex or superior item	Varies	20

**Retry:** Yes, but each time the check is missed by 5 or more, the character ruins half the raw materials or may have to start again (see above).

## DECIPHER SCRIPT (INT)

*Trained Only; Academic Only*

The character is capable of figuring out the meaning and general (non-specific) content of written, chiseled, carved or drawn communications such as alien symbols, fragments of an decree by an ancient and long dead civilization, or even the graffiti scrawled by local gangs on the walls of buildings in the local startown.

**Check:** The character can decipher writing in an unfamiliar language or a message written in an incomplete or alien form. The base DC is 20 for the simplest messages, 25 for standard texts, and 30 or higher for intricate, exotic, alien, or very old writing.

If the check succeeds, the character understands the general content of a piece of writing, reading about one page of text (or its equivalent) in 1 minute. If the check fails, the Referee makes a secret Wisdom check (DC 5) for the character. Success means that the character fails to determine any meaning but does not draw a false conclusion from the text. Failure means that he or she has gained an erroneous impression.)

The Referee secretly makes both the skill check and (if necessary) the Wisdom check so the player cannot tell whether the conclusion their character draws is true or false.

**Retry:** No.

**Special:** When attempting to encrypt or decrypt data via computer, a skill rank of 5 or more in Decipher Script will add a +2 synergy modifier.

## DEMOLITIONS (DEX)

*Trained Only*

The individual is trained and experienced in the handling, placement, and efficient use of explosives. See Demolitions for more information.

**Special:** A character with 5 or more ranks in Combat Engineering will enjoy a +2 synergy bonus to any Demolition skill checks involving buildings, combat emplacements, or similar structures. When using demolitions on vehicles and equipment, 5 or more ranks in T/Mechanical skill will add a +2 synergy bonus to the Demolitions skill check. When placing charges against starships and small craft, 5 or more ranks in T/Engineering skill

will give a +2 synergy bonus to the Demolitions skill check.

## DISGUISE (CHA)

The character can impersonate people, either specific individuals or general stereotypes. For example, the character might, with little or no actual disguise, seem like a well-seasoned adventurer even if in fact he or she has never been more than a few miles from home.

**Check:** The effort requires at least a few props, some makeup, and 1d3 X 10 minutes of work. The use of a disguise kit provides a +2 circumstance bonus to a Disguise check. A disguise can include an apparent change of up to one-tenth of the character's height or weight.

The character's Disguise check result determines how good the disguise is, and it is opposed by others' Spot check results. Make one Disguise check even if several people make Spot checks. The Referee makes the character's Disguise check secretly so that he or she is not sure how good the disguise is.

If the character does not draw any attention to him or herself, however, others do not get to make Spot checks. If the character comes to the attention of people who are suspicious (such as a customs guard who is watching people walking through a starport gate), the Referee can assume that such observers are taking 10 on their Spot checks.

The effectiveness of the character's disguise depends in part on how much the character is attempting to change his or her appearance:

Disguise	Modifier
Minor details only	+5
Disguised as different sex	-2
Disguised as different race	-2 or more!
Disguised as different age category	-2*
Disguised as specific class	-2

\*Per step of difference between character's actual age category and disguised age category (young [younger than adulthood], adulthood, middle age, old, venerable).

If the character is impersonating a particular individual, those who know what that person looks like get a bonus on their Spot checks (and are automatically considered to be suspicious of the character, so opposed checks are always invoked).

Familiarity	Bonus
Recognizes on sight	+4
Friends or associates	+6
Close friends	+8
Intimate	+10

Usually, an individual makes a check for detection immediately upon meeting the character and each hour thereafter. If the character casually meets many different people, each for a short time, check once per day or hour, using an average Spot bonus for the group. For example, if a character is trying to pass for a merchant at a bazaar, the Referee can make one Spot check per hour for the people she encounters using a +1 bonus on the check to represent the average of the crowd (most people with no Spot ranks and a few with good Spot skills).

**Retry:** A character may try to redo a failed disguise, but once others know that a disguise was attempted they will be more suspicious.

**Special:** If the character has 5 or more ranks of Bluff, he gets

a +2 synergy bonus on Disguise checks when he knows that he is being observed and tries to act "in character" with his disguise

## DRIVING (DEX)

*Special*

The individual is skilled in the operation and maintenance of a specific type vehicle commonly available in society. Driving skill checks are generally only necessary under non-routine conditions such as difficult driving conditions, combat etc.

**Special:** This skill is only gained by selecting an appropriate Vehicle feat.

## ENTERTAIN (CHA)

The character is skilled in a particular form of public entertainment and performance. It is possible for a character to be capable of more than one form of performance, each with its own skill ranks. Possible Entertainment type skills include singing, dancing, comedy, dramatic acting, specific musical instruments, poetry, storytelling, and many others. A character may select one of these, or with the Referee's permission select some other form of entertainment skill such as juggling.

**Check:** The character can impress audiences with talent and skill. These skills may be used for both pleasure and as a possible source of income. The table below will help determine the quality of a performance based on the appropriate Entertain skill check made by the character:

Roll	Performance Quality
1-5	Abysmal performance
6-10	Poor performance
11-15	Routine performance
16-20	Enjoyable performance
21-25	Great performance
26-30	Memorable performance
31+	Extraordinary performance

A masterwork musical instrument gives a +2 circumstance bonus to Entertain checks that involve the use of the instrument.

**Employment:** To obtain a gig, the character must make a search each week to contact prospective employers and canvas for an opening. At the end of the week the character makes a skill check against a DC of 10 + the Maintain Employment DC of the position being sought. For example, a character searching for a billing as the headline singer at a respectable but modest sized nightclub for a week would need to make a successful E/Singing skill check vs. DC25 to locate a job opening that week.

Note that a character may not Take10 or Take20 when making a Maintain Employment or Earn Promotion check

Billing	Maintain Employment	Earn Promotion	Weekly Pay
General Act at Local Dive	5	25	Cr500
Opening Act at Decent Venue	10	30	Cr750
Headline Act at Decent Venue	15	35	Cr1000
Headline Act at Large Venue	20	-	Cr2000

*Maintaining Employment:* At the end of each week a







world, assuming no obvious reasons exist why the information would be withheld. The higher the check result, the better the information.

If the character wants to find out about a specific rumor, specific item, obtain a map, or do something else along those lines, the DC is 15 to 25 or higher.

**Retry:** Yes, but it takes several hours for each check, and characters may draw attention to themselves if they repeatedly pursue a certain type of information.

**Special:** A character with the Connections feat gets a +2 synergy bonus on Gather Information checks when using their contacts. Similarly a character with the Research feat will get a +2 synergy bonus when conducting research on a story or project. Also characters with the Carousing feat will earn a +2 synergy bonus when using the Gather Information skill in social situations.

### GUNNERY (WIS)

This skill is used as an attack bonus equal to the character's Gunnery skill rank when making an attack using Field Artillery, Vehicle mounted weapons, or Ship's Weaponry. See Combat for more information.

**Special:** This skill is only gained by selecting an appropriate Weapon Proficiency feat.

### HANDLE ANIMAL (CHA)

The character is an experience hand when it comes to dealing with animals, with knowledge of breeding, raising, care and training of them.

**Check:** The time required to get an effect and the DC depend on what the character is trying to do.

Task	Time	DC
Handle a domestic animal	Varies	10
"Push" a domestic animal	Varies	15
Teach an animal tasks	2 months	15
Teach an animal unusual tasks	2 months	20
Rear a wild animal	1 year	15 + HD of animal
Train a wild animal	2 months	20 + HD of animal

**Time:** For a task with a specific time frame, the character must spend half this time (at the rate of 3 hours per day per animal being handled) working toward completion of the task before the character makes the skill check. If the check fails, the character can't teach, rear, or train that animal. If the check succeeds, the character must invest the remainder of the time before the teaching, rearing, or training is complete. If the time is interrupted or the task is not followed through to completion, any further attempts to teach, rear, or train the same animal automatically fail.

**Handle a Domestic Animal:** This means to command a trained dog, to drive beasts of labor, to tend to tired horses, and so forth.

**"Push" a Domestic Animal:** To push a domestic animal means to get more out of it than it usually gives, such as commanding a poorly trained dog or driving draft animals for extra effort.

**Teach an Animal Tasks:** This means to teach a domestic animal some tricks. The character can train one type of animal per rank (chosen when the ranks are purchased) to obey commands and perform simple tricks. The character can work with up to three

animals at one time, teaching them general tasks. An animal can be trained for one general purpose only.

**Teach an Animal Unusual Tasks:** This is similar to teaching an animal tasks, except that the tasks can be something unusual for that breed of animal, such as training a dog to be a riding animal. Alternatively, the character can use this aspect of Handle Animal to train an animal to perform specialized tricks, such as teaching a horse to rear on command or a falcon to pluck objects from someone's grasp.

**Rear a Wild Animal:** To rear an animal means to raise a wild creature from infancy so that it is semi-domesticated. A handler can rear up to three creatures of the same type at once. A successfully reared animal can be taught tricks at the same time that it is being raised, or can be taught as a domesticated animal later. However, even a hand-reared and trained animal will remain semi-wild. Only animals bred to domesticity are completely domesticated.

**Train a Wild Animal:** This means train a wild creature to do certain tricks, but only at the character's command. The creature is still wild, though usually controllable.

**Retry:** For handling and pushing domestic animals, yes. For training and rearing, no.

**Special:** A character with 5 or more ranks of Animal Empathy gets a +2 synergy bonus on Handle Animal checks with animals. A character with 5 or more ranks of Handle Animal gets a +2 synergy bonus on Ride checks. An untrained character can use a Charisma check to handle and push animals but not to teach or rear them.

### HIDE (DEX)

#### *Armor Check Penalty*

This skill allows a character to use the shadows for concealment from view, slowly approach a position via the cover of dense underbrush, trail a target through a moderately crowded street, or similarly make use of concealment (outside of combat).

**Check:** The character's Hide check is opposed by the Spot check of anyone who might see them. The character can move up to one-half normal speed and hide at no penalty. At more than one-half and up to the full speed, the character suffers a -5 penalty. It's practically impossible (-20 penalty) to hide while running or charging.

Larger and smaller creatures get size bonuses and size penalties on Hide checks: Fine +16, Diminutive +12, Tiny +8, Small +4, Large -4, Huge -8, Gargantuan -12, Colossal -16.

A character can attempt to camouflage himself in order to blend into the local terrain. Such a camouflaged character may add a bonus equal to 5 + his Intelligence to any Hide checks if the camouflage is appropriate.

If people are observing the character, even casually, he cannot hide. The character can run around a corner or something so that he is out of sight and then hide, but the others then know at least where the character went. If the character's observers are momentarily distracted (as by a Bluff check; see below), the character can attempt a Hide check. While the observers' attention is distracted, the character can attempt a Hide check if he can get to a hiding place of some kind. (As a general guideline, the hiding place has to be within 1 foot per rank the character has in Hide.) This check, however, is at -10 because the character has to move fast.

**Creating a Diversion to Hide:** A successful Bluff check can provide the momentary diversion the character needs to attempt a Hide check while people are observing him.

## INNUENDO (WIS)

*Trained Only*

The character is able to pass along and understand secret messages while carrying on a conversation about something else. For example the captain of a ship might use innuendo to pass along orders to the crew to prepare for a boarding action by pirates, all the while speaking to the passengers about some "minor engine difficulties" that have just occurred.

**Check:** The character can get a message across to another character with the Innuendo skill.

The DC for a basic message is 10. The DC is 15 or 20 for complex messages, especially those that rely on getting across new information. Also, the character can try to discern the hidden message in a conversation between two other characters who are using this skill. The DC is the skill check of the character using Innuendo, and for each piece of information that the eavesdropper is missing, that character suffers a -2 penalty on the check. For example, if a character eavesdrops on people planning to assassinate a visiting diplomat, the eavesdropper suffers a -2 penalty if he doesn't know about the diplomat. Whether trying to send or intercept a message, a failure by 5 or more points means that some false information has been implied or inferred.

The Referee makes the character's Innuendo check secretly so that the character does not necessarily know whether he was successful.

**Retry:** Generally, retries are allowed when trying to send a message, but not when receiving or intercepting one. Each retry carries the chance of miscommunication.

**Special:** If the character has 5 or more ranks in Bluff, the character gets a +2 synergy bonus on the check to transmit (but not receive) a message. If the character has 5 or more ranks in Sense Motive, the character gets a +2 synergy bonus on the check to receive or intercept (but not transmit) a message.

## INTIMIDATE (CHA)

The character has an uncanny ability to bully, browbeat, insult, threaten, embarrass, or otherwise intimidate others into doing what she wants through force of personality or social position, without actually resorting to violence.

**Check:** The character can change others' behavior with a successful check. The DC is typically 10 + the target's Hit Dice. Any bonuses that a target may have on saving throws against fear increase the DC.

**Retry:** Generally, retries do not work. Even if the initial check succeeds, the other character can only be intimidated so far, and a retry doesn't help. If the initial check fails, the other character has probably become more firmly resolved to resist the intimidator, and a retry is futile.

**Special:** If the character has 5 or more ranks in Bluff, the character gets a +2 synergy bonus on Intimidate checks.

Nobles with the *Noble Indignance* class feature may use their Social Standing in place of Charisma as the key ability for this skill.

## INTUIT DIRECTION (WIS)

*Trained Only*

The character is rarely disoriented, and has an unnerving knack for always knowing what direction he is facing in relation to the local compass.

**Check:** By concentrating for 1 minute, the character can determine where true north lies in relation to the character (DC 15). If the check fails, the character cannot determine direction. On a natural roll of 1, the character errs and mistakenly identifies a random direction as true north.

The Referee makes the character's check secretly so that the

character doesn't know whether the character rolled a successful result or a 1.

**Retry:** The character can use Intuit Direction more than once per day. The roll represents how sensitive to direction the character is at that point in the day. Use the most recently rolled number for all other checks in the same day.

**Special:** Untrained characters can't use an innate sense of direction, but they could determine direction by finding clues.

## JUMP (STR)

*Armor Check Penalty*

A character would use this skill when attempting to jump across the gap between two buildings, drop from a second story window, leap to another branch in a tree, or other similar situations.

**Check:** The character jumps a minimum distance plus an additional distance depending on the amount by which the character's Jump check result exceeds 10. The maximum distance of any jump is a function of the character's height.

Type of Jump	Minimum Distance	Additional Distance	Maximum Distance
Running Jump*	1.5 meters.	+25 cm./1 point above 10	Height X 6
Standing Jump	1 meter.	+25 cm./2 points above 10	Height X 2
Running High Jump*	50 centimeters.	+25 cm./4 points above 10	Height X 1 1/2
Standing High Jump	50 centimeters.	+25 cm./8 points above 10	Height
Jump Back	25 centimeters.	+25 cm./8 points above 10	Height

\*The character must move 6 meters before jumping. A character cannot take a running jump in heavy armor.

The distances listed are for characters with speeds of 10 meters. If the character has a lower speed (from armor, encumbrance, or weight carried, for instance), reduce the distance jumped proportionally. If the character has a higher speed than a standard Human, increase the distance jumped proportionally.

Distance moved by jumping is counted against maximum movement in a round normally.

If the character intentionally jumps down from a height, the character might take less damage than if he fell the same distance. If the character succeeds at a Jump check (DC 15), the character takes damage as if the character had fallen 3 meters less than the character actually did.

Note that the distances given here are for a normal Human under standard gravity conditions.

**Special:** If the character has 5 or more ranks in Tumble, the character gets a +2 synergy bonus on Jump checks.

A character who has the Run feat and who makes a running jump increases the distance or height he clears by one-fourth, but not past the maximum.

## KNOWLEDGE (EDU)

Knowledge is a *Cascade Skill*, which is actually a general

categorization for a number of different skills. Knowledge represents acquired information, learning, and/or education about a specific subject, but not necessarily the practical application of such information. For example, an Academic character might have the K/Vehicles skill representing a study of the design and evolution of vehicles, but this doesn't necessarily mean he knows how to fix a blown fuel cell (which would require the Technical skill T/Mechanical instead).

When this skill is selected, the character immediately must pick a specific area of knowledge that is represented by the skill. This skill may be taken any number of times, but each selection must be in a new area of knowledge.

**Check:** Answering a question within the character's field of study has a DC of 10 (for really easy questions), 15 (for basic questions), or 20 to 30 (for really tough questions).

**Retry:** No. The check represents what the character knows, and thinking about a topic a second time doesn't let the character know something the character never learned in the first place.

**Special:** An untrained Knowledge check is simply an Education check. Without actual training, a character only knows facts that are common knowledge. Note that some "commonly known" facts may be partially or completely (and sometimes deliberately) wrong or false. Untrained Knowledge checks allow the character to remember what facts he or she has encountered. The truth may be harder to come by, though a subject expert may know the truth behind many common fallacies and misconceptions.

In situations where a character has a Knowledge skill useful to a task requiring a related Technical or Professional skill, the character may add a +2 synergy bonus to the skill check. If the character does not possess the required skill, they may still attempt the task as if they did have the skill rank of 0 but they lose the synergy bonus.

## DETAILED KNOWLEDGE SKILLS

Below are some detailed areas of knowledge that are commonly used by characters in the *Traveller* universe.

### K/INTERSTELLAR LAW

The character is familiar with the general laws and regulations that govern interstellar travel, commerce, and relations. This skill does not impart knowledge of the myriad of laws on each individual world, nor does it allow the person to act as an attorney.

**Ship Inspections:** Typically, when a ship arrives at a new world, it will be inspected by the port authorities to check for compliance with all applicable laws and regulations. It is also not uncommon for patrol ships to stop and board merchant and other ships while in deep space. When such an inspection does occur, the character may make a K/Interstellar Law check (DC10 + the local world Law Level UWP) to be found in compliance and pass inspection. If there is anything illegal on board, the character suffers a -5 penalty to their skill check roll.

**Special:** A character that also has a P/Administration skill rank of 5 or higher may add a +2 synergy bonus to their skill check rolls when using this skill. K/Interstellar Law may also be used in place of the P/Administration skill in certain appropriate situations, but with a -4 penalty to the skill check roll.

## OTHER SUGGESTED KNOWLEDGE SKILLS

Listed below are additional suggestions for areas of knowledge that might be use to characters in the *Traveller* universe. You are free to select from among them or, with your Referee's permission, come up with new areas of knowledge.

- The Ancients (their history, known sites, previously found artifacts).
- Imperial History (dates, names, important events).

- Jump Space (facts, figures, legends, rumors).
- Architecture and Construction (buildings, bridges, fortifications, mining).
- Alien Culture (the history, important dates, figures, and events of a specific alien society).
- The Sciences (specific sciences include: astronomy, biology, botany, chemistry, genetics, physics, zoology, geology, geography, oceanography, planetology, paleontology, archeology).
- Court Politics (who's who at the Imperial court, important families and individuals, feuds, rumors)
- Business (marketing, financing, organization, important contacts, competitors)
- Planet (local leaders, dangerous wildlife and flora, weather patterns, history, important sites)
- General and local operations of individual Megacorporations (e.g. Delgado, Hortalez et Cie, etc)
- A specific topic (such as Warships of the 3<sup>rd</sup> Imperium, Ground Vehicles, Small arms Manufacturers or Famous People Named Steve)

### LEADER (INT/CHA)

The character possesses the ability to organize and direct team efforts to ensure the best cooperation and productivity possible.

**Check:** Whenever a task requires one or more characters to combine their efforts (i.e. Teamwork; each makes a skill or ability check towards a common goal), a successful Leader check allows each team member to make an appropriate skill check vs. DC5 rather than the normal DC10.

Task	DC
Simple task	5
Moderate task	10
Difficult task	15
Complex task	20

Conditions	Modifier
Boring, repetitive task	+5
Grueling labor	+10

**Retry:** A character may try more than once to "rally" his men, but each additional attempt to do so for the same task will incur a cumulative -2 penalty to the Leader check.

**Special:** Leader skill rank of 8+ will also give a +2 bonus when attempting to recruit crewman, soldiers, or other hirelings. Unlike the Recruiting skill, Leader skill will tend to attract anyone looking for employment, qualified or not, so personnel found this way will require a bit more of a "weeding" process to find suitable candidate for a given position.

Nobles with the *Noble Presence* class feature may use their Social Standing in place of Charisma as the key ability for this skill.

### LIAISON (CHA)

The character is trained in the art of dealing with others, including knowledge of proper protocols, manners of address, codes of conduct and other information needed when dealing with a wide range of societal types. Such a character is quite useful when attempting to negotiate a particularly edgy deal, to convince the Duke's secretary to admit the party into the Duke's presence, help settle a dispute between two opposing groups, or other acts of negotiation and diplomacy.



**Check:** The character can change others' attitudes with a successful check. In negotiations, participants roll opposed Liaison checks to see who gains the advantage. Opposed checks also resolve cases when two diplomats are engaged in negotiations.

**Retry:** Generally, retries do not work. Even if the initial check succeeds, the other character can only be persuaded so far, and a retry may do more harm than good. If the initial check fails, the other character has probably become more firmly committed to his position, and a retry is futile.

**Special:** Charisma checks to influence NPCs are generally untrained Liaison checks. If the character has 5 or more ranks in Bluff or Sense Motive, the character gets a +2 synergy bonus on Liaison check. A character with a skill rank of 5 or more in Liaison skill may add +2 to the result when attempting to locate bulk cargos for transport under the Trade and Commerce rules.

**Note:** This skill is the equivalent of the Diplomacy skill in other d20 games.

Nobles with the *Noble Presence* class feature may use their Social Standing in place of Charisma as the key ability for this skill.

## LISTEN (WIS)

A character might use this skill when trying to overhear another conversation nearby, listen for the approach of someone, or hear a distant noise.

**Check:** Make a Listen check against a DC that reflects how quiet the noise is that the character might hear or against an opposed Move Silently check.

The Referee may make the Listen check so that the character doesn't know whether not hearing anything means that nothing is there, or that the character rolled low.

DC	Sound
0	People talking
5	A person in medium armor walking at a slow pace (3m/round) trying not to make noise.
10	An unarmored person walking at a slow pace (4.5m/round) trying not to make any noise
15	A 1st-level Rogue using Move Silently within 3m of the listener
19	A cat stalking
30	An owl gliding in for a kill
+1	Per 3m from the listener
+5	Through a door
+15	Through a stone wall

In the case of people trying to be quiet, the listed DCs could be replaced by Move Silently checks, in which case the listed DC would be the average result of their checks.

These values reflect a standard atmosphere. Sound carries less well in thin atmospheres and better in dense ones.

**Retry:** The character can make a Listen check every time the character has a chance to hear something in a reactive manner. As a full-round action, the character may try to hear something the character failed to hear previously.

**Special:** When several characters are listening to the same thing, the Referee can make a single 1d20 roll and use it for all the listeners' skill checks.

## MOVE SILENTLY (DEX)

*Armor Check Penalty*

The character moves with a feline's grace, able to cross various surfaces while making little or no sound. Note that moving "silently" includes not sending vibrations through the ground. Even with no atmosphere to conduct sound it is still possible to alert someone to your presence by stomping along the decking.

**Check:** The character's Move Silently check is opposed by the Listen check of anyone who might hear the character. The character can move up to one-half of his normal speed at no penalty. At more than one-half and up to the character's full speed, he suffers a -5 penalty. It's practically impossible (-20 penalty) to move silently while running or charging.

## NAVIGATION (EDU)

*Trained Only*

The individual has training and expertise in the art and science of land and water navigation.

**Check:** Whatever means of transport is being used (from shoe leather to starships), the navigator's role is to determine a suitable route that avoids hazards while allowing the travellers to make the best progress they can. On exploratory missions, or when venturing into unexplored territory, Navigation skill may be used to assist in the speedy computation of courses, in the accurate determination of courses, and in the determination of position when lost or strayed, and also to facilitate the accurate recording of progress and the production of charts or maps. The minimum requirement for successful navigation is that the night sky must be visible from the planetary surface, though usually high-technology aids such as radar, beacons, and satellite navigation systems are employed. The time required to plot a course depends upon the length of the journey and its complexity.

Task	DC	Time
Determine Location	10	1 minute
Plot Standard Course	10	10 minutes

Circumstances	Modifier
Rushed, Under fire	+5
Familiar Destination	+0
Fringe/Frontier region	+5
Uncharted region	+10

## PILOT (INT OR DEX)

*Trained Only*

The individual has training and experience in the operation of a given type of grav vehicles, aircraft, spaceship, and/or starships, depending upon the Vehicle feats possessed by the character. A character is qualified for the job of pilot on any type of craft for which they have the appropriate feat (in addition to Pilot skill). Pilot expertise is necessary to handle such craft, though a check is usually only made when circumstances become challenging, such as due to weather conditions or hostile action. See Vehicle and Starship Maneuver Actions for more information.

**Special:** This skill is only gained by selecting an appropriate Vehicle feat.

## PROFESSION (WIS)

*Trained Only*

The character is trained in a livelihood or a professional role.

Profession is a *Cascade Skill* that actually represents a number of separate skills that are used to make one's livelihood in the commercial world. While one could easily make a living through various Craft, Technical, and even Knowledge skills, a Profession skill represents a broader knowledge and familiarity than those more specific skills, the *business* side of things if you will.

When this skill is selected, the character immediately must pick a specific profession that is represented by the skill. This skill may be taken any number of times, but each selection must be in a new profession.

**Check:** The character can practice a trade and make a decent living, knows how to use the tools of the trade, how to perform the profession's daily tasks, how to supervise untrained helpers, and how to handle common problems.

**Employment:** To obtain employment, the character must make a search each week contacting prospective employers and canvassing for job opening. At the end of the week the character makes a skill check against a DC of 10 + the Maintain Employment DC of the position being sought. For example, a character searching for a position as an Administration Manager would need to make a successful P/Administration skill check vs. DC25 to locate a job opening that week.

Note that a character may not Take10 or Take20 when making a Maintain Employment or Earn Promotion check

Position	Maintain Employment	Earn Promotion	Weekly Pay	Example
General Employee	5	25	Cr500	Billing/Filing Clerk
Supervisor	10	30	Cr750	Steward
Manager	15	35	Cr1000	Head Chef
Executive	20	-	Cr2000	Owner, Top Management

**Maintaining Employment:** At the end of each week a character has worked in a job, she must make a Maintain Employment check to see if she maintains the position for another week. If the check fails, she forfeits her pay for that week and must immediately make another skill check at the same DC. If this second check is also failed, she is demoted one level and must make a third check. If she fails this one she loses her job.

If a character wishes to take a short-term "mundane" job in between their travels, they may make a weekly check to find and retain a suitable job. The Referee may, at his or her discretion increase this check to one every month or even every year. For even longer periods of employment, see the Prior History section on the Professional class for more information.

**Earning a Promotion:** At the end of each month a character has worked in a position, she may make an Earn Promotion check to see if she is promoted to the next pay position. For example, a character who is a general employee and earns a promotion would begin the next month as a supervisor. Executives cannot be promoted.

**The Weekly Paycheck:** At the end of the week a character will earn a paycheck appropriate to their position.

**Retry:** An attempt to use a Profession skill to earn an income cannot be retried. The character is stuck with whatever weekly wage the check result brought the character. (Another check may be made after a week to determine a new income for the next period of time.) An attempt to accomplish some specific task can usually be retried. If the Referee wishes, loss of weekly pay for managers and executives may be translated to loss of annual bonus, stock options etc, instead.

**Special:** In situations where a character has a Profession

skill useful to a task requiring a related Technical or Knowledge skill, the character may add a +2 synergy bonus to the skill check. If the character does not possess the required skill, they may still attempt the task as if they did have the skill rank of 0 but they lose the synergy bonus.

## DETAILED PROFESSIONAL SKILLS

Listed below are a number of detailed professions that might be use to characters in the *Traveller* universe. You are free to select from among them, or with your Referee's permission come up with new professions.

## P/ADMINISTRATION

The character has experience with bureaucratic agencies, and understands the requirements of dealing with and managing them. When attempting tasks like avoiding police harassment, ensuring the prompt issuance of licenses, approval of applications, avoidance of close inspection of papers, etc, a successful P/ Administration skill check (DC10 + the local world Law Level UWP), will provide a positive outcome to the situation.

### Bureaucrats and Administrators

Dealing with administrators and bureaucrats is always a time consuming and tedious chore, which somehow seems to play a common part in *Traveller* adventures. No special skills are needed to deal with bureaucrats, but characters with the P/ Administration (or K/Interstellar Law) skill will be familiar with their ways and find the task much smoother and easier.

The following tasks and DCs have been established to give the Referee a basic indication of how she might handle such situations when they arise. Characters with the appropriate listed skill may make a skill check; characters without this skill must make an appropriate ability check with a -4 penalty to the check roll. If the check fails it may not be attempted again on the same official during the same encounter.

The offer of a bribe and a Bribery skill check may also be attempted in place of an ability or P/Administration or K/ Interstellar Law skill check. See the Bribery skill description for more information.

Need, Activity, or Task	DC	Appropriate Skill or Ability
Track down records	5	P/Administration or Social Standing
Ensure prompt issuance of licenses	10	P/Administration or Social Standing
Approval of applications	10	P/Administration or Social Standing
Avoid close inspection	10	K/Interstellar Law, P/ Administration or Social Standing
Avoid police harassment	10	K/Interstellar Law, P/ Administration or Social Standing
Get Charges Dropped (Trivial)	15	K/Interstellar Law or Social Standing
Explain discrepancy in paperwork	15	P/Administration or Social Standing
Explain missing paperwork	20	P/Administration or Social Standing
Explain obviously forged documents	30	P/Administration or Social Standing

Get Charges Dropped (Serious)	30	K/Interstellar Law or Social Standing
Get Charges Dropped (Major)	40	K/Interstellar Law or Social Standing
Defend case	Opposed K/Interstellar Law vs. Prosecutor's K/Interstellar Law skill check (interstellar courts only)	
Prosecute case	Opposed K/Interstellar Law vs. Defender's K/Interstellar Law skill check (interstellar courts only)	

Condition/Situation	Modifier
World Law Level	+ 1 DC per Law Level UWP rating of the world
Legal Eagle Feat	+2 check bonus
Bluff Skill Rank 5+	+2 check bonus
Liaison or Intimidate Skill Rank 5+	+2 check bonus (one only)

## P/HUNTING

Hunting is quite common in the far future on many worlds, both for food and sport. Safaris and Big Game Hunts are big business, and a good hunting guide can make an excellent living guiding rich nobles and playboys around the dangers and hazards of a world to let them "bag a trophy" to impress their friends and peers. Many of the more successful hunters even have their own ships to convey their clients about in comfort.

**Laws and Permits:** On populated worlds, there may be laws prohibiting hunting or requiring a license be purchased before any hunt may begin depending on the local Law Level. Make a check vs. the Law Level. If the roll is successful, no permit is needed. If the roll is 1-5 points less than the Law Level, but not a 1 or a 2, a permit is required before the hunt may legally commence. If the roll is 6 or more points less than the Law Level, or a 1 or a 2, the animal to be hunted is a protected species and not open for hunting. At least not legally...

**Permit Costs:** 1d6 x Cr1000, + Cr100 per client

**Guides And Supplies:** Even if a hunt is headed by a certified hunter, there may be a need or desire to use native guides to help locate the targets of the hunt. These local guides can typically be hired for about Cr10 per day per hunting skill rank. In addition, supplies will be needed to tend to all members of the hunting party (in a manner befitting the status of the clients). The costs listed below are used in place of the normal costs for daily meals.

Client Type	Minimum "Supplies" Cost
Average	Cr25 per client per day
Rich	Cr50 per client per day
Nobility/Filthy Rich	Cr100 per client per day

## The Hunt

Check once per hour (up to 8 time per day) for encounters when hunting. A basic check (DC13) should be made, adding the Hunting skill of the head guide to the roll. If the result is 13 or higher an encounter has occurred.

If an encounter occurs, have the hunter make a skill check.

A successful check means the beast is of the type the hunting party is stalking. Otherwise roll normally on the encounter tables to see what type of creature is actually encountered. Guides may be hired or present for the purpose of assisting in the location of specific animals, contributing a bonus of +2 or greater to influence encounter throws for a specific type of animal.

To find tracks or to follow them for one mile requires a Hunting skill check. The character must make another Hunting check every time the tracks become difficult to follow, such as when other tracks cross them or when the tracks backtrack and diverge. The character moves at half normal speed (or at normal speed with a -5 penalty on the check). The DC depends on the surface and the prevailing conditions:

Surface	DC
Very soft	5
Soft	10
Firm	15
Hard	20

**Very Soft Ground:** Any surface (fresh snow, thick dust, wet mud) that holds deep, clear impressions of footprints.

**Soft Ground:** Any surface soft enough to yield to pressure, but firmer than wet mud or fresh snow, in which the creature leaves frequent but shallow footprints.

**Firm Ground:** Most normal outdoor surfaces (such as lawns, fields, woods, and the like) or exceptionally soft or dirty indoor surfaces (thick rugs, very dirty or dusty floors). The creature might leave some traces (broken branches, tufts of hair) but leaves only occasional or partial footprints.

**Hard Ground:** Any surface that doesn't hold footprints at all, such as bare rock or indoor floors. Most streambeds fall into this category, since any footprints left behind are obscured or washed away. The creature leaves only traces (scuff marks, displaced pebbles).

Condition	Modifier
Every three creatures in the group being tracked	-1
Size of creature or creatures being tracked:*	
Fine	+8
Diminutive	+4
Tiny	+2
Small	+1
Medium-size	0
Large	-1
Huge	-2
Gargantuan	-4
Colossal	-8
Every 24 hours since the trail was made	+1
Every hour of rain since the trail was made	+1
Fresh snow cover since the trail was made	+10
Poor visibility:**	
Overcast or moonless night	+6
Moonlight	+3
Fog or precipitation	+3
Tracked party hides trail (and moves at half speed)	+5

\*For a group of mixed sizes, apply only the modifier for the largest size category.

\*\*Apply only the largest modifier from this category.

If the character fails a Hunting check, the character can retry



after 1 hour (outdoors) or 10 minutes (indoors) of searching. A character without hunting skill can use the Search skill to find tracks, but can only follow tracks if the DC is 10 or less.

**Animal Value:** Animal encounters constitute the only general possibility of access that characters have to food, furs, or other valuable items. Animals are usually edible (basic check, DC5, modifier of -3 if the atmosphere is tainted) provided the planetary atmosphere is between 2 and 9, and the animal does not have a poison weapon. Otherwise, the animal is inedible. From 5% to 30% (throw 1d6 times 5%) of an animal's weight will be edible meat. A person requires 1 kilogram of meat per day when living off the hunt.

**Edible:** DC5 (Tainted Atmospheres -3 to the check roll). Animals that use poison, or from worlds with an atmosphere of 10+ are inedible.

**Meat:** 1d6 x 5% of the weight of the animal is edible meat. A person requires 1kg of food per day to survive. Meat can be sold for Cr0.1 per kg

## P/PROSPECTING

The individual is experienced in searching out mineral deposits on world surfaces and in deep space.

**Laws and Permits:** On populated worlds, there may be laws prohibiting prospecting or requiring a license be purchased before any work may begin depending on the local Law Level. Make a check vs. the Law Level. If the roll is successful, no permit is needed. If the roll is 1-5 points less than the Law Level, but not a 1 or a 2, a permit is required before work may legally commence. If the roll is 6 or more points less than the Law Level, or a 1 or a 2, the application has been denied.

**Permit Costs:** 1d6 x Cr1000, + Cr100 per client

**In the Field:** Make a Prospecting Check vs. DC30. Add the Planetary Resources rating to the roll. One check per week may be made to search a hex (up to 20 kilometers across). If more than one prospector is working in a team, the highest prospecting score should be used, and add +1 to the roll for each additional prospector in the group. The amount rolled above the required DC may be added to the Discovery table roll.

1d100	Discovery	Base Refined Value	Monthly Tonnage Output	Notes
1-25	Rare Earths	1,000	1d6 x 10	1d4 months
26-45	Petrochemicals	10,000	1d6 x 5	1d6 months
46-65	Rare Metals	100,000	1d6	1d8 months
66-80	Gemstones	1,000,000	1d6	1d10 months
81-90	Radioactives	1,000,000	1d6	1d12 months
91-95	Fossils	*	*	1d20 months World must have an atmosphere 1+
86-98	Salvage	*	*	1d100 months
99-100	Artifacts	*	*	1d12 years

Unrefined materials are only worth 1/10<sup>th</sup> of their refined value.

## Fossils

1d20	Type of Fossils
1-12	Botanical
13-20	Biological

### Botanical Fossils

1d100	Age in Years	Value
01-50	1d10 thousand	Cr1d100 x10
51-70	1d100 thousand	Cr1d10 x100
71-85	1d1,000 thousand	Cr1d100 x100
86-95	1d10 million	Cr1d10 x1000
96-100	1d100 million	Cr1d100 x1000

### Biological Fossils

1d100	Age in Years	Value
01-65	1d10 thousand	Cr1d10 x100
76-80	1d100 thousand	Cr1d100 x100
81-90	1d1,000 thousand	Cr1d10 x1000
91-95	1d10 million	Cr1d100 x1000
96-100	1d100 million	Cr1d1,000 x1000

## Artifacts

Artifacts are the remnants of a previous civilization. The listed value is for each individual artifact found and sold to a collector, museum, etc. Note that in many cases the removal of artifacts from a world without approval (and proper fees, taxes, and other red tape) is prohibited by the local government.

1d100	Age in Years	Value	# Found
01-80	1d10 hundred	Cr1d1000 x100	1d6
81-90	1d10 thousand	Cr1d1000 x1000	1d4
91-95	1d100 thousand	Cr1d1000 x10,000	1d3
96-98	1d1,000 thousand	Cr1d1000 x100,000	1d2
99-100	1d10 million	Cr1d10 x10	1

## Salvage

Salvage is an item of recent (1-100 years) construction that has forgotten and/or abandoned by its previous owner.

1d100	Salvage	Damage
01-50	Equipment*	2d6-2 x 10%
51-75	Vehicle	2d6-2 x 10%
76-90	Small Craft	2d6-2 x 10%
91-100	Starship	2d6-2 x 10%

\* -25 to the size roll

1d100	Size
01-10	Tiny
11-35	Small
36-75	Medium
76-90	Large
91-95	Huge
96-98	Gargantuan
99-100	Colossal

## P/SURVEY

The individual is trained in the methods and requirements of conducting stellar, system, and planetary surveys.

Surveying a world or system is a process of several stages, moving from the very general to the specific. Points of particular interest noted during the survey may be investigated after the process is complete, or a team may be detached from the general survey to carry out a close investigation.

Each survey task requires a ship with sensors installed, and both a T/Sensor skill check to obtain the data and a P/Survey skill check to interpret the results. The DC for both tasks is the same and based on the Survey task attempted. The required data must be obtained through the successful use of the sensor before the P/Survey skill may be attempted to interpret what has been collected. P/Survey skill can be used in place of the T/Sensor skill, but at a -4 penalty to the skill check roll. The normal tasks (in order) for a system survey are:

**Stellar Data:** (DC 15) The classification and relevant (size and spectral type) details of the system's star and any companions it may have are observed. The surveying ship must normally be within 100 diameters of the star, but with time and a good sensor package this survey can be carried out from 1-2 parsecs away. It will normally take 2d6 hours to complete.

**System Data:** (DC 5) the general nature of the system (the number and orbits of any gas giants and planetoids, along with the number and orbital placement of any planets) is recorded. A full system survey will take 4d6 hours to complete. A Survey Scout or similarly well-equipped vessel can conduct this kind of survey from up to a parsec away, but the duration is at least 10 times as long and DC is 15.

**Planetary Data:** for each world in turn, the following process is used:

**Physical UWP:** (DC 10) Basic world type (size, atmosphere, and hydrographics) is observed and recorded. A failed skill check will cause one or more of the physical UWP stats to be off (Size, Atmosphere, and Hydrographics). This will take 1d6 hours to complete. A failed skill check will result in incorrect information being obtained. Ship must be in orbit around the world.

If the character has a K/Planetology skill rank of 5 or more may add a +2 synergy bonus to the P/Survey portion of this task.

**Atmospheric Survey:** (DC15) a detailed atmospheric analysis is undertaken. This will take 1d6 hours per Atmosphere UWP rating of the world, and will give the surveyor the climate and temperature data for the planet. A failed skill check will result in incorrect information being obtained. Ship must be in orbit around the world.

If the character has a K/Climatology or K/Meteorology skill rank of 5 or more may add a +2 synergy bonus to the P/Survey portion of this task.

**Generate Map:** (DC5) create a map of the major terrain features, even through cloud cover. This will take 1d6 hours per Size UWP digit of the world. For example it will take 7d6 hour to map a Size 7 world. A failed skill check will cause one or more of the aspects of the map to be incorrect, or missing. Ship must be in orbit around the world. A more detailed map may be generated (1 kilometer scale) but this will take 1d6 days per Size UWP digit of the world.

If the character has a K/Geography skill rank of 5 or more may add a +2 synergy bonus to the P/Survey portion of this task.

**Technology Survey:** (DC15; DC20 if TL1 or less) Determine the general available TL, of the world and the location of any settlements. This can be done at the same time the map of the world is being generated and takes just as long. Ship must be in orbit around the world. The tech level will be determined as: Very

Low (0-3), Low (4-6), Average (7-9), Interstellar (10-12), Very High (13+).

If the character has a K/Anthropology skill rank of 5 or more may add a +2 synergy bonus to the P/Survey portion of this task

**Societal Survey:** (DC20) determines the Population (and exponent), Government, Law Level, and specific Tech Level UWP statistics for the world. This survey requires detailed study of the subject world over a period equal to 1d6 weeks per Population UWP digit. Thus a world with a Population UWP of 9 requires 9d6 weeks of surveying to determine the required data. This requires study of the communications, electronic emissions, and possibly planetside investigation and research. A failed skill check will cause one or more of the physical UWP stats to be off.

The Liaison skill or K/Anthropology skill may be used in place of T/Sensor skill for this task. If the character has a Liaison skill rank of 8 or higher, or K/Anthropology skill rank of 5 or more, they may add a +2 synergy bonus to the P/Survey portion of this task.

**Mineral Survey:** (DC25) the surface is surveyed for mineral deposits, determining the Natural Resource rating of the world. This will take 1d6 days per Size UWP digit of the planet. A failed check will result in an inaccurate record for the Natural Resource rating. Ship must be in orbit around the world. The time required for a mineral survey is in addition to the time required for any other survey.

The Geological Survey feat may be used in conjunction with this task. The K/Geology skill or K/Mineralogy skill may be used in place of T/Sensor skill for this task. If the character has a K/Geology skill rank of 8 or higher, or K/Mineralogy skill rank of 5 or more may add a +2 synergy bonus to the P/Survey portion of this task.

**Botanical Survey:** plant life is collected and analyzed. This type of survey requires a physical investigation and that research be conducted planetside, exploring and taking samples. This process will normally take 1d6 months per Size UWP digit of the world.

The K/Botany skill may be used in place of T/Sensor skill for this task. If the character has a K/Botany skill rank of 5 or more may add a +2 synergy bonus to the P/Survey portion of this task.

**Biological Survey:** animal life is studied. This type of survey requires a physical investigation and that research be conducted planetside, exploring and taking samples. This process will normally take 1d6 months per Size UWP digit of the world and will generate the encounter table for each climate zone of the world. As less detailed survey may be conducted, taking 1d6 weeks per Size UWP, but will only generate the single most common creature encountered in each climate zone.

The presence of sentient beings on a world complicates this process. Contact is normally avoided until the world has been carefully studied and the nature of the people there is known. Contact procedures vary depending on the circumstances.

The K/Biology skill may be used in place of T/Sensor skill for this task. If the character has a K/Biology skill rank of 5 or more may add a +2 synergy bonus to the P/Survey portion of this task.

## PSIONIC (PSI)

*Trained Only. Special*

A Psionist's abilities in the five spheres are developed in much the same manner as normal skills, but their effects are rather different and are thus discussed in chapter 10 (Psionics) rather than among the "mundane" skills available to character. The five spheres (Awareness, Clairvoyance, Telekinesis, Telepathy and Teleportation) are each developed as a separate "skill," and level of ability in each sphere indicates which talents the character can

use within that sphere. Only characters who have been trained at an institute may develop Psionic spheres. For all classes but the Psionist, psionic talents are developed as cross-class skills, with a maximum level of  $(\text{character level}+3)/2$  and at a cost of 2 skill points per rank.

Psionists may develop their talents as class skills, i.e. to a maximum of  $(\text{character level}+3)$  ranks and at a cost of 1 skill point per rank. They must however possess the sphere they wish to develop their skill in. This is normally determined when the character is first trained, though Psionists can learn to unlock other spheres as they gain power and knowledge.

## READ/WRITE LANGUAGE (NONE)

### Trained Only

The character knows how to read and write in a specific language other than their native tongue(s) and/or Galanglic.

This skill doesn't work like normal skills, instead of spending skill points to buy an increase in skill rank, characters spend skill points and learn to read and write a new language. There are no language skill checks – you can either read and write the language or you can't. A character must already have the Speak Language skill for any language they wish to learn to read and write in.

Some languages do not have a written form. Read/write language skill cannot be taken for such languages.

Some languages are long dead with no examples of the spoken form of the language available, and only ancient manuscripts and writings still in existence. In this case, a character may take the read/write language skill without having first learned to speak the language.

Barbarians do not automatically know how to read and write in their native languages. This ability must be taken as a new read/write language skill.

## RECRUITING (EDU)

The individual is familiar with the most effective means of approaching individuals and presenting proposals for employment couched in terms most likely to produce acceptance. This skill is also helpful to a ship's crew in locating passengers. Recruiting skill affects the quality and quantity of recruits that will respond to a request for applications.

**Check:** When searching for passengers, the character may add a +2 bonus to all passenger rolls (see Trade and Commerce-Passengers in THB for more information) if he has a recruiting skill rank of 5 or greater.

Once per week a check may be made to locate recruits for volunteer work, job openings, or mercenary tickets. The difficulty in locating qualified applicants and the number of them that actually apply are based on the level of expertise sought, and the available population of the world to draw from. If the check is successful, roll to determine the exact number of qualified applicants the character has to choose from.

Character Level Sought	DC	# of Qualified Applicants
1-4	5	1d8 per open position advertised
5-8	10	1d6 per open position advertised
9-12	15	1d4 per open position advertised
13-16	20	1d3 per open position advertised
17-20	25	1d2 per open position advertised

Circumstance	Modifier
World Population UWP rating is 3 or less	+10 DC
World Population UWP rating 4 or 5	+5 DC
World Population UWP rating 8	-5 DC
World Population UWP rating 9+	-10 DC

**Retry:** As often as needed, though no more than one check can be made per position advertised.

**Special:** Unlike Leader skill, a recruiter is skilled at screening applicants, narrowing down the mass of applicants to the few who are best qualified of. However a Leader skill rank of 8 or higher will earn the character a +2 synergy bonus on all recruiting skill checks.

## RIDE (DEX)

When the character selects this skill, choose the type of mount the character is familiar with. For this purpose, "horses" includes mules, donkeys, and ponies. If the character uses the skill with a different mount (such as riding a sand lizard when the character is used to riding horses), the character's rank is reduced by 2 (but not below 0). If the character uses this skill with a very different mount (such as riding a flying mount when the character is used to a land based mount), the character's rank is reduced by 5 (but not below 0).

**Check:** Typical riding actions do not require checks. The character can saddle, mount, ride, and dismount from a mount without a problem. Mounting or dismounting is a move-equivalent action. Some tasks require checks:

Riding Task	DC
Guide with knees	5
Stay in saddle	5
Fight with warhorse	10
Leap	15
Control Mount in Battle	20
Fast mount or dismount	20*
Cover	15
Soft fall	15

\*Armor check penalty applies.

**Guide with Knees:** the character can react instantly to guide a mount with his knees. This allows the use of both hands in combat. Make the check at the start of the character's round. If the check is failed, the character can only use one hand this round because he needs to use the other to control his mount.

**Stay in Saddle:** The character can react instantly to try to avoid falling when his mount rears or bolts unexpectedly or when either mount or rider takes damage.

**Cover:** The character can react instantly to drop down and hang alongside the mount, using it as one-half cover. The character cannot attack or use psionic talents while using his mount as cover. If the check is failed, the character doesn't get the cover benefit.

**Soft Fall:** The character reacts instantly to try to take no damage when he falls off a mount, such as when it is killed or when it falls. If the check is failed, the character takes 1d6 points of falling damage.

**Leap:** The character can get a mount to leap obstacles as part of its movement. Use the character's Ride skill modifier or the mount's Jump skill modifier (whichever is lower) to see how far the mount can jump. The DC (15) is what the character needs



to roll to stay on the mount when it leaps.

**Control Mount in Battle:** As a move-equivalent action, the character can attempt to control a light horse, pony, or heavy horse while in combat. If the check is failed, the character can do nothing else that round. The character does not need to roll for warhorses or warponies.

**Fast Mount or Dismount:** The character can mount or dismount as a free action. If the check is failed, mounting or dismounting is a move-equivalent action. (The character cannot attempt a fast mount or dismount unless he or she is already in a position to perform the mount or dismount as a move-equivalent action this round.)

**Special:** If the character is riding bareback, he suffers a -5 penalty on Ride checks.

If the character has 5 or more ranks in Handle Animal, he gets a +2 synergy bonus to Ride checks.

If the character's mount has a military saddle, it gives a +2 circumstance bonus to Ride checks related to staying in the saddle.

## SEARCH (INT)

The character has a knack for finding things at opportune moments, spotting secret compartments, locating hidden recesses, revealing disguised catches, and discovering other forms of concealed, hidden or hard to find objects.

**Check:** The character generally must be within 3 meters of the object or surface to be searched. It takes 1 round to search a 1.5-meter-by-1.5-meter area or a volume of goods 1.5 meters on a side; doing so is a full-round action.

Task	DC
Ransack a chest full of junk to find a certain item	10
Notice a typical secret door or a simple trap	20
Find a difficult trap not of stone*	21+
Notice a well-hidden secret door	30

\*While anyone can use Search to find a trap whose DC is 20 or less, only a Rogue can use Search to locate traps with higher DCs. Finding a trap has a DC of at least 20, and the DC is higher if it is well hidden.

**Special:** A character who does not have the Track feat can use the Search skill to find tracks, but can only follow tracks if the DC is 10 or less. See the Spot skill below.

## SENSE MOTIVE (WIS)

The character has the ability to know when someone might be lying, withholding information, attempting to pull a con, or is otherwise acting in bad faith or under duress.

**Check:** A successful check allows the character to avoid being bluffed. The character can also use the skill to tell when someone is trying to hide the fact that they are under stress or hiding something, or to assess someone's trustworthiness. Trying to gain information with this skill takes at least 1 minute, and the character could spend a whole evening trying to determine the motivations of a group of people.

Sense Motive Task	DC
Hunch	20
Sense psionic influence	25

**Hunch:** This use of the skill essentially means making a gut assessment of the social situation. The character can get the feeling from another's behavior that something is wrong, such as

when he is talking to an impostor. Alternatively, the character can correctly determine that someone is trustworthy.

**Sense Psionic Influence:** The character can tell that someone's behavior is being influenced by a Psionic effect (by definition, a mind-affecting effect), even if that person isn't aware of it herself.

**Retry:** No, though the character may make a Sense Motive check for each bluff directed at him.

**Special:** In many situations, the Referee will make the Sense Motive roll secretly on behalf of the player, to conceal the degree of success (or otherwise). A drastic failure may cause the character to totally misinterpret the situation.

## SPEAK LANGUAGE (NONE)

*Trained Only*

The Speak Language skill does not work like a standard skill.

The character starts at 1st level knowing one or two languages (according to the character's race) plus an additional number of languages equal to the character's Intelligence bonus.

Instead of buying a rank in Speak Language, the character chooses a new language that the character can speak.

The character doesn't make Speak Language checks. The character either knows a language or the character doesn't.

**Retry:** Not applicable. (There are no Speak Language checks to fail.)

## SPOT (WIS)

The character is skilled at spotting an ambush and noticing people or creatures hiding in nearby shadows, using high brush as cover, or otherwise using concealment. The character is also adept at noticing actions by others that might be missed by most, such as slight of hand or pickpocketing.

**Check:** The Spot skill is used primarily to detect characters or creatures who are hiding. Typically, Spot is opposed by the Hide check of the creature trying not to be seen. Sometimes a creature isn't intentionally hiding but is still difficult to see, so a successful Spot check is necessary to notice it.

A Spot check result of greater than 20 can generally let the character become aware of an invisible creature near the character (though the character can't actually see it).

Spot is also used to detect someone in disguise.

Condition	Penalty
Per 3 meters of distance	-1
Spotter distracted	-5

**Retry:** The character can make a Spot check every time he or she has the opportunity to notice something in a reactive manner. As a full-round action, the character may attempt to spot something that they failed to spot previously.

**Special:** When comparing Spot and Search skills, remember that Spot would allow a character to detect someone hiding, without necessarily alerting the other person that they have been seen. A search is more systematic and is almost certain to be obvious to the person hiding, allowing them to creep away before they are discovered.

## SURVIVAL (WIS)

The character is skilled in the art of survival in the wild, including locating sources of food and fresh water (if available), producing fires (where possible), finding shelter, avoiding dangerous flora and fauna, and dealing with the dangers of hazardous climates (arctic, desert, etc). If a character with Survival skill has the Armor/Vac Suit or Armor/Battle Dress feats, he is also familiar with the

needs of survival in the vacuum of space.

**Check:** A successful Survival check once per day (DC10 under optimal circumstances), will provide a character with enough of the necessary essentials to survive another day, but only if such resources are realistically available and accessible. Only in the most unusual of situations would a character be able to access a source of fresh water located 300 meters beneath the ground, though she might be able to find a way to extract water from the local vegetation. Nor would a character stranded on a vacuum world be able to come up with a way to produce more oxygen without specialist equipment, though he would know how to best conserve his air to survive as long as possible.

#### DC Task

- |    |   |
|----|---|
| 10 | Get along in the wild. Move up to one-half the character's overland speed while hunting and foraging (no food or water supplies needed). The character can provide food and water for one other person for every 2 points by which the character's check result exceeds 10. |
| 15 | Gain +2 on all Fortitude saves against severe weather while moving up to one-half the character's overland speed, or gain +4 if stationary. The character may grant the same bonus to one other character for every 1 point by which the check result exceeds 15.           |
| 15 | Avoid getting hopelessly lost* or avoid natural hazards, such as quicksand.   |

\* This is not a substitute for Navigation skill, but merely allows a character to move around yet find his way back to a given point (path, cave, wrecked vehicle etc).

**Retry:** For getting along in the wild or for gaining the Fortitude save bonus, the character makes a check once every 24 hours. The result of that check applies until the next check is made. To avoid getting lost or to circumvent natural hazards, the character makes a check whenever the situation calls for one; in these circumstances, retries are not allowed

**Special:** If the character has 5 or more ranks of Intuit Direction, he gets a +2 synergy bonus on Survival checks to avoid getting lost.

#### SWIM (STR)

The character is capable of remaining afloat, swimming along the surface, diving and swimming beneath the surface, and otherwise functioning and surviving for a period in a body of water (or other non-toxic fluid, though this does depend upon the density of the liquid).

**Check:** A successful Swim check allows the character to swim one-quarter of his speed as a move-equivalent action or one-half his speed as a full-round action. Roll once per round. If the character fails, he makes no progress through the water. If the character fails by 5 or more, he goes underwater and starts to drown unless he is wearing suitable breathing apparatus.

If the character is underwater (whether drowning or swimming underwater intentionally), he suffers a cumulative -1 penalty to his Swim check for each consecutive round the character has been underwater, unless he is equipped with breathing gear.

The DC for the Swim check depends on the water:

Water Conditions	DC
Calm water	10
Rough water	15
Stormy water	20

Very Hot or Cold Water +2

Icy Water +5\*

\* Make the fatigue check (see below) every 10 minutes unless wearing an insulated or heated suit.

Each hour that the character swims, make a Swim check against DC 20 or take 1d6 points of subdual damage from fatigue.

**Special:** Instead of an armor check penalty, the character suffers a penalty of -1 for each 2kg of gear he is carrying or wearing.

#### TECHNICAL (EDU)

##### Trained Only

Technical is actually a number of separate skills. For instance, the character could have the skill T/Electronics. The character's ranks in that skill don't affect any checks he happens to make for Engineering or Gravitics, for example. The character could have several Technical skills, each with its own ranks, each purchased as a separate skill.

A Technical skill is specifically focused on installing, maintaining, repairing and/or creating items of technology such as electronic equipment, vehicles, grav modules, jump drives, etc. When this skill is selected, the character immediately must pick a specific technical field that is represented by the skill. Below are some, but by no means all, of the Technical skills used in the **Traveller** universe. Others, such as Astrogation, Communications, Computer, and more follow in more detail at the end of this skill entry.

**Electronics:** Practiced in the use, operation, and repair of electronic devices.

**Engineering:** Skilled in the operation and maintenance of starship maneuver drives, Jump drives, and power plants.

**Gravitics:** The individual has skill in the use, operation, and repair of gravitic devices. Such items include air/raft lift modules, grav belts, grav sleds, grav tanks, etc. Gravitics skill deals with the technical details of such vehicles; Pilot skill is required to actually pilot or drive them.

**Mechanical:** The individual has skill in the use, operation, and repair of mechanical devices. This skill specifically excludes the field of engineering but does include non-energy weapon repair.

**Check:** The character can practice a trade and make a decent living, earning a paycheck for every week of dedicated work. The character knows how to use the tools of the trade, how to perform routine tasks, how to supervise untrained helpers, and how to handle common problems.

**Employment:** To obtain employment, the character must make a search each week contacting prospective employers and canvassing for job openings. At the end of the week he makes a skill check against a DC of 10 + the Maintain Employment DC of the position being sought. For example, a character searching for a position as an Electronics Manager would need to make a successful T/Electronics skill check vs. DC25 to locate a job opening that week.

Note that a character may not Take10 or Take20 when making a Maintain Employment or Earn Promotion check.

	Maintain	Earn	Weekly	
Position	Employment	Promotion	Pay	Example
General Employee	5	25	Cr500	Technician, Nurse, Drive Hand
Supervisor	10	30	Cr750	Shift Leader



Manager	15	35	Cr1000	Chief Engineer, Shop Foreman
Executive	20	-	Cr2000	Owner, Top Management

**Maintaining Employment:** At the end of each week a character has worked in a job, she must make a Maintain Employment check to see if she maintains the position for another week. If the check fails, she forfeits her pay for that week and must immediately make another skill check at the same DC. If this second check is also failed, she is demoted to the next lower position, and must make a third check. If she fails this one she loses her job.

A weekly check is called for to allow characters to take occasional mundane jobs in between their travels. The Referee may, at his or her discretion, increase this check to once every month or even every year. For even longer periods of employment, see the Prior History section on the Professional class for more information.

**Earning a Promotion:** At the end of each month a character has worked in a position, she may make an Earn Promotion check to see if she is promoted to the next pay position. For example, a character that is a general employee and earns a promotion would begin the next month as a supervisor. Executives cannot be promoted.

**The Weekly Paycheck:** At the end of the week a character will earn a paycheck appropriate to their position.

**Creating Items:** The basic function of the Technical skill is to allow the character to make and repair items of the appropriate type. The DC depends on the difficulty of the item created. The DC, the character's check results, and the price of the item determine how long it takes to make the item. The item's finished price also determines the cost of raw materials. (In the game world, it is the skill level required, the time required, and the raw materials required that determine an item's price. That's why the item's price and DC determine how long it takes to make the item and the cost of the raw materials.)

All technical personnel require the proper tools to give the best chance of success; if improvised tools are used instead, the check is made with a -2 circumstance penalty. On the other hand, very high-quality tools provide a +2 circumstance bonus.

To determine how much time and money it takes to make an item:

1. Find the DC listed here or have the Referee set one.
2. Pay one-third the item's price in raw materials.
3. Make a skill check representing one time period.

If the check succeeds, find the current "work value" by multiplying the check result by the DC and dividing by 10. If the result equals the price of the item, then the character has completed it. If the work value equals double or triple the price of the item, then the character has completed the task in one-half or one-third the time, and so on.) If the work value doesn't equal the price, then it represents the partial progress the character has made this time period. Record the result and make a check for the next time period. Each time period the character makes more progress until the total work value reaches the price of the item.

If the character fails the check, he makes no progress this time period. If the character fails by 5 or more, he ruins half the raw materials and must pay half the original raw material cost again. Failure by 10 or more indicates that the character has ruined the whole piece and must start over with new materials (paying the entire cost again)

**Creating Masterwork Items:** The character can make a masterwork item (an item that conveys a bonus to its use through its exceptional craftsmanship). To create a masterwork version of an item on the table below, the character creates the masterwork

component as if it were a separate item in addition to the standard item. The masterwork component has its own price and DC. Once both the standard component and the masterwork component are completed, the masterwork item is finished. (Note: The price the character pays for the masterwork component is one-third of the given amount, just as it is for the price in raw materials.)

Masterwork tools add a +2 circumstance bonus to related skill checks (if any). Masterwork weapons add a +1 bonus to attack rolls. Masterwork items usually sell for at least twice their normal value.

**TABLE: Technical Construction**

Item	DC	Time Period
<b>Mechanical</b>		
Basic Personal Equipment	5	Hour
Advanced Personal Equipment	10	Day
Vehicle Chassis	10	Week
Vehicle Subsystem	15+	Week
<b>Electronics</b>		
Basic Personal Equipment	5	Hour
Advanced Personal Equipment	10	Day
Laser Weapons	10	Week
Gauss Weapons	15	Week
Energy Weapons	20	Month
Vehicle Subsystem	30+	Month
<b>Gravitics</b>		
Gravitic Part	15	Day
Gravitic System	20+	Week
<b>Engineering</b>		
Ship's Hull	10	Week
Ship's Power Plant Part	15	Day
Ship's Power Plant or Maneuver Drive Part	20	Week
Maneuver Drive or Jump Drive Part	30 +	Month
Jump-1 Drive	40	Year
Jump-6 Drive	70	Year

**Retrying to Create Items:** Yes, but each time the character misses by 5 or more, the character ruins half the raw materials and have to pay half the original raw material cost again. If he fails by 10 or more, he must start over.

**Disabling Devices:** The character is skilled at disarming alarm systems, picking locks (of mechanical and/or electronic sort), disabling a malfunctioning robot, or similar tasks using their T/Mechanical or T/Electronic skills. The effort requires at least a simple tool of the appropriate sort (a pick, pry bar, saw, file, electronic toolset, etc.). Attempting a disable device check without a set of proper tools carries a -2 circumstance penalty. The Referee makes the skill check so that the character doesn't necessarily know whether the character has succeeded. The amount of time needed to make a check and the DC for the check depends on how tricky the device is. Disabling a simple device takes 1 round (and is at least a full-round action). Intricate or complex devices require 2d4 rounds. The character also can



rig simple devices such as vehicle wheels or steering to work normally for a while and then fail or fall off some time later (usually after 1d4 rounds or minutes of use).

Disabling (or rigging or jamming) a fairly simple device has a DC of 10. More intricate and complex devices have a higher DC. The Referee rolls the check. If the check succeeds, the character disables the device. If the check fails by up to 4, the character has failed but can try again. If the character fails by 5 or more, something goes wrong. If it's a trap, the character springs it. If it's some sort of sabotage, the character thinks the device is disabled, but it still works normally.

Device	Time	DC*	Example
Simple	1 round	10	Jam a mechanical lock or mechanism
Tricky	1d4 rounds	15	Pick a mechanical lock
Difficult	2d4 rounds	20	Pick a basic electronic lock
Wicked	2d8 rounds	25	Disarm a complex alarm trigger

\*If the character attempts to leave behind no trace of the tampering, add 5 to the DC.

## DETAILED TECHNICAL SKILLS

The following Technical skills are also available, and while they are not used to "create" anything, they have quite important uses in a technologically advanced universe.

## T/ASTROGATION

### Trained Only

The character is trained in the science of normal and Jump space navigation. The Astrogator on a starship plots the course and ensures that the information needed by the pilot and other crewmembers is available when it is needed.

**Determine Location:** When a ship enters a new system after a Jump, the Astrogator must determine its exact position before it may decide on another course of action. This task has a base DC of 10. In combat, this is a standard action for crewmembers. Failure of the task will add 3d6 minutes/hours (as appropriate) to the travel time of the ship to its next destination in the system.

**Plot a Standard Course:** Traveling from point A to point B in space, requires the Astrogator to plot a course and thrust schedule for the pilot to follow. This task has a base DC of 10. In combat it is a standard action. Failure of the task will add 2d6 minutes/hours (as appropriate) to the travel time of the ship to its destination.

**Plot a Jump Route:** A Jump Plot can be created by a computer, and Plots are available in the form of "course tapes" purchased from major ports and for common destinations. However, the nature of Jump makes electronic systems less than reliable when creating a plot. A computer will throw up dozens of apparently suitable Jump solutions. All of them will of course work, but minor variations in the plot will cause large variance in flight time and emergence point. A good Astrogator develops a "feel" for his calculations that borders upon black magic. He or she can somehow predict the variance in the system to shave a few minutes off average Jump time and to give an emergence point as close as possible to the destination. This task has a base DC of 15. In combat this is a full action. Failure in this task will result in a Misjump.

TABLE: Astrogation Tasks

Task	DC
Determine Location	10
Plot Standard Course	10
Plot Jump Course	15

Circumstances	Modifier
Rushed, Under fire	+5
No Functioning Ship's Computer	+5
Familiar Destination	+0
Fringe/Frontier region	+5
Deep space (empty hex)	+5
Uncharted region	+10

## T/COMMUNICATIONS

### Trained Only

The character is trained in the use, repair, and maintenance of communications devices. While anyone can press the button and make a communicator function, this skill is necessary to understand why the device does not work, or how to use the device for purposes other than open transmission.

**Boost Signal:** A comm. officer can attempt to boost an incoming or outgoing signal in an attempt to punch through jamming or natural signal degradation. When attempting to boost through active jamming, the comm. officer makes a T/Communications skill check vs. the Com Jamming rating for the opposing ship this round. If successful, the signal gets through the opponents attempt to jam it. When attempting to boost a naturally degraded signal, the Referee should set a DC appropriate to the situation.

**Break a Secure Channel:** Just as they can establish them, a comm. officer can attempt to break a secure channel and monitor any transmissions. Every secure channel has a set Encryption rating. To break the channel, the comm. officer must make a successful T/Communications skill check using the Encryption rating as the DC. This is a full combat action, and if unsuccessful, may be attempted again as long as the signal is still active.

**Detect a Signal:** Any signal directed to another comm. unit will automatically be detected. This task is used when trying to detect signals meant for other comm. units. Open and unsecured signals can automatically be detected (base DC of 0) if someone is looking for them. It is just a matter of scanning frequencies. Secure signals can also be automatically detected (base DC of 0) if being watched for, but as they are encrypted this will do no good unless someone can break the encryption. Detecting hidden or piggybacked signals required a keen comm. operator to detect, and have a base DC of 20. In combat this is a full action.

**Establish Basic Comm. Channel:** The most rudimentary of tasks (DC0), this will establish an open, unsecure communication channel between two communicators. In combat, this is a standard action.

**Establish a Secure Channel:** A secure channel offers some protection from a conversation/data transfer from being monitored by encrypting the signal. The comm. officer establishing the channel makes a T/Communications skill check to establish the Encryption level of the transmission. Anyone attempting to monitor the channel must break this encryption first. This is a full combat action.

**Hide or Piggyback a Signal:** A comm. officer can attempt to hide a transmission by using an exotic frequency or attempting to piggyback the transmission on top of another signal source

(such as a laser). Unless someone is expecting such a signal, or actively searching for such signals, the probability of such a transmission being detected is very low. Such a task has a base DC of 20. In combat, this is a full action. If this task fails, the signal is not hidden and may be detected normally.

**Jam Local Communications:** A communications officer can spend each combat round attempting to jam any incoming or outgoing communication signals within the range of his own comm. systems. At the beginning of each round, the character should make a T/Communications skill roll to set the Com Jamming rating for the round. Any other ship within range must make a successful T/Communications skill check of their own vs. this Com Jamming rating for their signal to get through. If more than one ship is Com Jamming, each must be defeated in turn before a signal may be pushed through. In combat, this is a full action.

**TABLE: Communication Tasks**

Task	DC
Break a Secure Channel	Encryption rating
Detect an Unsecured signal	0
Establish Basic Channel	0
Establish Secure Channel	*
Hide/Piggyback Signal	20
Jam Communications	*

Circumstances	Modifier
Hidden/Piggybacks (detection only)	+20
Minor Noise and Static	+5
Considerable Noise and Static	+10
Heavy Noise and Static	+20
Weak	+5
Faint	+10
Very Faint	+20
Active Jamming	Com Jamming rating
Communication System	-Model Number

## T/COMPUTER

### Trained Only

The character is skilled in the programming and operation of electronic and fiber optic computers, both ground and shipboard models. Computers can be found on any world with a TL of 8 or higher, becoming exponentially more common at higher technology levels. A character without at least some computer training might find himself at disadvantage in the highly technical **Traveller** universe.

**Basic Tasks:** The following are all the most basic of tasks that anyone with a skill rank of 1 or more will be able to accomplish automatically (base DC of 0); Log on to a Datanet, send and receive messages, search for non-classified information, retrieve data and files

**Data Encryption/Decryption:** Standard encryption programs are readily available and are supplied as standard software on most new computers. Unfortunately, they only offer the most minimal of protection (Encryption Rating of 10) against anyone with computer experience. Those with computer training may wish to handle their own encryption needs. When encrypting data, the programmer must make a T/Computer skill check to set the Encryption Rating of the data. Anyone other than the programmer who attempts to access the data will have to make

their own successful T/Computer skill check vs. the Encryption Rating to decrypt the data first. This is an Advanced programming task.

If the character attempting the Encryption or Decryption has a Decipher Script skill rank of 5 or more, they may add a +2 synergy modifier to this task check roll.

**Data Mining:** Basic searches on a network will only turn up common and generally available data such as Library Data from an electronic encyclopedia. Data mining is when a computer operator begins to look for specific information on a particular subject. This task has a base DC of 10, and Minor programming task modified by the scarcity of the information being sought.

**Data/Network Security:** Also included with most new computers is a standard security package offering minimal security (Security Rating of 10) from outside access. As with encryption, a skilled computer programmer can develop their own security software to better fit their needs. The programming makes a T/Computer skill check to set the Security rating for the system. Anyone other than the programmer, or those he authorizes, who attempts to access any data on the system will have to make their own successful T/Computer skill check vs. the Security rating to bypass the security. This is a sophisticated programming task.

**Layering:** To add to the security of systems and specific data, encryption and system security can be "layered," providing multiple lines of defense against unwanted intrusion. Adding each layer is a separate task check, and doubles the time required to implement the program. Each layer of encryption or security must be subsequently broken before unauthorized access can be gained to the protected system or data.

**General Programming:** Computers can be programmed for so many different tasks of varying levels of sophistications and capabilities as to make it impossible to detail even a fraction of the possibilities here. We offer a few general guidelines for the Referee to use when needing to set a specific DC to a program a character may wish to attempt to write. The player should specify all of the capabilities they wish the program to be capable of accomplishing, any security precautions, and other pertinent information the Referee might need to determine the difficulty of the task.

In most cases, a single skill check is needed to see if the final version of the program runs as expected. If the check fails, the program fails to perform properly. For tasks requiring multiple successful checks, any failure of a check results in a lack of any progress for that period.

Once the program is finished, the Referee should make a secret check (DC20) to see if a hidden bug lies within the code that has not appeared to the programmer in testing. Each time a "buggy" program is run, the Referee should make another check (DC20) to see if the bug pops up and crashes the program unexpectedly, or otherwise results in some error (this will usually be something catastrophic...).

**TABLE: Computer Tasks**

Task	DC	Time Req
Basic Tasks	0	1 minute
Break System/Network Security	Security Rating	1 day
Data Mining	10	1 hour
Decrypt Data	Encryption Rating	1 hour
Encrypt Data	*	1 month
Layering	*	x2
System/Network Security	*	1 year

Programming

Task	DC	Time Req.	Checks
Basic (hello world)	0	5 minutes	once
Simple (simple games)	5	1 hour	once
Minor (personal organizational programs)	10	1 day	once
Average (basic commercial software)	15	1 week	once
Advanced (advanced commercial software)	20	1 month	4 (once per week)
Sophisticated (specialized commercial software)	25	1 year	12 (once per month)
Leading Edge (security software, advanced robotics)	30	2 years	24 (once per month)
Experimental	40	varies	varies

Modifiers	DC
Double the Time required	Take 10
Increase the time required by 1 level (maximum of 2 years)	Take 20
Hurry (halve the time required)	+10
Rush (reduce the time required by 1 level (minimum of 1 minute)	+20
Infrequent subject, old (few years) topic	+2
Uncommon subject, very old topic (hundreds of years)	+5
Esoteric Subject, extremely old topic (thousands of years), classified	+10
Rare Subject, ancient topic (tens of thousands of years), top-secret	+20

Time Levels
6 Seconds (1 round)
30 Seconds (5 rounds)
1 Minute (10 rounds)
5 Minutes
1 Hour
1 Day
1 Week
1 Month
1 Year
2 Years

## T/MEDICAL

### Trained Only

The individual has training and skill in the medical arts and sciences. Unless a character has the Xeno-Medicine feat, they may only safely apply their Medical skill to member of their own race.

The DC and effect depend on the task the character attempts.

TABLE: Medical Tasks

Task	DC
Emergency Care	15
Short-term care	15
Long-term care	15
Wounds Affecting Base Speed	15
Treat poison	Poison's DC
Treat disease	Disease's DC
Minor surgery (stitches)	15
Routine surgery (remove bullet, appendicitis, tonsillectomy)	20
Serious surgery (amputation, heart surgery)	30
Major surgery (brain surgery)	40+

Modifiers	DC
Under fire or similar stress	+15
Rushed	+10
Anti-toxin Available	-10
Chronic Condition	+5

Tools	
None	+10
K/Herbal Lore	+5

First Aid Kit	
TL0-3	+2
TL5-7	+/-0
TL8-12	-2
TL13-15	-4
TL16+	-6

Field Medical Kit	
TL5-7	-2
TL8-12	-4
TL13-15	-6
TL16+	-8

Hospital	
TL5-7	-6
TL8-12	-8
TL13-15	-10
TL16+	-12

**Emergency Care:** Emergency care usually means saving a dying character. If a character has negative lifeblood and is losing lifeblood points (at 1 per round, 1 per hour, or 1 per day), the tending character can make her stable. The injured character regains no hit points, but she does stop losing them. The check is a standard action.

**Short-term Care:** Short-term care is dealing with more minor injuries throughout the course of a day. If successful, the character lets the patient recover Stamina at twice the normal rate: 2 stamina per level for each hour of light activity, and 3 stamina per level for each hour of complete rest. The patient's Constitution modifier is not doubled, but is added to the recovery rate.

**Long-term Care:** Providing long-term care means treating



an injured or sick person for a day or more. If successful, the character lets the patient recover hit points or ability score points (lost to temporary damage) at twice the normal rate: 2 lifeblood for each week of light activity, 3 lifeblood for each week of complete rest, and 2 ability score points per week. The character can tend up to six patients at a time. The character needs at least a field medical kit to perform this task.

Once during each week of recovery the patient makes a Fort save (DC15) to see if he recovers an extra point of during that week. The attending medical character makes a Medical check. The patient uses the character's result in place of her saving throw if the character's Medical result is higher.

Giving long-term care counts as light activity for the care giver. The character cannot give long-term care to him or herself.

**Treat Wounds that Reduces Base Speed:** A creature that has its speed reduced can be treated by the Medical skill. A successful Medical check removes this movement penalty. Treating such a wound is a standard action.

**Treat Poison:** To treat poison means to tend a single character who has been poisoned and who is going to take more damage from the poison (or suffer some other effect).

Every time the poisoned character makes a saving throw against the poison, the character makes a Medical check. The poisoned character uses the character's result in place of her saving throw if the character's Medical result is higher. In some cases, successful treatment with the correct antidote removes the need for a save vs. the poison or may mitigate its effects.

**Treat Disease:** To treat a disease means to tend a diseased character. Every time the diseased character makes a saving throw against disease effects, the character makes a Medical check. The diseased character uses the character's result in place of his or her saving throw if the character's Medical result is higher.

**Surgery:** Surgery is a complex business and not every character who possesses T/Medical skill knows how to conduct surgical operations. The Surgery feat allows a character to at least attempt surgical procedures with a chance of success, and implies that the character knows how to prevent secondary infection and other complications. Simple surgery (stitching a wound) begins at DC15 but complex procedures require very high skill to have any chance of success.

**Special:** If the character has 5 or more ranks in Knowledge (Pharmacology), the character gets a +2 synergy bonus on Medical checks.

**Notes:** The fact that a character has a medical skill rank of 1 or greater does not automatically allow him to call himself a doctor. Use the following guidelines for how a character may label himself through this skill based on his actual formal training.

**First Aid:** The first aid feat allows a character to perform any medical task as if they had a Medical skill rank of 0.

**Paramedic:** A person may be considered a paramedic or "medic" if they have a Medical skill rank of 1 or more and no formal training.

**Nurse:** A nurse is someone with a Bachelors degree in Medicine from the University, and a Medical skill rank of 5 or greater.

**Physician's Assistant (PA):** A PA has a Masters degree in Medicine from the University, and a Medical skill rank of 5 or greater.

**Physician or Doctor (MD):** To be legally considered a doctor (MD), one must have a Doctorate in Medicine from the University and a Medical skill rank of 5 or greater.

**Surgeon:** A surgeon must of course be a qualified MD, and have the Surgery feat. Of course it is quite possible for a character to have the surgery feat and be perfectly capable of performing surgery even though they do not have a degree. In the field that

would not matter so much as the actual result, but the character could not legally perform surgery in a civilized locality.

## T/SENSORS

### *Trained Only*

The character is familiar with the operation and basic maintenance of sensor equipment installed in vehicles and ships. It is the sensor operator who interprets the long-range data by the ship's sensors and scanners.

**Passive Scans:** Encounter-related sensor scans are done as "active" scans, which basically means the target of the scan will know it is happening. Conducting an active sensor scan against commercial and civilian ships (by anyone other than the appropriate authorities) is frowned upon, and may even be considered a hostile act under some circumstances. Passive sensor scans on the other hand will go undetected, but make the task much harder.

All a sensor operator has to do to perform a passive scan is notify the Referee in advance of the skill check itself. Using only passive sensors will add +10 to the DC of the task however. If the target of the scan is expecting such an action, it may make a T/Sensor skill check (DC20) to spot it if suitable clues are visible such as the realignment of antennae etc. If the target is wary but not actively expecting the scan, increase the DC to 30.

**Ship Detection:** The sensor operation can attempt to detect any ships or other objects with the range of her sensor systems that are not shielded by a planet, moon, or other planetoid.

All commercial vessels operating within the most interstellar civilizations are required by law to carry a transponder that must be fully functional and in operation (this does not mean actually broadcasting) at all times while the ship is in motion. A transponder is really nothing more than a specialized radio system and computer within a completely self-contained, security sealed, and (supposedly) tamper-proof container. It can only be legally opened, repaired, or reprogrammed at an authorized facility located at any Class A, B, or some class C starports.

The transponder does not continually broadcast, as this would make ships very vulnerable out on the frontiers, but will automatically respond to an interrogative signal (a "Squawk") from another vessel or installation, supplying the ship's ID codes and registration on a specific frequency band that will be automatically detected and identified at Very Long range by even the most rudimentary of sensor systems. All ships – including military vessels – carry transponders and generally run them when operating among civilian traffic. The transponder will broadcast the ship's flag of registration (Imperial, Hive Federation, Two Thousand Worlds, etc.), its port of origin (the planet and system where the ship was registered), the registration number, the name of the registered owner, documented tonnage, and classification.

Close to a starport or other installation, beacons (and indeed, most vessels) broadcast a continuous squawk; so all vessels in the area are continuously "lit up" unless they are a military vessel that has turned off its transponder, or something that is not supposed to be there...

It is when confronting a military or other type of ship that is not operating a transponder that the sensor operator must actively watch for contacts. A successful T/Sensors skill check (DC10 or the current Jamming rating of any ship in range) will reveal the presence of any ships within range as a blip on the sensor display. No other information is available other than its mere existence, range, and general heading.

**Detect a Communication Signal:** Any signal directed to another comm. unit will automatically be detected. This task is used when trying to detect signals meant for other comm. units.

Open and unsecured signals can automatically be detected (base DC of 0) if someone is looking for them. It is just a matter of scanning frequencies. Secure signals can also be automatically detected (base DC of 0) if being watched for, but as they are encrypted this will do no good unless someone can break the encryption. Detecting hidden or piggybacked signals requires a skilled and alert sensor or comm. operator to detect, and have a base DC of 20. In combat this is a full action.

**Displacement Scan:** A successful T/Sensors skill check (DC10 or the current Jamming rating of any ship in range) will reveal the tonnage of a detected ship. While civilian and commercial vessels are required to carry a functioning transponder that broadcasts this information, there are some unscrupulous individuals in the universe who have been known to alter this data... A specific tonnage sensor check can verify the veracity of the transponder data.

**Configuration Scan:** A successful T/Sensors skill check (DC10 or the current Jamming rating of any ship in range) will reveal the probable configuration (scout, liner, patrol cruiser, far trader, etc.) of a detected ship. As with tonnage, civilian and commercial transponders are required to broadcast this information, but glitches and tampering have been known to happen. A specific configuration sensor check can verify the veracity of the transponder data.

**Threat Assessment:** A successful T/Sensors skill check (DC10 or the current Jamming rating of any ship in range) will reveal a general idea of the armament and defensive capabilities available to a detected ship.

**Target Size:** The size of a target also has a bearing on how easily it may be scanned. Small objects are harder to deal with than larger ones. Add the size modifier of the ship to the DC for any sensor task. Size modifiers are as follows: Colossal -8, Gigantic -4, Huge, -2, Large -1, Medium +0, Small +1, Tiny +2, Diminutive +4, Fine +8.

**Running Silent:** A ship may attempt to avoid detection and scanning by reducing its emissions to a bare minimum. If a ship takes no obvious actions, broadcasts no communications, attempts no active sensor checks (passive scans are allowed), fires no weapons, and otherwise ensures that it performs nothing that might reveal its presence, it is considered to be "running silent." Add +15 to any DC when another ship is attempting to use their sensors on the silent vessel.

**Jamming:** The sensor operator may attempt to spend the round providing defensive sensor jamming against incoming targeting lock attempts by enemy vessels, hopefully decreasing their chance of getting hit. Jamming will also aid in foiling attempts at detection, tonnage and classification estimations, and identification by other ships. This is a *Full Action*.

The sensor operator must make a T/Sensors skill roll and add the sensor system model number to this result. This total will establish the ship's Jamming rating for the round. Any other ship attempting to target or otherwise scan the ship must use the ship's Jamming rating as the DC for these tasks rather than the standard DC for the current round.

Note that a ship that is broadcasting a powerful jamming signal can be detected very easily. Actually determining what is doing the broadcasting is difficult, but any vessel within Very Long range will be aware of the jamming signal, and all sensor operators will know what it is.

## TRADER (WIS)

The character is familiar with the fine art of bartering and haggling price with other individuals. This is useful in many kinds of transaction, whether buying a used vehicle, starship, or equipment from an individual or selling a cargo in the Starport. Note that the use of Trader skill does not allow a character to

walk into a local department chain store and negotiate the price of a set of clothes, or the cost of a set of tools. It would however allow a character to negotiate directly with a tailor on the price of a custom outfit, or negotiate price with a little old alien selling a used air/raft that was only driven to the market once a week.

**Bartering and Haggling:** This is normally an opposed skill check. If the buyer or seller appears rushed, or otherwise anxious to buy or sell the goods the opposing trader may add +2 to his skill check roll. If the goods are obviously stolen or otherwise illegal, the buyer may add +2 to his skill check roll.

If the seller wins the opposed check with a standard success (0-9 points higher than the opposing roll), the price to be paid will be 110% of the list or standard price of the item. If the result is a greater success (10-19 points higher), the price to be paid will be 120%. A complete success (20+ points higher) will set the price at 130%.

If the buyer wins the opposed check with a standard success (0-9 points higher than the opposing roll), the price to be paid will be 90% of the list or standard price of the item. If the result is a greater success (10-19 points higher), the price to be paid will be 80%. A complete success (20+ points higher) will set the price at 70%.

**Retry:** Yes, but the price begins at the last negotiated level, and the character incurs a -2 penalty to the new skill check roll.

**Special:** If the trader has a skill rank of 5 or better in Bluff, she may add a +2 synergy bonus to all Trader skill checks.

**Notes:** Unlike the Broker skill, which is used when dealing with companies, governments, and megacorporations for large cargos, the Trader skill is used when interacting with individuals for specific items or specialized cargos.

## TUMBLE (DEX)

*Trained Only; Armor Check Penalty*

The character is skilled in performing somersaults, flips, handstands, cartwheels, dives, rolls, and similar acts, along with lessening the effects of falls.

**Check:** The character can land softly when the character falls or tumbles past opponents. The character can also tumble to entertain an audience (as with the Entertain skill). The character can't use this skill if the character's speed has been reduced by armor, excess equipment, or other objects.

DC	Task
15	Treat a fall as if it were 3 meters shorter when determining damage.
15	Tumble up to 6 meters (as part of normal movement), suffering no attacks of opportunity while doing so. Failure means the character tumbles 6 meters but suffers attacks of opportunity normally.
25	Tumble up to 6 meters (as part of normal movement), suffering no attacks of opportunity while doing so and moving through areas occupied by enemies (over, under, or around them). Failure means the character tumbles 6 meters and can move through enemy-occupied areas but suffers attacks of opportunity normally.

**Retry:** An audience, once it has judged a tumbler as uninteresting, is not receptive to repeat performances. The character can try to reduce damage from a fall as an instant reaction but only once per fall. The character can attempt to tumble as part of movement but only once per round.

**Special:** A character with 5 or more ranks in Tumble gains a +3 dodge AC bonus when executing the Fight Defensively standard or full-round action, instead of a +2 dodge AC bonus.

A character with 5 or more ranks in Tumble gains a +6 dodge AC bonus when executing the total defense standard action instead of a +4 dodge AC bonus.

If the character has 5 or more ranks in Jump, the character gets a +2 synergy bonus on Tumble checks.

If the character has 5 or more ranks in Tumble, the character gets a +2 synergy bonus on Balance checks.

## USE ALIEN DEVICES (WIS)

*Academics and Travellers Only*

The character is familiar with numerous examples of alien technology and design, allowing a better chance of figuring out the use and function of unknown or unfamiliar alien equipment and devices. Anyone can attempt to use this skill untrained, but only Academics and Travellers may earn ranks in this skill.

**Check:** When confronted with an alien or higher-technology device of unknown function, the character may attempt to figure out how it works. Using the Alien Races and Technology table below as a guideline, the Referee should set a secret Research DC to figure out how to use a single function of the device. Note that once a device's function is understood, a character can be shown how to use that function, provided it is relatively simple. Thus a TL4 character can be taught how to operate a TL12 coffee machine or alien direction-finding device, but not a computer or air/raft, which would require lengthy training (as represented by the acquisition of a skill.)

The character heading the investigation should make a skill check. If successful, reduce the Research DC by the amount equal to the skill check roll – exceeded the current Research DC. This will be the new DC the character must make a skill check against to continue the investigation. This will continue until the character gives up, or the Research DC is reduced to 0 or less, at which point the character has figured out one of the functions of the device.

A failed skill check requires the character to make an immediate additional skill check (same DC) to determine if anything untoward happens. If this second check fails, roll 1d20 and consult the Catastrophic Results table below. A roll of a 1 is always an automatic failure with a Catastrophic Result.

A roll of 20 is always an automatic success, and earns a 1d100 roll on the Beneficial Result table below. For purposes of Research DC reduction, consider an automatic success as a roll equal to the DC + 10.

If the device has multiple functions, a separate set of Use Alien Devices skill checks must be made for each function. Once a function's use has been determined, the character may activate that function without trouble in the future.

**TABLE: Alien Races and Technology**

Race	DC
Luriani, Solomani, Vilani, Other Human	0
Ursa, Sydite, Vargr, Aslan	5
Virushi, K'kree, Zhodani	10
Wanderer, Droyne	15
Hiver	20
Unknown Race	30
Ancients	50
For each TL of device over current TL*	+5

\* Does not apply to Ancients devices

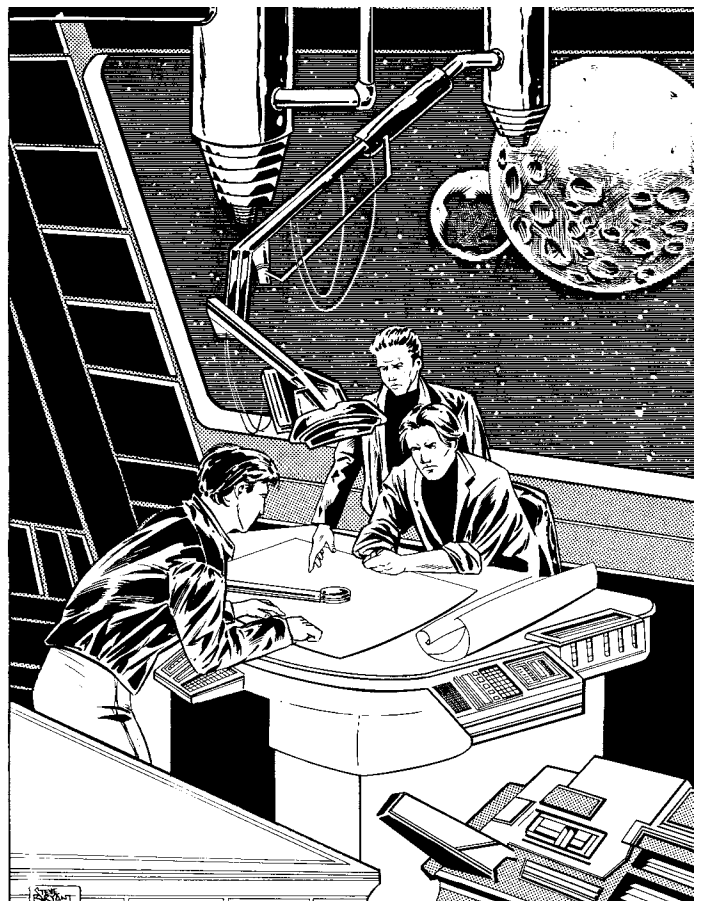
**TABLE: Catastrophic Results**

1d20	Result
1	Device explodes causing damage (how much should be determined by the Referee).
2-5	Device is rendered inoperable. Can never be repaired.
6-10	Device is rendered inoperable, but can possibly be repaired in the future if another can be obtained and its function figured out.
11-15	Reached dead end, must start completely over. Research DC returns to its initial value.
16-20	Device is baffling. Add 5 back onto the Research DC.

**TABLE: Beneficial Results**

1d20	Result
1-5	A moment of inspiration! Add +1 to the next check roll.
6-10	Device activated in a minor and benign manner giving a further clue to its operation. Add +2 to the next check roll.
11-15	Add INT modifier (treat any zero or negative modifier as +1) to the amount by which DC is reduced.
16-19	Double the amount by which the Research DC is reduced this round.
20	Deduce how to use the function currently being studied. Research DC is set to 0.

**Retry:** This skill may be attempted on a device until the character gives up, all functions have been determined, or the device is rendered inoperable or destroyed.







Feats are the special abilities that really set a character apart from the everyday, run-of-the-mill citizen. Feats provide your character with special bonuses when using certain skills, special abilities, and other advantages that you would otherwise not normally have. Unlike skills, there are no ranks; you either have a feat and its benefits or you don't.

Characters acquire feats as a result of membership in a character class, or when they increase in level. Note that a character's feats to a great extent will represent their personality, and should help develop the character in terms of roleplaying as well as die-rolling.

**Table: Basic T20 Feats**

Acrobatics	Nerves of Steel
Acting Prodigy	Override Ship Security
Alertness	Point Blank Shot
Ambidexterity	Precise Shot
AP (Battle Dress)	Primary Military
	Occupational Specialty
AP (Heavy)	Psi Training
AP (Light)	Quick Draw
AP (Medium)	Rapid Shot
AP (Vac Suit)	Research
Assassin	Ride-By Attack
Athletic	Run
Barter	Shield Proficiency
Brawling	Ship Tactics
Carousing	Shot on the Run
Combat Reflexes	Sixth Sense
Connections	Skill Focus
Credit Line	Sniper
Dodge	Spirited Charge
Dumb Luck	Spring Attack
EW Specialist	Stealthy
Endurance	Surgery
Far Shot	Tolerance
Fast Talk	Toughness
First Aid	Tracker
Fleet Tactics	Trample
Gearhead	Trapping
Geological Survey	Trustworthy
Great Fortitude	Two-Weapon Fighting
Hacker	Vessel/Ground
Heavy Metal	Vessel/Grav
Hobby	Vessel/Watercraft
Improved Critical	Vessel/Aircraft
Improved Initiative	Vessel/Ship's Boats
Improved Two-Weapon Fighting	Vessel/Starships
Improved Unarmed Strike	Vessel Specialization
Improved Zero-G/Low Gravity	WP (Archer)
Adaptation	
Interrogation	WP (Armsman)
Iron Will	WP (Combat Rifleman)
Jury Rig	WP (Field Artillery)
Legal Eagle	WP (Heavy Weapons)
Lightning Reflexes	WP (High Energy)
Martial Training	WP (Lasers)
Medical Specialization	WP (Marksman)
Miracle Worker	WP (Ship's Weaponry)
Mobility	WP (Swordsman)
Mounted Accuracy	Weapon Focus
Mounted Combat	Xeno-Empathy
Natural Born Leader	Xeno-Medicine
Natural Compass	Zero-G Combat
Natural Talent	Zero-G/Low Gravity
	Adaptation
Naval Architect	

**Table: Additional Feats**

Armorer	Tune-Up
Combat Driver / Pilot	Two-Gun Kid
Crewmember	Underwater Operations
Drop Trooper	WP (Axe/Mace)
Enhanced Immune System	WP (Black Powder Weapons)
EVA	WP (Close-Quarter Weapons)
Grapple Defense	WP (Grappler)
Hostile Environment	WP (Thrown Weapons)
Operations	
Natural Psionic Shield	WP (Vehicular Weapons)
Substance Resistance	

## FEAT DESCRIPTIONS

The following format is used to describe each of the available feats:

### FEAT NAME

A brief description of the feat and its benefits.

**Prerequisites:** If any specific requirements are listed, a character must meet them before gaining this feat. If there are no prerequisites listed and the character otherwise meets any Service and Class requirements, they may take the feat.

**Benefits:** The specific benefits gained by a character that acquires this feat.

**Normal:** What happens if someone without this feat tries to do the same thing.

**Special:** Any special notes on limitations or other effects and variables related to this feat.

### 3D SPATIAL AWARENESS

Due to a Belter's years in low or zero gravity environments, the ability to maneuver in three dimensions has become second nature to them.

**Prerequisites:** Must be taken as part of an advancement in level in the Belter class. Requires both the Zero-G/Low Gravity Adaptation feat and the Improved Zero-G/Low Gravity Adaptation feat.

**Benefit:** Add a +2 circumstance bonus when making Reflex saves in such an environment, and a +1 circumstance bonus to all Pilot skill checks while operating in space.

### ABLE SEAMAN

Low-tech and even mid-tech navies often maintain traditions of using sailing ships to train recruits. An Able Seaman has learned to climb the rigging to the very top and make his way about without fear.

**Prerequisites:** Must be taken as part of an advancement in level in the Sailor class.

**Benefit:** This translates to a +2 bonus to all climb checks involving ropes and poles in any way, doubled to +4 if aboard a maritime ship.

### ACADEMIC LECTURE

**Prerequisites:** Must be taken as part of an advancement in level in the Academic class.

**Benefit:** The academic may add a +4 synergy bonus when using a related Knowledge skill towards a Bluff skill check rather than the normal +2 synergy bonus, in an appropriate situation.

## ACROBATICS

The character is very agile, allowing her to take falls and difficult landings better than the average person.

**Benefit:** Add +2 to all Balance, Jump and Tumble checks.

## ACTING PRODIGY

The individual has a special gift for acting and portraying roles.

**Benefit:** Add +2 to all Disguise and E/Acting checks when the character is playing a part.

**Special:** This feat does not stack with the Performance Prodigy feat when using the E/Acting skill.

## ADVANCED KNOWLEDGE

**Prerequisites:** Must be taken as part of an advancement in level in the Academic class.

**Benefit:** The Academic may select one skill from among their Education or Intelligence based class skills and acquire Advanced Knowledge in that skill. Advanced Knowledge increases the maximum possible skill rank in a selected Intelligence or Education based skill from *character level +3* to *character level +3 + Education Bonus (any penalty is considered +0 for purposes of this class feature)*. This class feature may be taken more than once, but each subsequent selection must specify a different skill.

## ADVANCED MEDICAL KNOWLEDGE

The Medic may select one area of medicine (ex forensics, surgery etc) to be particularly expert in.

**Prerequisites:** Must be taken as part of an advancement in level in the Medic class.

**Benefit:** The character may add double his or her relevant attribute bonus to all medical skills (Knowledge, T/Medical etc) in this field. This class feature may be taken more than once, but each subsequent selection must specify a different skill.

## ADVANCED RESEARCH

**Prerequisites:** Must be taken as part of an advancement in level in the Academic class.

**Benefit:** The Academic may add a +4 synergy bonus when using a related Knowledge skill towards a Gather Information skill check rather than the normal +2 synergy bonus.

## ALERTNESS

The individual has “eyes in the back of his/her head,” so to speak, and is rarely surprised.

**Benefit:** The character gets a +2 bonus on all Listen checks and Spot checks.

## AMBIDEXTERITY

The character is equally proficient in using tools and weapons with either hand.

**Prerequisite:** DEX 15+.

**Benefit:** The character ignores all penalties for using an off hand. The character is neither left-handed nor right-handed.

**Normal:** Without this feat, a character who uses his or her off hand suffers a -4 penalty to attack rolls, ability checks, and skill checks. For example, a right-handed character wielding a weapon with her left hand suffers a -4 penalty to attack rolls with that weapon.

**Special:** This feat helps offset the penalty for fighting with two weapons.

## ANIMAL WHISPERER

While a Barbarian cannot exactly talk to animals, their ability

to deal with them sometimes makes it almost appear to be true.

**Prerequisites:** Must be taken as part of an advancement in level in the Barbarian class.

**Benefit:** In non-combat situations, a barbarian with an Animal Empath skill rank of 5 or more may add a +4 skill synergy bonus to all Handle Animal or Ride skill checks rather than the standard +2 synergy bonus.

## APPLIED PARANOIA

The character is accustomed to avoiding trouble when in enforced proximity to others.

**Prerequisites:** Must be taken as part of an advancement in level in the Convict class.

**Benefit:** He gains a +2 bonus to all Spot and Listen checks to avoid being ambushed or assaulted by surprise by other inmates.

## ARMORER (TYPE)

The character is skilled at maintaining and modifying weapons. The most common type is Firearms, though Swords, Lasers, etc are all possible.

**Benefit:** The character may use T/Mechanical skill without penalty to make modifications to weaponry

**Normal:** Anyone with the appropriate Weapon Proficiency feat can maintain their weapon. However, characters without this feat suffer a -4 penalty to modify or construct weapons.

## ARMOR PROFICIENCY (BATTLE DRESS)

The character is familiar with the use of powered battle dress armor and the weapon systems normally associated with it.

**Prerequisites:** Armor Proficiency (Vac Suit) feat.

**Benefit:** Can work normally while wearing battle dress, only suffering the armor check penalty when attempting to Climb, Hide, Jump, Move Silently, and Tumble.

**Normal:** Untrained characters wearing armor suffer the listed armor check penalty for their armor when performing all tasks and activities.

## ARMOR PROFICIENCY (HEAVY)

The character is familiar with wearing and using heavy armor.

**Prerequisites:** Armor Proficiency (Medium).

**Benefit:** Can work normally while wearing heavy armor, only suffering the armor check penalty when attempting to Climb, Hide, Jump, Move Silently, and Tumble.

**Normal:** Untrained characters wearing armor suffer the listed armor check penalty for their armor when performing all tasks and activities.

## ARMOR PROFICIENCY (LIGHT)

The character is familiar with wearing and using light armor.

**Benefit:** Can work normally while wearing light armor, only suffering the armor check penalty when attempting to Climb, Hide, Jump, Move Silently, and Tumble.

**Normal:** Untrained characters wearing armor suffer the listed armor check penalty for their armor when performing all tasks and activities.

## ARMOR PROFICIENCY (MEDIUM)

The character is familiar with wearing and using medium armor.

**Prerequisites:** Armor Proficiency (Light)

**Benefit:** Can work normally while wearing medium armor, only suffering the armor check penalty when attempting to Climb, Hide, Jump, Move Silently, and Tumble.

**Normal:** Untrained characters wearing armor suffer the listed armor check penalty for their armor when performing all tasks and activities.

### ARMOR PROFICIENCY (VAC SUIT)

The individual has been trained in the wearing, care, and maintenance of all types of vacuum suits and combat armor.

**Benefit:** Can work normally while wearing a vac suit or combat armor, only suffering the armor check penalty when attempting to Climb, Hide, Jump, Move Silently, and Tumble.

**Normal:** Untrained characters wearing armor perform suffer the listed armor check penalty for their armor when performing all tasks and activities.

### ASSASSIN

The character is trained in taking down an opponent with a single melee weapon attack.

**Benefit:** As a full round action the attacker may attempt to hit the target in a critical area. This attack is at a -4 penalty to hit. If the shot hits, it is treated as a critical hit. The target must be flat-footed to take advantage of this feat.

### ATHLETIC

The character is a true jock, excelling at most athletic endeavors.

**Benefit:** Add +2 to all Climb and Swim checks.

### AVERT SUSPICION

Corsairs often pretend to be innocent merchants to avoid patrols and get the drop on their targets.

**Prerequisites:** Must be taken as part of an advancement in level in the Corsair class.

**Benefit:** This feat gives a +2 bonus to all Bluff checks when trying to allay the suspicions of an inspection party, another vessel's captain etc.

### BARTER

The character is a hard bargainer and relishes haggling over the price of an item.

**Benefit:** Add +2 to all rolls on Trader and Broker checks.

### BLAST

The martial artist has been trained to unload a rapid series of blows into a target, preventing him from doing anything in response.

**Prerequisites:** Must be taken as part of an advancement in level in the Martial Artist class.

**Benefit:** As a full round option, the martial artist may declare a Blast. If his first attack lands, he may make a number of additional attacks equal to his dexterity modifier (or a minimum of 1), all on the same target. If any attack misses, the Blast ceases immediately. The target loses one attack of his own for every blow that strikes him, including the first, whether it does damage or not. A Blast cannot use any weapon other than a knuckle duster or similar punch-enhancing device.

### BODY CONDITIONING

The martial artist has toughened his body to take blows.

**Prerequisites:** Must be taken as part of an advancement in level in the Martial Artist class.

**Benefit:** This feat can be taken twice. Body Conditioning I reduces the effect of all non-lethal attacks (i.e. Stamina-affecting attacks) by one point. Body Conditioning II gives the character the equivalent of AR1 natural armor against all attacks. Body Conditioning has no effect on damage caused by cold, thirst,

drowning etc.

### BRAWLING

The character is familiar with fighting without weapons (i.e. using punches, head butts, kicks and other natural weapon attacks), or makeshift weapons (bottles, pool cues or chairs).

**Benefit:** When fighting unarmed, the character may add +1 to attack rolls and will inflict 1d4 damage, or may use makeshift weapons without the normal penalty (see below).

**Normal:** Without this skill, characters only inflict 1d3 damage when fighting unarmed; and 1d4 damage when armed with a makeshift weapon. When a character without this feat uses a makeshift weapon, he suffers a -2 penalty to any attack rolls.

### BRUISER

The character has served as an "enforcer" for a prison gang or powerful figure. He is skilled at inflicting pain without leaving a mark, at intimidating others, and at delivering a beating of desired intensity (ranging from a slow killing to a fast, efficient demolition).

**Prerequisites:** Must be taken as part of an advancement in level in the Convict class. The character must also have both STR and CON equal to or greater than 12 to take this feat.

**Benefit:** The character gains +2 on Intimidation checks in the prison environment and a +2 bonus to brawling or other combat rolls when attacking another prisoner in confined quarters. This bonus only applies if the bruiser initiates the violence. This feat stacks with Prison Rep.

### BUSHWHACKING

A character with this feat is devastatingly effective when attacking with ship's weapons by surprise.

**Prerequisites:** Must be taken as part of an advancement in level in the Corsair class.

**Benefit:** If he can get the drop on an unsuspecting vessel, he may roll his attack twice in the first round of space combat. And applies *both* damage results.

### CALCULATING EYE

Merchants make their living through the art of the deal, and knowing the potential value of various items and cargo is a large part of the process.

**Prerequisites:** Must be taken as part of an advancement in level in the Merchant class.

**Benefit:** Some merchants manage to develop a very *Calculating Eye* towards appraising the potential value of an item, and may add +2 to their Appraise skill checks when attempting to appraise the value of common objects and equipment ranging from poor to masterful quality. This does not apply to rare items such as works of art, artifacts, antiques, etc.

Merchants with this feature may also *Take10* when using their Broker skill to negotiate the price of speculative trade goods or cargo.

### CAROUSING

The character is talented at interacting and socializing with others, skilled in the art of small talk and making others feel at ease in their presence.

**Benefit:** Add +2 to all Gather Information checks when in most social situations such as a party, ball, inauguration, bar hopping, etc.

### CHIEF STEWARD

**Prerequisites:** Must be taken as part of an advancement in level in the Merchant class. Requires the Steward feat first.



**Benefit:** Adds 1d3 High, 1d6 Middle, and 1d6+3 low passengers to the number requesting travel aboard ship.

## CIVIL ENGINEER

The Engineer is experienced with civil building projects such as dams, bridges, and housing.

**Prerequisites:** Must be taken as part of an advancement in level in the Engineer class.

**Benefit:** He gains a +4 bonus to all Technical skill checks when working on such projects.

## CLIMBER

The character is an expert climber with experience of ice and other difficult conditions.

**Prerequisites:** Must be taken as part of an advancement in level in the Athlete class.

**Benefit:** He or she gains a +2 bonus on all climbing activities. This feat is cumulative with Skill Focus and Athletic.

## COACHING

The character has gained experience as a coach in his or her own sport.

**Prerequisites:** Must be taken as part of an advancement in level in the Athlete class and have at least one Sport skill.

**Benefit:** Other characters undertaking a task related to a sport the character has the Sport feat for gain a +2 bonus to their skill rolls due to his expert advice.

## COMBAT DRIVER/PILOT (TYPE)

The character has been trained to operate a vehicle under pursuit or combat conditions. Type may be Ground Vehicle, Grav Vehicle, Small Craft or Starship

**Benefit:** The character receives a +2 bonus to all Drive or Pilot checks when undertaking a defensive or offensive maneuver in combat, or to avoid a crash as a result of combat effects.

**Normal:** Characters without this feat receive no special bonus.

## COMBAT REFLEXES

The individual has the reflexes of a seasoned veteran; able to spot and take advantage of the openings an opponent may present in combat.

**Benefit:** When foes leave themselves open, the character may make a number of additional attacks of opportunity equal to his or her Dexterity modifier. The character still may only make one attack of opportunity per enemy. The character may also make attacks of opportunity while flat-footed.

## COMBAT SPECIALIZATION

The martial artist has honed her skill with a weapon or combat style and developed it into a deadly combat system, giving her abilities far beyond those of normal combatants.

**Prerequisites:** Must be taken as part of an advancement in level in the Martial Artist class.

**Benefit:** This feat can be taken multiple times, but each time must be with a different weapon system. Combat Specialization can only be taken in a weapon or fighting system with which the character already has the Weapon Focus and Weapon Specialization feats. These feats add +1 to hit and +2 to damage respectively. Adding Combat Specialization adds an additional +1 to hit and +2 to damage, for a total of +2 to hit and +4 to damage.

## COMMAND PRESENCE

The art of using presence and voice to inspire confidence

and leadership.

**Prerequisites:** Must be taken as part of an advancement in level in the Army, Flyer, Marine, Navy, or Sailor classes.

**Benefit:** Add +2 bonus to all Leader skill checks. This bonus does stack with the Natural Born Leader feat.

## COMPETITIVE

The character likes to win and has difficulty resisting a challenge.

**Prerequisites:** Must be taken as part of an advancement in level in the Athlete class.

**Benefit:** In any situation where the character is competing with another, including a fight with melee weapons (but not ranged weapons), the character gains +1 to his or her skill or attack rolls.

## CONCEALMENT

The character is an expert at avoiding searches of his cell (or other dwelling such as starship cabin) or person.

**Prerequisites:** Must be taken as part of an advancement in level in the Convict class.

**Benefit:** Gain a +4 bonus to conceal any small item from a search.

## CONNECTIONS

The individual has established a number of useful and helpful contacts among a selected community of people. (Determined in agreement with the Referee).

**Benefit:** Add +2 to all Gather Information checks when utilizing these contacts for information.

**Special:** This feat is specialized, meaning that it will normally specify what community or types of people the character has connections among. For example: Connections (Law Enforcement) would mean the character had contacts among police and other law enforcement agencies, and be familiar with the type of people that are part of that community. Listed below are a number of different ideas that might be useful to characters in the *Traveller* universe. The character is free to select from among them, or with your Referee's permission come up with new ones.

**Connections (Scouts):** Contacts among the active duty Scout Service personnel, at Scout bases, etc.

**Connections (Streetwise):** The individual has contacts with and knowledge of dealing with people from lower levels of society (SOC 7 or less).

**Connections (Underworld):** The individual has connections and contacts within the criminal underworld and black markets, and is familiar with dealing with people from this element of society.

**Connections (Class):** The individual has a number of contacts and acquaintances among members of their own *specific* character class.

## CONTACT SPECIALIST

The Scout has been trained in the art of first contact, and making a good impression.

**Prerequisites:** Must be taken as part of an advancement in level in the Scout class.

**Benefit:** Add +4 to all initial Liaison or reaction checks when dealing individuals for the first time.

## CONTROL & RESTRAINT

The Law Enforcer is skilled at restraining suspects with bare hands or tools like a baton or handcuffs.

**Prerequisites:** Must be taken as part of an advancement in

level in the Law Enforcer class.

**Benefit:** He or she may “attack to restrain” at half normal BAB. If the attack is successful, the target must make an immediate Reflex save at a DC equal to (10 + the Law Enforcer’s level) or be unable to act the following round. Once the suspect is restrained, the Law Enforcer must successfully “attack” each round to keep him that way, but the target gets only one save; once he is restrained, he stays that way until the Law Enforcer makes a mistake. Attempts to keep a target restrained are made at full BAB if the Enforcer is just concentrating on continuing to hold him. If the Enforcer wants to do something else (get handcuffs on the suspect, or hold him to be beaten by others) then BAB is halved as per the initial attack. The Enforcer may try to handcuff a target in any round except the first round of restraint. The target gets his normal Dexterity and other bonuses to defend against the restraint (i.e. to wriggle or wrestle free.) Multiple Enforcers (up to 4) can co-operate to restrain a suspect. Each rolls separately, and the target must defend against (or make his Reflex save against) all of them to avoid being controlled. If a suspect is being controlled by at least 1 Enforcer, another can cuff him automatically.

### CONTROL BAND

A special style of leadership is required to control a corsair band, based on casual violence and constant alertness for any challenge.

**Prerequisites:** Must be taken as part of an advancement in level in the Corsair class.

**Benefit:** A character with this feat gains a +2 to all Intimidate or Leadership checks when dealing with subordinates.

### CREDIT LINE

Because of family ties, business associates, friends, or other connections, the individual has access to a fairly sizable line of credit that may be borrowed against at very low interest rates (5%).

**Benefit:** The character may borrow an amount up to the equivalent of (character level times the results of a Social Standing check) times Cr1000. This loan must be repaid within a number of years equal to the character’s level when the loan is initially taken. Interest must be paid even if the loan is settled almost immediately. No additional loans from this source may be taken while a balance from a previous loan still remains unpaid.

### CREWMEMBER

The character has served aboard starships and has a basic set of shipboard skills. She can undertake simple “working passage” tasks like routine maintenance, monitoring instruments and handling comm traffic. The character may make T/Communications, T/Electronics and T/Mechanical skills checks as if she had a skill rank of 0, but only while working aboard a starship or spacecraft. Characters with this feat can manage to live and work aboard a starship without causing mayhem and are also familiar with basic emergency procedures such as getting a passenger into a rescue ball.

Characters who join the Corsair, Merchant, Navy or Scout careers automatically receive this feat as a bonus upon successful completion of their first term.

**Benefit:** The character can be hired as an unqualified crew-person and can work passage aboard a starship. She will not make stupid mistakes when performing routine shipboard work. In addition, the character may make T/Communications, T/Electronics, and T/Mechanical skills checks as if she had a skill rank of 0, but only while working aboard a starship or spacecraft.

**Normal:** Characters without this feat may cause problems if attempting even simple tasks they are not trained for.

### CROSS TRAINING

**Prerequisites:** Must be taken as part of an advancement in level in the Mercenary or Navy class.

**Benefit:** The character may select one class feat from the Army, Marine, or Navy class. This class feat may be selected a maximum of two times.

### DAMAGE CONTROL

Being aboard a fighting vessel will usually impart some level of knowledge on the art of damage control, or quickly and effectively instituting temporary but critical repairs when needed.

**Prerequisites:** Must be taken as part of an advancement in level in the Corsair or Navy class.

**Benefit:** When a character or NPC leading a repair crew has the damage control feat, they may add x2 to the Repair Point multiplier for the team each round.

### DEFENSIVE MANEUVER

The Flyer is skilled at making herself hard to hit.

**Prerequisites:** Must be taken as part of an advancement in level in the Flyer class.

**Benefit:** When making any skill check to evade ground fire, missiles, or another fighter, the pilot gains a +4 bonus.

### DEFENSIVE ROLL

**Prerequisites:** Must be taken as part of an advancement in level in the Mercenary class.

**Benefit:** Once per day, a Mercenary may attempt to roll with an incoming blow to take less damage from it. She makes a Reflex save (DC=stamina damage dealt) and if successful, she only takes half damage (stamina and lifeblood) from the blow. She must be aware of the attack and able to execute this maneuver. If she would normally be denied her Dexterity bonus to AC, she can’t try it. Note that the Mercenary’s Evasion feature does not apply when attempting a Defensive Roll.

### DEMO SPECIALIST

The Engineer is an explosives expert.

**Prerequisites:** Must be taken as part of an advancement in level in the Engineer class.

**Benefit:** He gains a +2 bonus on skill checks when planting or defusing explosives and knows how to tamp and shape charges for best effect, getting 10% more damage from a given emplaced charge (such as a breaching charge). This feat stacks with Nerves of Steel when disarming devices.

### DIPLOMATIC TRAINING

The character has been trained in restraint and tolerance, and is difficult to provoke or otherwise maneuver into making a mistake, revealing sensitive information etc.

**Prerequisites:** Must be taken as part of an advancement in level in the Diplomat class.

**Benefit:** Anyone trying to fast talk or bluff the character into such a gaffe suffers a –2 penalty. In addition, the character may always Take10 on liaison checks.

### DIPLOMATIC COMPLACENCY

The character knows she is safe behind her diplomatic immunity and the importance of her position.

**Prerequisites:** Must be taken as part of an advancement in level in the Diplomat class.

**Benefit:** Intimidation checks suffer a –2 penalty against her, and she gains a +2 to Bluff checks when dealing with security guards and similar underlings.

## DISASTER TEAM

The character has served on an emergency response team for serious incidents, and has observed other team members doing their jobs.

**Prerequisites:** Must be taken as part of an advancement in level in the Medic class.

**Benefit:** The character is familiar with basic emergency procedures such as operating cutting and lifting gear, moving casualties to safe areas, and identifying potential hazards such as toxic chemicals. The character may attempt emergency procedures she is not trained for as if she had a skill rank of 0, applying relevant stat bonuses. This feat applies only in emergency conditions.

## DODGE

The character is naturally adept at dodging and avoiding blows in combat.

**Prerequisite:** DEX 13+.

**Benefit:** During the character's action, he designates an opponent and receives a +1 dodge bonus to Armor Class against attacks from that opponent. The character can select a new opponent on any action. Note: A condition that makes the character lose his or her Dexterity bonus to Armor Class (if any) also makes the character lose dodge bonuses. Also, dodge bonuses stack with each other, unlike most other types of bonuses.

## DOGFIGHT

The Flyer is particularly good at airborne scrapping, and has an uncanny knack of knowing just where opponents are about to be.

**Prerequisites:** Must be taken as part of an advancement in level in the Flyer class.

**Benefit:** He gains a +2 bonus to hit with all aircraft weapons.

## DON'T TOUCH THAT!

During her training, the Engineer had an unfortunate habit of fiddling with dangerous equipment and endangering herself. Now she has an almost uncanny sense when she or someone else is about to do something stupid with a piece of equipment.

**Prerequisites:** Must be taken as part of an advancement in level in the Engineer class.

**Benefit:** Any time a character nearby (or the Engineer herself) is about to unwittingly do something dangerous (e.g. open an airlock onto vacuum, touch a live circuit, trigger a mining laser with someone's foot in the way); she seems to hear the voice of her old mentor shouting at her – "Don't Touch That!". The Engineer may make a Reflex save at DC 15 to snatch her hand away from the control, circuit etc. If successful, the action is not taken. If it is someone else who is about to perform a dangerous action, the Reflex save to stop them is DC 20. Unfamiliar equipment may still trigger the Engineer's hazard-sense, but DC is increased by 5 for alien technology and 10 for totally strange equipment, such as Ancients devices.

## DRAMA QUEEN

The character tends to make a big fuss over little things. His exaggerated responses tend to draw attention away from other members of his group.

**Prerequisites:** Must be taken as part of an advancement in level in the Entertainer class.

**Benefit:** Any attempts to Sense Motive or Search (say for a concealed weapon, to see through a disguise etc) directed against the character or other members of the Drama Queen's party suffer a –2 penalty due to his distracting fuss.

## DROP TROOPER

This feat applies to personal re-entry, whether in a military assault drop capsule or using an emergency personal re-entry kit. It may be taken up to 3 times, giving up to a +5 bonus on all DEX checks made during re-entry and (in the case of a military assault capsule) to aim the capsule at the target point. The character must already possess the Armor Proficiency: Vac Suit feat to take this feat.

The Drop Trooper feat is available to members of any spacegoing service (Marines, Merchants, Navy, Scouts) and to Army and Mercenary Special Forces members who have trained for emergency or assault-drop re-entry operations. At the Referee's discretion, any other character may take this feat if they are a participant in the hazardous sport of "Atmosphere Surfing" (also known as "Re-Entry Surfing").

**Prerequisites:** Armor Proficiency (Vac Suit) feat.

**Benefit:** 1<sup>st</sup> Level: No penalty on DEX checks to make a controlled re-entry. Level I: +2 on all DEX checks. 3<sup>rd</sup> level: +5 on all DEX checks (total).

**Normal:** Characters without this feat can attempt re-entry, but at a penalty of –4. Characters without the Vac Suit feat have no chance at successful re-entry.

## DUBIOUS HISTORY

The diplomat has a checkered past, and while this may raise some eyebrows in cultured circles; he has useful connections in the military, political, commercial or criminal sector (pick one when the feat is taken).

**Prerequisites:** Must be taken as part of an advancement in level in the Diplomat class.

**Benefit:** These connections to, for example, a prince in exile or a disgraced businessman can be used to obtain information or services once per year. The nature of the assistance, and what the provider wants in return, are up to the Referee.

## DUMB LUCK

The character is unnaturally lucky.

**Benefit:** +1 to all Gambling checks. Once per day the character may retry a failed check, attack roll, or saving throw. He or she may also turn any one successful check, attack roll, or saving throw into a critical success; but this may be done only once per week and during the next week the character may not attempt to use this feat at all. The two features of the feat cannot be used together. For example: this feat could not be used to reenroll an unsuccessful attack and then, if the reenroll were successful, increase the success into a critical hit.

## ENDURANCE

The character is "long winded" and able to endure strenuous physical exertion far longer than most others.

**Benefit:** Whenever the character makes a check for performing a physical action that extends over a period of time (running, swimming, holding his breath, and so on), the character gets a +4 bonus to the check.

## ENHANCED IMMUNE SYSTEM

The character has a particularly impressive immune system and rarely gets sick.

**Benefit:** The character has a bonus of +2 to Fortitude saves to resist disease and infection, and to recover from their effects.

**Normal:** A character without this feat suffers no special penalty.



## ENHANCED STRIKING

The martial artist has become adept at striking with hands, feet, head etc, and can cause additional damage.

**Prerequisites:** Must be taken as part of an advancement in level in the Martial Artist class.

**Benefit:** This feat can be taken twice. Enhanced Striking I represents a high degree of efficiency with the basic strikes. The character inflicts 1d4+1 damage in unarmed combat and gains +2 on attack rolls. He also strikes for 1d6 damage with improvised weapons, but with no bonus. This supersedes and does not stack with Brawling. Enhanced Striking II represents a tremendous level of skill with strikes, and the ability to use complex and flashy moves like jumping and spinning kicks. The character strikes for 1d6+1 damage when fighting unarmed and gains a +3 bonus to attack rolls (this bonus supersedes and does not stack with Brawling or Enhanced Striking I). He also gains +1 to attack rolls with improvised weapons, and does +1 point of damage with them; normally this will be 1d6+1. For creatures with naturally lethal attacks, such as an Aslan's dewclaw, the Improved Natural Attack feat is used instead.

## EVA

The character is highly skilled at extra-vehicular activity (EVA) operations; that is, she has been trained in carrying out various tasks outside a vessel in open space. A character must already possess the Armor Proficiency (Vac Suit) feat to take this feat.

**Benefit:** The character gains a +2 bonus to all skill checks made when operating in a vac suit outside a spacecraft in open space.

**Normal:** There are no penalties associated with EVA operations for persons without this feat, though some types of vac suit may impose their own penalties.

## EVASION

**Prerequisites:** Must be taken as part of an advancement in level in the Martial Artist or Mercenary class.

**Benefit:** If exposed to any effect that normally allows a character to attempt a Reflex saving throw for half damage (such as a grenade), she takes no damage with a successful saving throw. Evasion can only be used if the character is wearing light armor or no armor.

## EVENTING

The character is used to the stress and excitement of competing in a sporting event.

**Prerequisites:** Must be taken as part of an advancement in level in the Athlete class.

**Benefit:** He or she does not make basic mistakes and can always Take10 during a round rather than submit to the die roll. In addition, the character gains +1 to all relevant skill checks during the event.

## EW SPECIALIST

The individual is an electronic warfare expert, and has an incredible talent when it comes to sensors and communications.

**Benefits:** The character gains a +2 to all T/Communications and T/Sensors skill checks when attempting to detect, defeat, or establish a communications or sensor lock, or when trying to descramble a garbled or encoded comm. signal.

## FAME

The character is somewhat famous, and can sometimes use this to find assistance.

**Prerequisites:** Must be taken as part of an advancement in

level in the Entertainer class.

**Benefit:** Once per visit to any given star system, the character may roll 1d20 +1 per level of Entertainer the character has, vs. a DC equal to 30 minus the world population UWP. If successful, the character has located an old friend from the showbiz life or a dedicated fan, who may be able to help in some way.

## FAR SHOT

The character is a crack shot when aiming at distant targets.

**Prerequisite:** Point Blank Shot.

**Benefit:** When the character uses a projectile weapon, such as an autopistol, its range increment increases by one-half (multiply by 1.5). When the character uses a thrown weapon, its range increment is doubled.

## FAST TALK

The character is able to come up with plausible comments, answers, and other bit of small talk at the drop of a hat, enabling them to somewhat direct and control the course of a conversation.

**Benefit:** Add +2 to all Bluff and Innuendo checks.

## FAVOR OWED

The diplomat has performed a great service for someone in the past.

**Prerequisites:** Must be taken as part of an advancement in level in the Diplomat class.

**Benefit:** This person owes the character a debt of honor, and will do a favor in return.

**Special:** This feat can be taken as many times as the character wishes, but each favor can be called in only once. Some requests, (e.g. 'lend me the 96<sup>th</sup> Strike Fleet for a couple of months') are unlikely to be granted.

## FENCE STOLEN GOODS

The Rogue knows how to locate buyers for stolen or otherwise illegal goods and products, with a reduced chance of getting caught.

**Prerequisites:** Must be taken as part of an advancement in level in the Rogue class.

**Benefit:** An Appraisal check must first be made on the item(s) to determine their value. How quickly the item(s) sell, and how much they bring are all dependent upon one another. The faster an item sells, the less it will likely bring. The higher the asking price for an item, the harder it will be to find a buyer. When checking to see if a buyer has been found willing to pay the asking price, the character must make a Gather Information check vs. the appropriate DC. If the check fails by 10 or more, the legal authorities have learned of the attempt to fence the goods and will try to arrest the character.

% Actual Value	Check for Buyer	Find Buyer DC
0-10%	1 per day	5
11-20%	1 every 2 days	10
21-30%	1 every 3 days	15
31-50%	1 per week	20
41-75%	1 every 2 weeks	25
76-100%	1 per month	30

## FIGHTER LEADER

**Prerequisites:** Must be taken as part of an advancement in

level in the Flyer class.

**Benefit:** The Flyer is skilled at controlling a group of combat craft (up to 10), and can add his INT or WIS bonus to all initiative rolls made by the members of his squadron.

### FIRST AID

The individual has been trained in the administration of first aid and basic medical care.

**Benefit:** While this does not impart T/Medical skill, it does allow a character to function as if he had a T/Medical skill rank of 0.

### FLEET TACTICS

The character is trained in the art of large-scale space warfare and the handling of groups of ships (fleets) in combat.

**Prerequisites:** Ship Tactics feat.

**Benefit:** Add WIS or INT bonus (whichever is higher; treat any penalties as +0) to all fleet attack and defense rolls.

**Normal:** Untrained individuals attempting to use Fleet Tactics suffer a -4 penalty to the roll.

### GEARHEAD

The character enjoys and is quite skilled at tinkering and working with mechanical and electronic equipment and systems.

**Benefit:** Add +2 to all T/Mechanical and T/Electronics checks when attempting to repair, construct, or sabotage a piece of equipment. This bonus does not apply to the actual operation of the equipment itself.

### GEOLOGICAL SURVEY

The character is skilled at carrying out sample collection and analysis, and can operate appropriate sensors and equipment.

**Prerequisites:** P/Prospecting skill rank 5+ or K/Geology skill rank 5+.

**Benefit:** Add +2 to any K/Geology skill checks when attempting field analysis of a geological formation or attempting to extrapolate possible geological information about a region based on available maps and surveys. Also adds a +2 synergy bonus to all P/Survey skill checks when performing planetary mapping and mineral surveys.

### GRAPPLE DEFENSE

The character is skilled at resisting takedowns, throws and attempts to disarm him, and is trained in techniques used to escape joint locks and chokes.

**Benefit:** The character has no penalty to checks made to resist all attempts to throw, takedown, choke or lock him, including Law Enforcers' Control & Restraint techniques.

**Normal:** Untrained characters relying upon brute force are very vulnerable to skilled wrestlers and grapplers, and suffer a -4 on all checks to resist the attacks mentioned above.

### GREAT FORTITUDE

The character is capable of withstanding unusual levels of pain and fatigue, and can (at least for a while) hold at bay the effects of shock.

**Benefit:** The character gets a +2 bonus to all Fortitude saving throws.

### HACKER

The character is adept at hacking computer systems and defeating security measures.

**Prerequisites:** T/Computer skill rank 5+

**Benefit:** Add +2 to all T/Computer and T/Communications checks when attempting to bypass or circumvent computer or

communication security features.

### HEAVY METAL

The individual has a natural ability with ballistics, trajectories, and targeting of heavy weapons such as field artillery and ship's weaponry.

**Benefit:** Reduce the effective range to a target by one range increment, or ignore one level of cover and/or concealment.

### HIGH MORALE

Marines are known for their high morale and esprit de corps.

**Prerequisites:** Must be taken as part of an advancement in level in the Marine class.

**Benefit:** Marines with this feat earn a +2 to all Will saving throws.

### HISTRIONICS

The character tends to fly off the handle and get angry with officials or overdo celebration of victory.

**Prerequisites:** Must be taken as part of an advancement in level in the Athlete class.

**Benefit:** Once per event, the character can engage in histrionics that may convince the umpire/referee to change his decision or cloud a confused issue still further. The effect of this is that the character may make an immediate DC15 Bluff test. If he succeeds, he may retake his last skill check in the event.

### HOBBY

The individual has developed a specific skill as a favorite hobby.

**Benefit:** May make one cross-class skill a permanent class skill.

**Special:** This feat may be taken a number of times equal to a character's INT bonus or a minimum of once, whichever is higher.

### HOSER

The pilot is fond of close-in gun attacks rather than standoff missile combat.

**Prerequisites:** Must be taken as part of an advancement in level in the Flyer class.

**Benefit:** He gains a +2 bonus to hit with gun weapons such as autocannon and laser weapons. This feat stacks with Dogfight, and applies to turreted weapons aboard heavy aircraft or ship's boats as well as fixed fighter guns.

### HOSTILE ENVIRONMENT ENGINEER

The Engineer is skilled at working in difficult environments such as underwater or in vacuum, and understands how materials behave in these conditions.

**Prerequisites:** Must be taken as part of an advancement in level in the Engineer class.

**Benefit:** She may ignore penalties for working in a hostile environment, other than those incurred for lack of proficiency with protective equipment such as vac suits. Anyone without this feat trying to work in hostile conditions suffers a -4 penalty to technical skill rolls.

### HOSTILE ENVIRONMENT OPERATIONS

The character is highly skilled at hostile environment operations; that is, she has been trained in carrying out various tasks outside a vessel in corrosive, insidious, or exotic atmospheres.

**Prerequisite:** Armor Proficiency (Vac Suit).

**Benefit:** The character gains a +2 bonus to all skill checks made when operating in a vac suit or hostile environment suit in the atmosphere types listed above. In addition, a suit maintained or operated by a character possessing this feat will last 25% longer before failing in extreme conditions.

**Normal:** There are no penalties associated with Hostile Environment operations for persons without this feat, though some types of suits may impose their own penalties.

### IMPRESSIVE BLUSTER

The character is a past-master at flying off the handle.

**Prerequisites:** Must be taken as part of an advancement in level in the Diplomat class.

**Benefit:** When dealing with anyone likely to be impressed by his position, the character may bluster and posture, gaining a +2 bonus to all Bluff, Liaison, or Leader checks.

### IMPROVED CRITICAL

The character has an affinity for a specific type of weapon, such as an autopistol or dagger, which must be specified when the feat is taken. When wielding this type of weapon, he or she is much more likely to inflict a critical hit on an opponent.

**Prerequisites:** Proficiency feat with weapon, base attack bonus +8 or higher.

**Benefit:** When using a weapon of the selected type, the character's threat range is doubled.

**Special:** This feat can be taken multiple times. The effects do not stack. Each time the character takes the feat, it applies to a new type of weapon (autopistol, submachinegun, dagger, etc).

### IMPROVED EVENTING

The character is very experienced in competition.

**Prerequisites:** Must be taken as part of an advancement in level in the Athlete class. Must already have the Eventing feat.

**Benefit:** He is considered to always roll at least 10 in any skill check where he has an appropriate Sport feat, and gains a +3 bonus to the actual die roll. This supersedes the Eventing feat.

### IMPROVED INFIGHTING

This feat is available to any character or creature that has a Lifeblood-affecting (i.e. lethal) natural weapon such as a Vargr's bite or an Aslan's dewclaw and who already possesses the Infighting feat. It represents an extremely high level of prowess in using the natural weapon. The feat can be taken more than once, but each time it is applied to a different attack (claw, bite etc).

**Benefit:** The character gains an additional +2 bonus to all attack rolls with the natural weapon (for a total of +3), and damage is again increased by one die type. I.e. an attack that normally deals 1d2 damage becomes 1d3 with Infighting (see below), and 1d4 with Improved infighting.

### IMPROVED INITIATIVE

The character has fast or highly trained reflexes, allowing her to react more quickly than others in combat.

**Benefit:** The character gets a +4 bonus on initiative checks.

### IMPROVED SEARCH

The Rogue is adept at locating the likely spots that someone would tend to hide their valuables and other items of importance.

**Prerequisites:** Must be taken as part of an advancement in level in the Rogue class.

**Benefit:** Add +2 to all Search checks.

### IMPROVED TWO-WEAPON FIGHTING

The character is highly trained in the art of two-weapon combat.

**Prerequisites:** Two-Weapon Fighting and Ambidexterity feats, base attack bonus +9 or higher.

**Benefit:** In addition to the standard single extra attack the character gets with an off-hand weapon, he or she also gets a second attack with the off-hand weapon, albeit at a -5 penalty.

**Normal:** Without this feat, the character can only get a single extra attack with an off-hand weapon.

### IMPROVED UNARMED STRIKE

The character has achieved a very high level of skill in unarmed combat.

**Benefit:** The character is considered to be armed even when unarmed – that is, armed opponents do not get attacks of opportunity when he or she attacks them while unarmed. The character still gets an opportunity attack against any opponent who makes an unarmed attack on him.

### IMPROVED ZERO-G OR LOW GRAVITY ADAPTATION

The character is totally acclimated to working and living in a low or zero gravity environment.

**Prerequisites:** Zero-G or Low Gravity Adaptation feat.

**Benefit:** The character will suffer no penalty when using skills in a zero-g or low gravity environment, except for combat skills. These require the Zero-G combat feat.

**Normal:** Untrained characters suffer a -4 penalty on any skill use in a low or zero-g environment.

### IMPROVISED EXPLOSIVES

The Engineer knows how to make a range of explosive compounds from various materials.

**Prerequisites:** Must be taken as part of an advancement in level in the Engineer class.

**Benefit:** On a successful Demolitions check, the character can improvise an incendiary or explosive device sufficient to penetrate the chosen target (see THB P156, Demolitions). The DC of this check is equal to (10 + number of kilograms of conventional explosive required). Thus to penetrate a reinforced concrete wall (needing 1 kilogram of explosives) is DC11. To breach it requires 4 kilograms, so the DC is 14. Failure indicates that the charge uses up the available materials but proves to be inadequate. It will cause half damage if appropriate. An improvised charge will generally be 2-5 times as large as the equivalent normal explosive device. It is not really feasible to try to breach a starship bulkhead with explosives made from match heads and manure.

### INFIGHTING

This feat is available to any character or creature that has a Lifeblood-affecting (i.e. lethal) natural weapon such as a Vargr's bite or an Aslan's dewclaw. It represents a high level of prowess in using the natural weapon. The feat can be taken more than once, but each time it is applied to a different attack (claw, bite etc).

**Benefit:** The character gains a +1 bonus to all attack rolls with the natural weapon, and damage is increased by one die type; i.e. 1d2 becomes 1d3, 1d3 to 1d4, 1d6 to 1d8 etc. Any pluses or other modifiers remain unchanged.

**Normal:** There is no penalty for characters without this feat.

### INFINITE PATIENCE

The character is willing to take as long as it takes to get what she wants, and will stall negotiations again and again until the other party makes a mistake.



**Prerequisites:** Must be taken as part of an advancement in level in the Diplomat class.

**Benefit:** The character gains a +2 bonus to Liaison, Broker, or similar skill checks, plus an additional +1 for every doubling of the time she is willing to drag out the negotiations for, to a maximum of +6 (taking 16 times as long as normal). The other negotiator may of course break off out of exasperation.

## INTERROGATION

The character is skilled at questioning and interrogating people. She can pick up subtle clues from their body language and choice of phrases and spot inconsistencies in their story.

**Benefit:** Add +2 to all Sense Motive and Intimidate checks when performing an interrogation or questioning a suspect. In situations where the character is being interrogated, a negative -2 modifier may be applied to the interrogator's skill checks when attempting to obtain information from the character.

**Special:** This feat is a bit more heavy-handed than just using the Sense Motive skill. The person being question will realize that the character is after information from them.

## IRON WILL

The individual has an unusually high reservoir of willpower, grit, and determination.

**Benefit:** The character gets a +2 bonus to all Will saving throws.

## JACK-OF-ALL-TRADES

**Prerequisites:** Must be taken as part of an advancement in level in the Scout or Traveller class.

**Benefit:** Any class skill (from any class the character has multiclassed into) the character is not currently trained in may be treated as if it were an "untrained" skill. This means the character may attempt to use these class skills as if they had a skill rank of 0. Each subsequent selection of this class feature improves the character's effective skill rank in these untrained class skills by +1. So a character with JoT +3 would make such skill checks as if they had a skill rank of 3.

Cross class skills may similarly be used, but at a skill rank equal to JoT rank -1.

## JUNKYARD DOG

Some Belters prefer to deal in salvage work rather than prospecting for mineral wealth.

**Prerequisites:** Must be taken as part of an advancement in level in the Belter class.

**Benefit:** With this feat, a Belter automatically earns a 1d8+2 percent "finders fee" when returning salvaged items owned by a government rather than having to barter for the additional cash as per the normal Salvage rules. When selling salvaged items for scrap, a Belter with this feat is able to command a price equal to 2d6% of the original value of the item rather than just 1d10%. This feat will also impart a +2 bonus when using the Appraise skill to attempt to determine the possible value of a salvaged item.

## JURY RIC

The character is quite handy at jury-rigging, makeshift repairs and cobbling together unusual gadgets and gizmos.

**Benefit:** When attempting a fast, temporary repair, the character may add +2 to any repair rolls made.

## LEGAL EAGLE

The character is intimately familiar with Interstellar laws and customs.

**Prerequisites:** K/Interstellar Law skill rank of 5+.

**Benefit:** Add +2 to all K/Interstellar Law and P/Administration checks.

**Special:** This feat applies only to the laws governing interstellar trade, travel, commerce, diplomacy, etc. It does not apply to the laws of individual worlds and governments.

## LIGHTNING RAID

Corsairs are noted for the sudden violence of their raids, which often rely on surprise to prevent any organized resistance from shaping up.

**Prerequisites:** Must be taken as part of an advancement in level in the Corsair class.

**Benefit:** A character with this feat (and his immediate followers, up to a squad sized unit), gain a +2 bonus to their AC when making a sudden initial assault. This bonus is good for 1d6 rounds from the moment the attackers burst into their target, down the assault ramp, etc. There is no benefit after this initial shock period.

## LIGHTNING REFLEXES

The individual has the reflexes of a hunting cat.

**Benefit:** The character gets a +2 bonus to all Reflex saving throws.

## LINGUIST

Exposure and interaction with numerous cultures and societies has imbued the Traveller with a gift for languages.

**Prerequisites:** Must be taken as part of an advancement in level in the Traveller class.

**Benefit:** In situations where a Traveller needs to communicate with another, but is unfamiliar with the local language he may still attempt to get a point or question across.

### DC Type of Language

10	Subtongue or closely related to a known language
20	Obscurely related to a known language.
25	Archaic or earlier version of a known language (100s of years old)
30	Ancient root tongue of a known language (1,000s of years old)

### Modifiers

	DC
Simple questions or phrases (hello, what are you called, etc.)	+0
Moderately complex questions and phrases (where are we, what happened)	+2
Difficult and highly involved questions and phrases (local history, questions about society)	+5
Highly advance scientific and technical concepts	+10

## LOOOOOOOT!!!

A character with this feat is adept at grabbing valuables quickly and efficiently in the course of a raid.

**Prerequisites:** Must be taken as part of an advancement in level in the Corsair class.

**Benefit:** Add +2 to all Appraise and Search checks during a raid.

## LOW-TECH MACHINERY

The Engineer is skilled at building and using simple machines (ramps, levers, primitive block-and tackle etc) out of whatever

resources are to hand.

**Prerequisites:** Must be taken as part of an advancement in level in the Engineer class.

**Benefit:** The character will not suffer penalties to skill checks when operating without modern equipment, though the project will take at least twice as long, since machines must be constructed. In addition, the character can create quite complex machines such as cranes and catapults out of primitive components. Characters without this feat suffer a -4 penalty when working in a primitive environment unless modern equipment is brought in.

## MARKET ANALYST

This feature of the Merchant class bestows knowledge of base market values for trade goods, and the ability to predict general sale trends for a specific world.

**Prerequisites:** Must be taken as part of an advancement in level in the Merchant class.

**Benefit:** A successful Broker skill check (DC15) allows the first die of the 3d6 to be thrown on the Actual Value Table (see the Trade and Commerce rules in the Travellers' Handbook for details). A second successful Broker skill check (DC30) allows the Merchant to throw the second of the three dice thrown on the Actual Value Table. This result is recorded and kept for use when the cargo is sold, allowing a reasonably accurate assessment of what the final price will be. The third die can never be predicted. The prediction will not hold indefinitely. Once it has expired the prediction is invalid and all Actual Value dice will be rolled normally. Each type of good must be predicted separately, and different lots of the same type must have separate second die roll predictions.

*First Die:* DC 15. Prediction holds valid for a number of days equal to the number of points by which the roll was made.

*Second Die:* DC 30 This prediction holds for one day per two points by which the roll was made, or the same number of days as the prediction for the first die, whichever is shorter.

## MARTIAL TRAINING

The individual has more than the typical experience in combat situations through training, real life experience, or more typically through previous military service.

**Prerequisites:** Must be a minimum of 4<sup>th</sup> level and have served at least one term in the Army, Navy, Marines, or Scout service (see Prior History), or have a Strength and Dexterity ability score of 12 or higher. May not be taken by Barbarians, Mercenaries, or (Active-Duty) Marines.

**Benefit:** May add +1 to BAB for every 4 character levels attained (i.e. at 4<sup>th</sup>, 8<sup>th</sup>, 12<sup>th</sup>, 16<sup>th</sup>, and 20<sup>th</sup> levels).

**Special:** This feat may only be taken once.

## MARITIME TACTICS

The character is skilled at using a ship's systems in combat.

**Prerequisites:** Must be taken as part of an advancement in level in the Sailor class.

**Benefit:** He may add his INT or WIS bonus to initiative rolls made by his vessel and her crew, and all gunners aboard the ship gain a +1 to hit. This feat applies only to "wet" navy ships and submarines.

## MEATBALL SURGERY

The character has worked in a disaster unit or military hospital, and is highly skilled at keeping patients alive so that they can receive proper medical attention further up the line.

**Prerequisites:** Must be taken as part of an advancement in level in the Medic class.

**Benefit:** A character with this feat gains a +4 bonus to

perform emergency life-saving surgery, and can perform any given trauma operation in half the normal time. The results of meatball surgery are not pretty, nor usually very permanent, but it saves lives.

## MEDICAL PAPER

The medic has recently published a paper in a scholarly journal.

**Prerequisites:** Must be taken as part of an advancement in level in the Medic class.

**Benefit:** He receives a bonus of +1 to all skill rolls in K/ Biology or other medicine-related knowledge skill.

## MEDICAL SCIENTIST

The medic is involved in research or has an interest in the wider field of the life sciences.

**Prerequisites:** Must be taken as part of an advancement in level in the Medic class.

**Benefit:** He receives a bonus of +1 to all skill rolls in K/ Biology or other medicine-related knowledge skill for every full 4 ranks of T/Medical skill he possesses.

## MEDICAL SPECIALIZATION

The individual has specialized in a specific field of medicine such as cardiology, neurology, or orthopedics.

**Benefit:** Add +2 to all T/Medical checks when diagnosing or treating injuries/illnesses related to the field specialty.

**Special:** This feat may be taken more than once, but each time a new field of specialization must be selected. It does not stack.

## MENTAL DISCIPLINE

**Prerequisites:** Must be taken as part of an advancement in level in the Academic class.

**Benefit:** With a highly trained and analytical mind, an Academic may add +2 to all Intelligence ability checks that require some form of mental agility or problem solving.

## MIDAS TOUCH

Some Belters (the more prosperous ones at least) tend to develop a knack for locating potentially lucrative spots for prospecting.

**Prerequisites:** Must be taken as part of an advancement in level in the Belter class.

**Benefit:** If a strike is made, the Belter may increase the level of the discovery by 1 level of value as per the Prospecting rules if desired.

## MIRACLE WORKER

The individual has an uncanny knack with machinery and gadgets. He or she can wring out just a little more performance than specifications suggest, maintain a system well beyond its rated capacity without disaster, etc.

**Prerequisites:** Gearhead feat.

**Benefit:** When attempting a temporary repair the character must make an appropriate skill check (DC 22 – System RP requirements). If successful the damaged system is automatically repaired to its original rating less one factor. This feat can only be used once per damaged system until fully repaired. Add +1 to the skill check roll if there are sufficient vehicle or engineering workshops available to support the job. Add +2 to the skill check roll if the chief mechanic/engineer has the Damage Control feat.

## MOBILITY

The individual has the ability to dodge, dance, and otherwise

move past opponents while avoiding their blows.

**Prerequisites:** DEX 13+, Dodge feat.

**Benefit:** The character gets a +4 dodge bonus to Armor Class against attacks of opportunity caused when the character moves out of or within a threatened area. Note: A condition that makes the character lose the Dexterity bonus to Armor Class (if any) also makes the character lose dodge bonuses. Also, dodge bonuses stack with each other, unlike most types of bonuses.

### MOUNTED ACCURACY

The character is skilled at firing ranged weapons from a moving platform such as a vehicle or animal.

**Prerequisite:** Ride or Drive skill.

**Benefit:** The penalty the character suffers when using a ranged weapon from a moving platform is halved: -2 instead of -4 if the character's platform is taking a double move, and -4 instead of -8 if the character's platform is running or moving at fast speed or higher.

### MOUNTED COMBAT

The character is trained in handling an animal mount in combat.

**Prerequisite:** Ride skill.

**Benefit:** Once per round when the character's mount is hit in combat, the character may make a Ride check to negate the hit. The hit is negated if the character's Ride check is greater than the attack roll (essentially, the Ride check becomes the mount's Armor Class if it's higher than the mount's regular AC).

### NARROW ESCAPE

Some Merchants (particularly those of somewhat less than sterling reputations) develop a knack for sensing trouble and avoiding it before it spots them, whether it be pirates, local customs frigates, or a navy destroyer.

**Prerequisites:** Must be taken as part of an advancement in level in the Merchant class.

**Benefit:** When an encounter with these types of ships occurs, the merchant may attempt to avoid the encounter before it happens. The Merchant will roll 1d20 and add +1 for every 5 or more Merchant class levels he has attained against a DC of 17. If successful, the encounter does not occur.

### NATURAL BORN LEADER

The individual has the type of attitude, confidence, and natural leadership that draws attention and inspires loyalty.

**Benefit:** Add +2 to all Leader and Recruiting checks.

### NATURAL COMPASS

The individual has an innate, almost unnatural ability to determine his or her location nearly anywhere on a world or planetoid, beyond what is natural.

**Benefit:** Add +2 to all Intuit Direction and Navigation checks.

### NATURAL MEDICINE

While not technologically advanced, Barbarians do tend to have a fair amount of herbal lore and natural remedies available to them when they must deal with injuries and ailments.

**Prerequisites:** Must be taken as part of an advancement in level in the Barbarian class.

**Benefit:** This feat is similar to the First Aid feat available to anyone, allowing a barbarian to function as if he had a T/Medical skill rank of 0. In addition, it also allows a barbarian to use this skill in a wilderness environment as if he had a proper basic TL5-7 field medical kit at all times. This feat requires a K/Herbal Lore

skill rank of 5 or greater.

### NATURAL PSIONIC SHIELD

The character has a natural partial immunity to psionics. Psi Strength is calculated as if the character were Psionically trained at the age where the shield first manifested itself; i.e. it is determined by the character's age at which the feat is taken. A character with this feat can never become a true psionist and cannot voluntarily "open up" to psionics.

This feat is normally taken at first level, representing a latent ability that becomes apparent as the character reaches maturity. The Referee may allow an older character to develop a shield as his discretion. Perhaps a latent shield was activated by a psionic contact or by other changes in the character's life and mental state.

**Benefit:** The character's mind is considered to be shielded against psionics for all purposes.

**Normal:** A character without this feat is normally vulnerable to Psionics.

### NATURAL TALENT

The character is a raw psionist, capable of minor feats of psionics without the normal training required.

**Benefit:** The character rolls 1d20 and consults the Natural Affinity table below to determine which psionic Sphere of Influence he will be capable of manipulating.

The character has no formal training, but is such a strong natural talent that he may always act as if his skill rank in his natural sphere were 2 points higher than normal when using talents from his natural sphere of influence. Until formally tested the character may act as if he had a Psi rating of 2. If finally tested, the character may add +2 to the final exam result. If a *Human* character takes this as their free racial bonus feat, he may ignore the age penalty when being examined at the Institute

Note that the features of this feat make it possible for the character to later take any talent feat within his sphere that has a rank requirement of 2 or less.

See Psionics for more information.

**TABLE: Natural Affinity**

d20	Sphere
1-10	Telepathy
11-14	Clairvoyance
15-17	Telekinesis
18-19	Awareness
20	Teleportation

### NAVAL ARCHITECT

The individual has been trained in the techniques and methods of spaceship and starship design, and producing the blueprints and plans necessary for their construction.

**Prerequisites:** T/Engineering

**Benefit:** May design starships and small craft for construction.

**Special:** This feat may be selected up to four times with the following additional capabilities with each selection:

- 1) The character is capable of designing small starships and small craft (up to 400 tons). Takes 16 weeks
- 2) The character is capable of designing medium sized starships (up to 1,000 tons). Takes 10-12 weeks.
- 3) The character is capable of designing large starships (up to 10,000 tons). Takes 6-8 weeks.
- 4) The character is capable of designing any type of starship



regardless of tonnage, at normal pace.

## NEGOTIATOR

The Scout is a born negotiator

**Prerequisites:** Must be taken as part of an advancement in level in the Scout class.

**Benefit:** Add +2 to all Liaison and Administration checks.

## NERVES OF STEEL

The character is cool as ice when dealing with demolition charges and attempting to disarm or disable explosives and similar devices.

**Benefit:** Add +2 to all Demolitions, T/Mechanical, or T/Electronic skill checks when attempting to disable a device or demolitions.

## NOBLE INDIGNANCE

Many Nobles are quite adept at using their titles to browbeat and intimidate those of lesser social status into temporary compliance.

**Prerequisites:** Must be taken as part of an advancement in level in the Noble class.

**Benefit:** With this feat a Noble may use their Social Standing in place of their Charisma as the key ability for the following skills: Bluff, Bribery, and Intimidate.

## NOBLE PRESENCE

The art of using presence and voice to inspire confidence and leadership.

**Prerequisites:** Must be taken as part of an advancement in level in the Noble class.

**Benefit:** With this feat a noble may use their Social Standing in place of their Charisma as the key ability for the Leader and Liaison skills.

## OBSCURER KNOWLEDGE

**Prerequisites:** Must be taken as part of an advancement in level in the Scout or Traveller class.

**Benefit:** A character may make a special obscure knowledge check with a bonus equal to his level + his Intelligence modifier to see whether he knows some relevant information about local world, unusual technology, alien race, or similar type of information. This check will not reveal any specific information, but may give a clue as to where to find more data on the subject, or other lead. The traveller may not Take10 or Take20 on this check; this sort of knowledge is essentially random. The Referee will determine the Difficulty Class of the check by referring to the table below.

DC Type of Knowledge

10	Common, known by at least a substantial minority of people.
20	Uncommon but available, known by only a few people.
25	Obscure, known by very few, hard to come by.
30	Extremely obscure, known by an elite few, possibly forgotten by most who once knew it, possibly known only by those who don't understand the significance of the knowledge.

## OFFICIAL PROTEST

**Prerequisites:** Must be taken as part of an advancement in level in the Diplomat class.

**Benefit:** A serving diplomat may, once per month, make an

official protest about any law, decision, or negotiation outcome on behalf of his government or patron. If he is able to make a DC15 Liaison check, the decision will be reconsidered (this may just cause delay; there is a possibility the outcome will be the same the second time around).

## OLD SWEAT

The character is familiar with how things work in prisons and other penal institutions, and knows how to avoid unfavorable attention.

**Prerequisites:** Must be taken as part of an advancement in level in the Convict class.

**Benefit:** The character gains a +2 bonus on all checks to hide, fast talk or otherwise avoid unfavorable attention including extra work, blame for an incident or a beating. This bonus normally applies in a prison environment, but can at the referee's discretion apply in similar circumstances – a starship crew or a military unit, for example.

## ONE-PUNCH KILL

This feat very rarely allows a martial artist to kill someone outright; it is a figure of speech for an attack that may put an opponent out of the fight before he knows what is happening.

**Prerequisites:** Must be taken as part of an advancement in level in the Martial Artist class.

**Benefit:** If the martial artist can get a perfect, unopposed strike in on his target (i.e. the target is flat-footed or unaware of the attack) then the victim must make a Fortitude save at DC 10 plus however many points of damage were inflicted on him. Failure means that the target is instantly knocked out, winded or stunned for 1d4 rounds. On a successful save, the target remains conscious but takes double normal Stamina damage. This feat applies only to natural weapons and enhancements to them such as brass knuckles.

## OPPORTUNIST

**Prerequisites:** Must be taken as part of an advancement in level in the Mercenary class.

**Benefit:** Once per round, the Mercenary can make a melee attack of opportunity against an opponent that has just been hit for at least 1 point of lifeblood damage. This attack counts as the Mercenary's attack of opportunity for this round. Even a Mercenary with the Combat Reflexes feat may not make more than one Opportunist attack per round. Note that this feat can only be used in melee combat.

## OUTDOOR SURVIVAL

**Prerequisites:** Must be taken as part of an advancement in level in the Barbarian class.

**Benefit:** A Barbarian may add +2 to all Survival skill checks on Thin, Standard, or Dense atmosphere worlds. In addition they may treat the following skills as Untrained skills: Animal Empathy, Handle Animal, Intuit Direction, and Tumble.

## OVERRIDE SHIP SECURITY

The individual has been trained in how to override and defeat the anti-hijacking and boarding security systems on most types of starships.

**Prerequisite:** Hacker.

**Benefit:** Add +2 to any T/Computer checks when attempting to override an anti-hijacking program.

## PATRONAGE

Some Noble families are known for their patronage of the arts or sciences, and tend to impart such an interest in their offspring

and focus much of their schooling in these directions.

**Prerequisites:** Must be taken as part of an advancement in level in the Noble class.

**Benefit:** This class feature may only be selected once, and the noble must choose between the following two options:

A Patron of the Arts is raised with an appreciation and eye for the fine arts, and may attempt to use any Entertain or Craft skill that they have no skill ranks in, as if they had a skill rank of 1 instead. This does not mean the noble actually has a rank of 1 in the skill; the first two skill ranks will still have to be bought if the noble wishes to actually learn and develop such a skill. In addition, they may apply a +4 rather than a +2 synergy bonus when using an art, craft, or entertainment related Knowledge skill or a Technical skill to aid another skill check.

A Patron of the Sciences is broadly schooled in the various fields of science and technology, and may treat any Technical skill, as if it were an Untrained skill. In addition, they may apply a +4 rather than a +2 synergy bonus when using a science related Knowledge skill or a Technical skill to aid another skill check.

### POINT BLANK SHOT

The character knows how to make proper use of a ranged weapon while in close combat.

**Benefit:** The character gets a +1 bonus to attack and damage rolls with ranged weapons at ranges of up to 10 meters.

### POLICE SNIPER

This feat can only be taken by a law enforcer who has already taken the SWAT I feat.

**Prerequisites:** Must be taken as part of an advancement in level in the Law Enforcer class.

**Benefit:** It functions as the Sniper feat in most ways. However, the target may be aware of the sniper; so long as he is not actually under fire, the sniper may still attempt to drop the target with a single shot. The sniper's weapon need not be a rifle. A handgun could be used from fairly close range, for example to make a headshot in a hostage situation.

### POWER SYSTEMS ENGINEER

The Engineer is skilled at working with power systems, from steam engines to fusion reactors.

**Prerequisites:** Must be taken as part of an advancement in level in the Engineer class.

**Benefit:** He gains a +4 to all Technical skills concerning power systems. In addition, a powerplant under his constant care will deliver 5% more energy points than normal without any ill effects.

### PRECISE SHOT

The character is able to more accurately hit a target involved in a melee or surrounded by a crowd of people.

**Prerequisite:** Point Blank Shot.

**Benefit:** The character can shoot or throw ranged weapons at an opponent engaged in melee without suffering the standard -4 penalty.

### PRESENCE

The Enforcer has developed an air of command and authority.

**Prerequisites:** Must be taken as part of an advancement in level in the Law Enforcer class. Must be at least a 2nd level Law Enforcer.

**Benefit:** This feat gives a +3 bonus to all attempts to Intimidate or Bluff a suspect into surrender, submission or retreat, or to use Leader skill to get members of the public to co-operate

with anything that looks like "legitimate police business."

### PRIMARY MILITARY OCCUPATIONAL SPECIALTY (PMOS)

The character was highly trained in one specific skill while he or she was in the military.

**Prerequisites:** Skill rank 5+, Skill Focus Feat in the specified skill

**Benefit:** Select one skill as PMOS. Whenever using this skill, the character may always elect to Take10, even in situations where they normally could not.

**Special:** May only be selected once.

### PRISON REP

The character has a reputation among convicts as someone who should not be trifled with.

**Prerequisites:** Must be taken as part of an advancement in level in the Convict class.

**Benefit:** He gains a +2 bonus to intimidate, face down, or otherwise persuade potential aggressors to leave him alone or do as he wishes. This may also apply to guards.

### PRISON WEASEL

The character is adept at using the official and unofficial systems in a prison environment to get what he wants.

**Prerequisites:** Must be taken as part of an advancement in level in the Convict class.

**Benefit:** He gains a +2 bonus to all skill checks when trying to obtain contraband, sneak a message out, arrange a meeting, get someone beaten up or similar activities that make use of the dynamics of prison society.

### PROFESSIONAL SKILL FOCUS

**Prerequisites:** Must be taken as part of an advancement in level in the Professional class. Must be taken before reaching 4th level in the Professional class.

**Benefit:** Beginning at 4<sup>th</sup> level, and every 4 levels after that, the Professional gains an extra Skill Focus feat. The skill selected to focus upon must be the same as the type of skill selected as the character's Professional Specialty class feature. If the Professional Specialty skill is an Entertain type, this class feature may only be applied to Entertain skills. If it is a Profession skill, this class feature applies only to Profession skills, and if it is a Technical skill, this class feature only applies to Technical skills. The Professional may not select the same skill twice.

### PROFESSIONAL SPECIALTY

**Prerequisites:** Must be taken as part of an advancement in level in the Professional class.

**Benefit:** A Professional may select a specific Entertain, Profession, or Technical skill that represents a facet of their profession or how they are most likely to make their living. This class feature may only be selected once.

*Profession or Technical Skills:* When using this skill, the Professional may always elect to Take10, even in situations where they normally could not.

*Entertain Skills:* A Professional with 3 or more ranks in an Entertain skill can cause a single creature to become fascinated with him. The creature to be enthralled must be able to see and hear the performance and must be within 30 meters. The Professional must also be able to see the creature. The creature must be able to pay attention to the performance. The distraction of a nearby combat or other dangers prevents the ability from working. The professional makes an Entertain check, and the target can negate the effect with a Will saving throw equal to or greater than the Professional's check result. If the saving throw

succeeds, the character cannot attempt to enthrall that creature again for 24 hours. If the saving throw fails, the creature sits quietly and watches and listens to the Performance for up to 1 round per level of the professional. While fascinated, the target's Spot and Listen checks suffer a -4 penalty. Any potential threat (such as an ally of the Professional moving behind the fascinated creature) allows the enthralled creature a second saving throw against a new Entertain check result. Any obvious threat, such as drawing or aiming a weapon, automatically breaks the effect.

While performing, the professional must concentrate and may take no other actions. This may be attempted once per day per level of the professional.

### PSEUDO-EIDETIC MEMORY

Advanced training and practice allows an academic to develop a system of what can occasionally seem like near-total recall.

**Prerequisites:** Must be taken as part of an advancement in level in the Academic class.

**Benefit:** Add +2 to all Knowledge and Education checks when attempting to recall information that has previously been studied, learned, or otherwise become aware of by the character.

### PSI TRAINING

The character has located a Psionics Institute and been offered free testing and training.

**Benefit:** See Psionics Institute for more information.

**Special:** If a character takes this as their free 1<sup>st</sup> (character) level feat, they may ignore the age penalty when being examined at the Institute.

### QUICK DRAW

Few can draw and bring to bear a weapon faster.

**Prerequisite:** Base attack bonus +1 or higher.

**Benefit:** The character can draw a weapon as a free action instead of as a move-equivalent action.

### RAPID SHOT

The character is very quick on the trigger.

**Prerequisites:** Point Blank Shot, DEX 13+.

**Benefit:** The character can make one extra attack per round with a ranged weapon. The attack is at the character's highest base attack bonus, but each attack (the extra one and the normal ones) suffers a -2 penalty. The character must use the full attack action to use this feat.

### RELATED FIELD OF STUDY

**Prerequisites:** Must be taken as part of an advancement in level in the Academic class.

**Benefit:** The Academic may select any one non-class Intelligence or Education based skill and make it a permanent class skill. Related Field of Study may only be taken once per individual skill.

### REPUTATION

The character has a reputation as a sportsperson (good or bad).

**Prerequisites:** Must be taken as part of an advancement in level in the Athlete class.

**Benefit:** He or she gains a modifier of plus or minus 2 to reaction checks when dealing with fans of the sport. This will normally be positive if the character is perceived as a "clean" competitor and negative if they are perceived as a cheating thug. However, certain elements of society may be impressed with the character's maverick disregard for rules and willingness to hurt

opponents. In addition, and only at the Referee's discretion, this modifier may be applied to checks to see if a referee or governing body penalizes the character. An athlete with a good reputation may be able to get away with slight infringements, which after all surely must have been just mistakes... This might even apply in a wider context – a character famous for rough play in the nullball tank may find law enforcers unsympathetic when he is accused of assault in a bar...

### RESEARCH

The character is skilled at sifting and analyzing data and information from various sources for the clues and evidence needed to close a case. Allows the synergistic use of Knowledge and other information-related skills together with Gather Information skill.

**Benefit:** Add +2 to all Gather Information checks when conducting research.

<i>Circumstances</i>	<i>Gather Information Roll Adjustment</i>
Multiple Sources	-1 per Knowledge or other skill used, if more than one is involved.
Per Research bonus	+1
Per successful Source Skill check	+5

**Special:** This skill may be taken more than once, but each time it is selected a new area of research specialization must be specified. For example a character might take Research/Ancients, Research/Ziru Sirka, or Research/Anthropology.

### RIDE-BY ATTACK

The character is trained in fast (animal) mounted skirmishing.

**Prerequisites:** Ride skill, Mounted Combat.

**Benefit:** When the character is mounted and uses the charge action, the character may move and attack as with a standard charge and then move again (continuing the straight line of the charge). The character's total movement for the round can't exceed double the character's mounted speed. The character does not provoke an attack of opportunity from their opponent.

### RISING STAR

The diplomat is well thought of back home, and attracts sycophants and other hangers-on. Members of his own culture (or people wanting something from his government) will react well to him.

**Prerequisites:** Must be taken as part of an advancement in level in the Diplomat class.

**Benefit:** This equates to a +2 on reaction checks and a general unwillingness to act against or upset the character.

### RUN

The character is faster than normal when running.

**Benefit:** When running, the character moves five times normal speed instead of four times normal speed. If the character makes a running jump, increase the distance or height cleared by one-fourth, but not past the maximum.

### SALVAGER

The character is skilled at salvaging something useful from the wreckage of a failed project, and can sometimes kludge together a working version of a broken tool or instrument from what anyone else would call scrap.



**Prerequisites:** Must be taken as part of an advancement in level in the Engineer class.

**Benefit:** Faced with any totally smashed system or piece of equipment, the Engineer can attempt to rebuild it with whatever is to hand. A simple item (a hand tool, iris valve etc) requires an appropriate Technical skill check at DC10. More complex items (hand computers, PRIS goggles, firearms etc) are DC15. A really complex job might be DC25 or above. When the work is complete, the referee should secretly roll 1d6. On a 1, the device fails as soon as it is used, and is now irreparable. On 2-5 it will stand this many uses, and operates at about 50% effectiveness. After the number of uses is up, the device comes apart again and cobbling it back together is at a DC 5 higher than last time. On a 6, the device functions at about 50% effectiveness, more or less indefinitely.

### SAVAGE FIGHTING

The character has little finesse in combat and relies mainly on aggression and brute force.

**Benefit:** The character may use Strength instead of Dexterity as a modifier to combat skill checks. This applies only to melee attacks. Ranged attacks always use dexterity modifiers.

**Normal:** Most characters use their DEX modifier for melee combat.

### SCROUNGER

The Engineer is a champion scrounger and can obtain tools, spare parts, and other necessary equipment by unconventional means.

**Prerequisites:** Must be taken as part of an advancement in level in the Engineer class.

**Benefit:** Any time the character needs an item that is not available through the normal channel but is feasibly obtainable (it is not possible to scrounge fusion gun spares on a TL0 world, for example), the character may make an appropriate skill check to find the item or a suitable replacement. Depending upon circumstances skill checks to scrounge may be P/Admin, Search, Bribery, or various other skills, and the character receives a +4 bonus to whatever skill is necessary. Base DC is 10 for fairly common items and may be much higher at the referee's discretion for rare equipment. It is sometimes best not to ask where the items came from. The bonus also applies when trying to scrounge spares from shipboard systems to get a vital component working again. Base DC in this case is 15.

### SEA DOG

The character is used to life aboard a naval vessel.

**Prerequisites:** Must be taken as part of an advancement in level in the Sailor class.

**Benefit:** He never gets seasick, and when fighting aboard a vessel that is being significantly rolled around by waves, etc, the character gains a +2 bonus to his AC and a +2 bonus to hit others due to his ability to predict what the pitching deck will do next.

### SECOND WIND

**Prerequisites:** Must be taken as part of an advancement in level in the Marine class.

**Benefit:** Once per day the character may make a Will saving throw in place of a failed Fortitude saving throw. If the Will save is successful, the character is considered to have made the original Fortitude saving throw anyway. This class feat may be taken more than once, with each subsequent selection adding +1 to the number of times per day this feat may be used.

### SECTOR CLASS

The character has a sector-class talent in one area as per Talented feat.

**Prerequisites:** Must be taken as part of an advancement in level in the Entertainer class and must possess the Talent feat.

**Benefit:** The character gains a +2 bonus on all Entertain checks made with this skill. This feat can only be taken by someone who has the Talented feat in the same field. It stacks with Talented, for a total of +6.

### SELF-RELIANCE

When you tend to work out in the middle of nowhere, hours or days from contact with other people, and something goes wrong a certain amount of self-reliance develops.

**Prerequisites:** Must be taken as part of an advancement in level in the Belter class.

**Benefit:** This feat allows a Belter to treat any Technical skill as an Untrained skill.

### SHIELD PROFICIENCY

The character is trained in the proper use of a shield in melee combat.

**Benefit:** The character can use a shield and suffer only the standard penalties.

**Normal:** A character using a shield with which he or she is not proficient suffers the shield's armor check penalty on attack rolls and on all skill rolls that involve moving, including Ride.

### SHIPHANDLING

The sailor is skilled at getting the best from her vessel or her segment of the crew.

**Prerequisites:** Must be taken as part of an advancement in level in the Sailor class.

**Benefit:** Skill checks made by personnel under her direct command (for the captain, this means the entire crew) are subject to a +1 bonus.

### SHIP TACTICS

The individual has had advanced training in operating, fighting, and surviving with an individual ship in combat.

**Prerequisites:** Vessel/Starships or Vessel/Ship's Boat feat

**Benefit:** Add WIS or INT bonus (whichever is higher, treat any penalties as +0) to all ship or small craft attack and defense rolls.

### SHOOT ATTACK

The martial artist is adept at "shooting in" for a grappling attack.

**Prerequisites:** Must be taken as part of an advancement in level in the Martial Artist class.

**Benefit:** He may make a grapple attack without incurring an attack of opportunity, and gains +2 to his attack roll for the round in which he shoots. After that, unless the martial artist breaks off and comes in again the grapple attack is normal.

### SHOT ON THE RUN

The character is familiar and skilled at using missile weapons while moving.

**Prerequisites:** Point Blank Shot, DEX 13+, Dodge, Mobility.

**Benefit:** When using the attack action with a ranged weapon, the character can move both before and after the attack, provided that the character's total distance moved is not greater than the character's speed.

## SHOWSTOPPER

The character has perfected a show-stopping finale, sequence, or trick that will gain everyone's attention for a few seconds.

**Prerequisites:** Must be taken as part of an advancement in level in the Entertainer class.

**Benefit:** When the character performs her Showstopper, everyone who can see/hear must stop and watch. This provides an excellent distraction for comrades. Anyone wishing to ignore the Showstopper must make a Will save vs. (DC 15 plus the Entertainer's level). Allies of the Entertainer, who are familiar with the Showstopper, are less likely to be distracted and must make a (DC 5 plus Entertainer's level) Will save instead. It is not possible to perform a Showstopper during combat (or rather, there is little point; gunfire is more interesting than even a unicycle-riding juggler).

## SIXTH SENSE

The individual has an uncanny knack for noticing what most would overlook.

**Benefit:** Add +2 to all Search checks.

## SKILL FOCUS

The character has a natural talent. She may select a specific skill such as T/Electronics, with which she has a higher than average capability.

**Benefit:** The character gets a +2 bonus on all skill checks with the selected skill.

**Special:** The character can gain this feat multiple times. Its effects do not stack. Each time the character takes the feat, it applies to a new skill.

## SMUGGLING

The Rogue has learned numerous tricks and techniques for hiding contraband and other illegal goods from law enforcement officials and customs officials.

**Prerequisites:** Must be taken as part of an advancement in level in the Rogue class.

**Benefit:** Add +2 to all Hide checks when attempting to smuggle anything past such officials.

## SNEAK ATTACK

**Prerequisites:** Must be taken as part of an advancement in level in the Mercenary class.

**Benefit:** If a Mercenary can catch an opponent unaware or unable to defend himself (i.e. without their normal Dexterity bonus to AC; attacking from behind, a flank attack, etc.), she may strike for extra damage by targeting a vital spot. If the attack is successful, the mercenary will inflict one extra die of damage. If a critical hit occurs, this extra damage is not multiplied. Ranged attacks can only be a sneak attack if the target is within 9 meters. This class feature may be selected more than once. Each subsequent selection will add 1 extra die of damage

## SNIPER

The character is trained in taking down an opponent at range with a single shot

**Benefit:** As a full round action the shooter may attempt to hit the target in a critical area. This shot is at a -4 penalty to hit, though this penalty can be reduced by 1 (to a minimum of a -1 penalty to hit) for each additional round spent targeting. If the shot hits, it is treated as a critical hit. The target must be unaware of the presence of the sniper to take advantage of this feat.

## SPIRITED CHARGE

The character is exceptionally skilled at using a animal mount to deliver a more powerful than normal melee attack during a charge.

**Prerequisites:** Ride skill, Mounted Combat, Ride-By Attack.

**Benefit:** When mounted and using the charge action, the character deals double damage with a melee weapon (or triple damage with a spear).

## SPORT (ANY)

This feat is similar to a weapon or armor proficiency. The character may choose any sport (e.g. baseball, ice climbing, tobogganing).

**Prerequisites:** Must be taken as part of an advancement in level in the Athlete class.

**Benefit:** He or she is assumed to have a competitor's license and credentials, and to know the competition rules for that sport. The character gains a +3 to all skill rolls connected to that sport. A character competing without the Sport feat suffers no penalty.

## SPOT TROUBLE

Most Rogues would prefer to spot trouble before it reaches them, and to this end tend to develop a knack of doing so.

**Prerequisites:** Must be taken as part of an advancement in level in the Rogue class.

**Benefit:** This allows a rogue to make a Spot check to detect an ambush, approaching authorities, etc., even when they normally would be unable to do so. In the case of an ambush, the rogue must make an opposed Spot/Hide skill check against the ambushing party. If successful, the Rogue spots the ambush before it can be sprung. If the result is 10 or more higher than the opposing roll, the Rogue spots the ambush before the ambusher spots the Rogue and her party.

For most other situations, have the Rogue make a Spot check (DC20) to notice the oncoming trouble before it reaches her. If the result is 30 or higher, the Rogue can avoid the encounter if desired.

## SPOTLIGHT KID

The character loves the showbiz life, and has no fear of going onstage – quite the opposite, she loves it!

**Prerequisites:** Must be taken as part of an advancement in level in the Entertainer class.

**Benefit:** The character may always Take10 on an Entertain roll and gains a +2 bonus on Entertain skill checks when in a formal "onstage" environment.

## SPRING ATTACK

The character knows how to apply "hit and run" tactics while in melee combat.

**Prerequisites:** DEX 13+, Dodge, Mobility, base attack bonus +4 or higher.

**Benefit:** When using the attack action with a melee weapon, the character can move both before and after the attack, provided that their total distance moved is not greater than their speed. Moving in this way does not provoke an attack of opportunity from the defender. This feat cannot be used while wearing heavy armor.

## STEALTHY

The character is particularly good at blending into the background, and generally remaining unnoticed.

**Benefit:** Add +2 to all Hide and Move Silently checks.

## STEWARD

**Prerequisites:** Must be taken as part of an advancement in level in the Merchant class.

**Benefit:** Adds 1d3 Middle and 1d6 Low passengers requesting travel aboard ship.

## STRATEGY

**Prerequisites:** Must be taken as part of an advancement in level in the Army class. Also requires the Tactics II class feature.

**Benefit:** With this feat, the soldier may add his Wisdom or Intelligence bonus (whichever is higher) to any initiative rolls or saving throws made by units under his command. Treat any negative ability modifier as +0 for purposes of this feat.

## STREET SMART

The Enforcer is familiar with the underside of civilization.

**Prerequisites:** Must be taken as part of an advancement in level in the Law Enforcer class.

**Benefit:** Gain a +2 bonus on all Sense Motive or Gather Information checks when dealing with the lower end of the social spectrum, whether in an official capacity or not. In some quarters (at the Referee's discretion) this feat may also cause "street people" to react better to the enforcer than to other "uncaring cops" since he or she speaks their language and comes over as one of them rather than an outsider.

## STUBBORN AS A MULE

The diplomat has a reputation (deservedly) for stubbornness in negotiations, and in life in general.

**Prerequisites:** Must be taken as part of an advancement in level in the Diplomat class.

**Benefit:** Any attempt to dissuade him from a course of action he has decided upon suffers a -4 penalty.

## SUBSTANCE RESISTANCE

The character was born with or has developed a partial immunity to certain drugs or poisons, and gains a bonus to Fortitude saves made to resist their effects. This feat can be taken several times, but must be applied to a different threat each time.

*Possible Resistances include:*

Alcohol

Nerve Agents/Nerve Poisons

Sedatives

System Poison

Tear & Vomit Gas

Venom

**Benefit:** The character gains +3 on all saves to resist the effects of the chosen substance.

**Normal:** A character without this feat suffers no special penalty.

## SUPER ATHLETE

This annoying character has phenomenal aptitude for all sports, from Extreme Frisbee to Individual Re-Entry.

**Prerequisites:** Must be taken as part of an advancement in level in the Athlete class.

**Benefit:** Such a character gains a +2 bonus to all sports-related skill rolls. This never applies to attack rolls EXCEPT in non-harmful sporting context, e.g. a fencing bout with sporting weapons. In addition, once per week the character can make

an extreme physical effort. This can be any physical activity requiring a skill check, a save, or a straight check on a stat. The character is assumed to have rolled a 20 at least (as if taking 20, but at no extra cost in time) and gains +3 to the actual roll. After the incredible physical feat, the character suffers an impressive number of strained muscles and minor injuries that equate to 2d10 Stamina damage and a -2 penalty on all physical rolls (as defined in this paragraph) for the next 1d3 days.

## SUPPRESS RESISTANCE

Corsairs are often outnumbered by their intended victims. It is thus important to dissuade enemies from fighting back.

**Prerequisites:** Must be taken as part of an advancement in level in the Corsair class.

**Benefit:** A character with the Suppress Resistance feat gains a +2 to Intimidate checks to induce an enemy to surrender or remain passive. At the Referee's discretion it may apply in other circumstances, such as when bluffing that the corsairs have a greater force than they do.

## SURGERY

The character is trained and qualified to perform most types of surgery.

**Prerequisites:** T/Medical skill rank of 8+

**Benefit:** May perform surgery competently.

**Normal:** Anyone may perform surgery without this feat. The Surgery feat gives the patient a chance of surviving the experience.

## SWAT

Having been assigned to an armed-response or special weapons and tactics (SWAT) team, the law enforcer has received advanced combat training.

**Prerequisites:** Must be taken as part of an advancement in level in the Law Enforcer class. Must be at least a 5th level Law Enforcer.

**Benefit:** This feat may be taken twice. SWAT I grants the character a special +2 bonus to all combat rolls using standard police weaponry (handguns, SMGs, rifles and batons). SWAT II adds an additional +1, for a total of +3 to combat rolls using the listed weapons.

## SWIMMER

The character is an expert swimmer.

**Prerequisites:** Must be taken as part of an advancement in level in the Athlete class.

**Benefit:** Gains +2 on all Swim checks and checks to hold her breath. She may stay afloat indefinitely and may Take10 on any Swim roll. This feat stacks with Skill Focus and Athletic.

## TACTICS I

**Prerequisites:** Must be taken as part of an advancement in level in the Army, Law Enforcer, Marine, Mercenary, or Traveller class.

**Benefit:** With this feat, the character may add his Wisdom or Intelligence bonus (whichever is higher) to any small-unit initiative rolls or saving throws. Treat any negative ability modifier as +0 for purposes of this feat. A small unit is a team of combatants numbering from 2 to 12 troops.

## TACTICS II

The soldier has developed an insight into the tactics involved in maneuvering larger sized battlefield units including both manpower and vehicle assets ranging from platoon to battalion size.



**Prerequisites:** Must be taken as part of an advancement in level in the Army or Marine classes. Also requires the Tactics I class feature.

**Benefit:** The soldier may add his Wisdom or Intelligence bonus (whichever is higher) to the initiative rolls or saving throws for these assets. Treat any negative ability modifier as +0 for purposes of this feat.

## TALENTED

The character has a natural talent for one type of entertainment, which must be specified (an instrument, song, juggling etc).

**Prerequisites:** Must be taken as part of an advancement in level in the Entertainer class.

**Benefit:** He or she gains a +4 to all Entertain rolls when using this mode of entertainment. Multiple different talents are possible, but they do not stack (see Sector Class, below).

## TALENTED SURGEON

The character is a skilled surgeon with very sure hands.

**Prerequisites:** Must be taken as part of an advancement in level in the Medic class and must possess the Surgery feat.

**Benefit:** He receives a +2 bonus to all T/Medical skill checks when performing surgery.

## TECHNICAL CROSS TRAINING

The Navy believes in training its sailors with at least some familiarity of a variety of tasks allowing for more flexibility of personnel in the event of the loss of other crewmembers during a battle.

**Prerequisites:** Must be taken as part of an advancement in level in the Navy class.

**Benefit:** Any Technical skills the character is not currently trained in may be treated as if it were an “untrained” skill. This means the character may attempt to use the skill as if they had a skill rank of 0. This feat may only be taken once by Naval personnel.

## TECHNOPHOBIA

Because of their unfamiliarity with technology, Barbarians are often wary of and have difficulty with items of a technology level of 4 or better, or when using technology related skills (any technical skills, combat engineering, demolitions, driving, forward observer, all knowledge skills, and pilot).

**Prerequisites:** Must be taken as part of an advancement in level in the Barbarian class.

**Benefit:** When attempting to use technology related skills, a Barbarian suffers a –2 penalty to all checks.

When attempting to use a technological item, a Barbarian suffers a –4 penalty to all checks. If someone has shown him how to use the item or he has used the item previously, the penalty is only –2.

## THROWER

The character is highly skilled in throwing events such as hammer, javelin, discus, and so on.

**Prerequisites:** Must be taken as part of an advancement in level in the Athlete class.

**Benefit:** He is considered to be proficient with all thrown sports “weapons” for purposes of combat and competition, and gains a +1 bonus to hit with these weapons. He is not proficient with knives, axes, and other non-sporting thrown weapons.

## TOLERANCE

Aslan find it difficult to interact with cultures that do not share

their values. Tolerance allows an Aslan to get along with “foreign barbarians.”

**Benefit:** The ability to tolerate and operate within non-Aslan cultures. It also allows Aslan to respond to aliens by their physical gender rather than their job-apparent gender. For male Aslan this feat also allows them to take “Female” skills and the ability to comprehend the value of money; Aslan females often have (but seldom use) many of the “Male Skills.”

**Normal:** Without this feat, Aslan characters must make Will saves to avoid challenging to a duel those who insult them. Saves are made with DCs varying from 10 (trivial things) to 30 (direct insult or accusation of crime).

**Special:** Aslan only

## TOUGHNESS

The character is exceptionally tough.

**Benefit:** The character gains +1 Lifeblood points and +3 Stamina points.

**Special:** A character may gain this feat multiple times.

## TRACKER

The character is unusually gifted at locating, identifying, and following the tracks and trails of people, animals, and vehicles.

**Benefit:** Add a +2 bonus to any P/Hunting skill checks when attempting to track someone or something.

**Normal:** A character without this feat can use the Search or Survival skill to find tracks, but can only follow tracks if the DC is 10 or less.

## TRAMPLE

The character is trained in using their mount to knock down an opponent, offering the opportunity for the mount to trample him.

**Prerequisites:** Ride skill, Mounted Combat.

**Benefit:** When the character attempts to overrun an opponent while mounted, the target is unable to avoid the attempt. If the character knocks down the target, his mount may make one hoof attack against the target, gaining the standard +4 bonus on attack rolls against prone targets.

## TRAPPING

The character is trained in designing, constructing, and setting mechanical traps and snares.

**Benefit:** The character can set up traps that do increasing amounts of damage, are capable of holding larger creatures, and are better camouflaged, depending upon P/Hunting skill rank.

Once per week the Referee will check to see if anything has been caught in the trap. If the result on a 1d20 roll is less than the DC of the trap, something has been caught. If the result is higher than the DC, nothing has triggered the trap during the past week. If attempting to trap animals in the wilderness, the Referee should roll on the appropriate animal encounter table for the local terrain to see what has stumbled into the trap. If the animal is larger than the maximum size for the trap, the trap has been destroyed and the prey has escaped.

A trap does not have to inflict damage at all. It can inflict only Stamina damage or it can inflict both Stamina and Lifeblood damage. The trapper must specify the type of damage the trap will inflict when it is first set. Damage is inflicted once.

Skill Rank	Size	Damage	Spot DC
1	Tiny	1d4	5
4	Small	1d6	10



7	Average	1d8	15
11	Large	1d10	20
15	Huge	1d12	25
19+	Gigantic	1d20	30

**Special:** Survival skill may be used in place of P/Hunting skill, but add +2 to the minimum skill ranks required.

### TRAUMA AID

The character is very experienced at dealing with gunshot wounds, burns, and other serious injuries.

**Prerequisites:** Must be taken as part of an advancement in level in the Medic class.

**Benefit:** If he fails a skill check to save a trauma victim, the character may make an immediate second roll at DC 20 to stabilize the patient. If the medic also has the *Meatball Surgery* class feature, the character gains an additional +2 bonus to his T/Medical skill checks to save trauma victims using surgical procedures.

### TRIAGE

The character is very skilled at sorting out who can wait for treatment, who needs urgent treatment, and who is not worth treating at all.

**Prerequisites:** Must be taken as part of an advancement in level in the Medic class.

**Benefit:** He can thus process large numbers of casualties very quickly in a disaster situation, and ensure that everyone gets the right treatment. If the character performing Triage makes a successful DC15 T/Medical check, all medical personnel further down the line gain a +2 circumstance bonus to their own T/Medical checks. Effective triage is also important in terms of reassuring victims and heading off potential problems.

### TRUST FUND

A modest trust fund is awarded as part of the noble's title that may be drawn upon as needed.

**Prerequisites:** Must be taken as part of an advancement in level in the Noble class.

**Benefit:** This fund is set up in such a way as to allow the noble to draw up to Cr200 x their SOC score in funds per month. For large purchases on credit, the noble's family will usually be willing to guarantee such loans, up to MCr1 x her SOC score, provided she has handled her finances in a reasonable manner previously.

### TRUSTWORTHY

The individual has that down-home, all-around good guy, honest look about you. Folks just feel comfortable around him and are more willing to confide in him.

**Benefit:** +2 bonus on all Liaison and Gather Information checks when interacting with others.

**Special:** This feat will stack with the Carousing feat when using the Gather Information skill to gain information from other individuals, but will not stack with the Research feat.

### TUNE-UP (TYPE)

The character is skilled at tuning engines and machinery to get the most out of them. Various Types are possible. The most common are: Starships, Grav Vehicles, and Ground Vehicles. This feat cannot be used to improve the performance of a Jump engine.

**Benefit:** The character may take 1-3 days to set up a vehicle for optimum performance. AT/Mechanical or T/Gravitic (depending

on the drive type) check at DC 20 allows the character to increase acceleration and top speed by 5%. If successful, make a second check at DC 30 to obtain 10% better performance. This enhanced performance is lost if the character does not spend at least 1 day per week keeping the tune-up at peak efficiency

**Normal:** A character without this feat cannot exceed the design specs of the vehicle.

### TWO-GUN KID

The character has trained to use a pair of handguns in combat effectively. The feat can also be applied to assault pistols, very small SMGs, sawn-off shotguns, and similar pistol-like weapons. The weapons need not be matched. This feat stacks with any other 2-weapon feats.

**Benefit:** A character with this feat suffers reduced penalties when using two weapons. See the combat section for details.

**Normal:** A character without this feat suffers large penalties to his attack rolls when trying to use two weapons; typically -4 and -8 for his main and off hands respectively.

### TWO-WEAPON FIGHTING

The individual has been trained in fighting with two weapons at the same time.

**Benefit:** The character's penalties for fighting with two weapons are reduced by 2.

### UNCANNY DODGE

The character gains the ability to react to danger before her senses would normally allow her to do so, as a result of years of training and avoiding being ambushed.

**Prerequisites:** Must be taken as part of an advancement in level in the Law Enforcer or Mercenary class.

**Benefit:** She retains her Dexterity bonus to AC (if any) regardless of being caught flat-footed or unaware.

### UNDERWATER OPERATIONS

The character is highly skilled at operating in deep water and using diving equipment.

**Benefit:** The character gains a +2 bonus to all skill checks made when operating in an underwater environment.

**Normal:** There are no special penalties associated with underwater operations for persons without this feat, though a vac suit may impose some penalties.

### VEHICLE ENGINEER

The character is an expert at maintaining one type of vehicle (e.g. wheeled, tracked, small starships, ship's boats etc).

**Prerequisites:** Must be taken as part of an advancement in level in the Engineer class.

**Benefit:** He receives a +4 bonus on all skill checks made when performing engineering tasks on such a craft.

### VESSEL

The character is familiar with the operation and handling of a specific group of vessels.

**Benefit:** The character may use Driving or Pilot skill (whichever is appropriate) when operating a vessel of the specified group.

TABLE: Vessel Groups

Group	Skill	Examples
Vessel (Ground)	Driving	
	Wheeled Vehicles	Ground cars, Wheeled ATV, Motorcycles

Tracked Vehicles	Tracked ATV, Tracked AFV, Tank
Legged Vehicles	Mechs, Walkers
Hovercraft	Air Cushion Vehicles

Vessel (Sport)	Driving
	Unpowered sporting vehicles such as skateboards, skis, bobsleighs and similar conveyances.

Vessel (Grav)	Pilot
	Air/raft, GCarrier, Speeder, Grav Bike, Grav Belt

Vessel (Watercraft)	Driving
Small Boats	Jetski, Skiboat
Large Boats	Fishing Boat, Yacht
Ships	Tanker, Steamship, Cargo Vessel

Vessel (Aircraft)	Pilot
Lighter than Air Craft	Hot Air Balloon, Dirigible
Propeller Aircraft	Propeller-driven heavier-than-air craft (not helicopters)
Jet Aircraft	Jet-propelled heavier than-air-craft
Helicopters	VTOL craft or Helicopters

Vessel (Ship's Boats)	Pilot
	Shuttles, Pinnaces, Cutters

Vessel (Starships)	Pilot
	All types of starships

**Special:** If the character does not already have at least a skill rank of 1 in Driving or Pilot, depending on the vessel group, he or she automatically gains the skill (as a class skill) with a rank of 0. If a vessel group has subgroups, the character must specify which subgroup she will have familiarity with. For example, a character selects the Vessel/Ground feat group. She must then select one of the four subgroups under Vessel/Ground.

**Normal:** Any attempt to pilot or drive a vessel that a character has no familiarity with suffers a penalty of -4 to all piloting or driving skill rolls. If a character is familiar with a class of vessel within the same subgroup, the penalty is only -2. For example, a character who already possesses the Vessel/Ground/Wheeled feat may attempt to drive a tracked vehicle suffering only a -2 penalty to their driving skill roll. If the same character attempted to drive any watercraft they would do so at a -4 penalty to any driving skill rolls.

## VESSEL SPECIALIZATION

The character is highly trained in the operation of a specific type of vessel such as a ground car, motorcycle, tank, helicopter, propeller aircraft, air/raft, speeder, shuttle, scout/courier, or any other type or class of vessel.

**Benefit:** Add +2 to all drive or pilot checks when operating this type of vehicle.

**Special:** The character can gain this feat multiple times. Its effects do not stack. Each time the character takes the feat, it applies to a new type of vessel.

## WEAPON FOCUS

The individual has studied, practiced, and practically lived with a specific type of weapon (Laser Pistol, Cutlass, Autopistol, etc.) long enough to have become highly proficient with its use.

**Prerequisites:** Proficient with weapon, base attack bonus +1 or higher.

**Benefit:** The character adds +1 to all attack rolls when using the selected weapon.

**Special:** The character can gain this feat multiple times. Its effects do not stack. Each time the character takes the feat, it applies to a new weapon. Note that "Brawling," "Unarmed Strike" or "Grapple" can be chosen as the character's weapon for purposes of this feat.

## WEAPON PROFICIENCY (ARCHER)

The character is familiar with the use of all forms of bows including slings, short bows, long bows, sporting crossbows, military crossbows, and repeating crossbows.

**Benefit:** Characters make attack rolls with weapons they are proficient in normally, without penalty.

**Normal:** An untrained character using one of these types of weapons suffers a -4 penalty on attack rolls.

## WEAPON PROFICIENCY (ARMSMAN)

The character is familiar with the use of all forms of polearms including bayonets, spears, halberds, pikes, and cudgels.

**Benefit:** Characters make attack rolls with weapons they are proficient in normally, without penalty.

**Normal:** An untrained character using one of these types of weapons suffers a -4 penalty on attack rolls.

## WEAPON PROFICIENCY (AXE/MACE)

The character is familiar with the use of all heavy crushing and cutting implements, from baseball bats through maces to one and two-handed axes.

**Benefit:** Characters make attack rolls with weapons they are proficient in normally, without penalty.

**Normal:** An untrained character using one of these types of weapons suffers a -4 penalty on attack rolls.

## WEAPON PROFICIENCY (BLACK POWDER WEAPONS)

The character is familiar with the use of all black powder weapons, from pistols to muskets and rifles

**Benefit:** Characters make attack rolls with weapons they are proficient in normally, without penalty.

**Normal:** An untrained character using one of these types of weapons suffers a -4 penalty on attack rolls and has a greater chance of a malfunction. A character with the Combat Rifleman or Marksman feat suffers only a -2 penalty if he does not have the Black Powder feat, but he still suffers the greater malfunction chance.

## WEAPON PROFICIENCY (CLOSE-QUARTER WEAPONS)

The character is familiar with the use of weapons in close-in fighting. He or she is trained to use light clubs (sticks), knives, and similar implements, including some of the more unusual martial arts weapons, such as Nunchaku. Additionally, the character is skilled at using almost any weapon close-in, and suffers a reduced penalty when trying to use a weapon in a grappling situation.



**Benefit:** Characters make attack rolls with weapons they are proficient in normally, without penalty.

**Normal:** An untrained character using one of these types of weapons suffers a -4 penalty on attack rolls. Characters involved in a grapple suffer a -4 penalty to use most weapons at close quarters, even if they are proficient.

### WEAPON PROFICIENCY (COMBAT RIFLEMAN)

The character is familiar with the use of the following types of weapons: rifle, carbine, assault rifle, auto-rifle, advanced combat rifle, accelerator rifle, light machinegun, light assault gun, grenade launcher, RAM launcher, flame weapons and gauss rifle.

**Benefit:** Characters make attack rolls with weapons they are proficient in normally, without penalty.

**Normal:** An untrained character using one of these types of weapons suffers a -4 penalty on attack rolls.

### WEAPON PROFICIENCY (FIELD ARTILLERY)

The character is trained in the maintenance and operation of field artillery pieces including mortars, artillery pieces, mass drivers, high-energy weapons, meson accelerators, and MRLs.

**Benefit:** Characters make attack rolls with weapons they are proficient in normally, without penalty.

**Normal:** Untrained characters are not able to operate these types of weapons.

**Special:** If the character does not already have at least a skill rank of 1 in Gunnery, he or she automatically gains the skill (as a class skill) with a rank of 0.

### WEAPON PROFICIENCY (GRAPPLER)

The character is trained at using advanced throwing, joint locking, choking and takedown techniques, both in normal combat and while wrestling on the ground.

**Benefit:** Character gains enhanced capabilities in close combat. See the Grappling rules for details.

**Normal:** An untrained character cannot use these special attacks.

### WEAPON PROFICIENCY (HEAVY WEAPONS)

The character is trained in the maintenance and operation of field lasers, mortars, autocannon, and VRF gauss guns.

**Benefit:** Characters make attack rolls with weapons they are proficient in normally, without penalty.

**Normal:** Untrained characters are not able to operate these types of weapons.

**Special:** If the character does not already have at least a skill rank of 1 in Gunnery, he or she automatically gains the skill (as a class skill) with a rank of 0.

### WEAPON PROFICIENCY (HIGH ENERGY WEAPONS)

The character is trained in the use of high-energy weapons including all man-portable plasma and fusion guns (PGMP or FGMP).

**Prerequisites:** Battle Dress feat.

**Benefit:** Characters make attack rolls with weapons they are proficient in normally, without penalty.

**Normal:** An untrained character using a high-energy weapon attacks at a -4 penalty.

### WEAPON PROFICIENCY (LASERS)

The character is familiar with the use of the following types of laser weapons: rifle, carbine, and pistol.

**Benefit:** Characters make attack rolls with weapons they are proficient in normally, without penalty.

**Normal:** An untrained character using one of these types of

weapons suffers a -4 penalty on attack rolls.

### WEAPON PROFICIENCY (MARKSMAN)

The character is familiar with the operation and maintenance of most forms of modern non-military firearms including the following weapons: snub pistol, revolver, hand flamer, gauss pistol, auto-pistol, rifle, submachinegun, carbine, and shotgun.

**Benefit:** Characters make attack rolls with weapons they are proficient in normally, without penalty.

**Normal:** An untrained character using one of these types of weapons suffers a -4 penalty on attack rolls.

### WEAPON PROFICIENCY (SHIP'S WEAPONRY)

The character is skilled in the operation of turret mounted weapons aboard a spacecraft, including lasers, sandcasters, energy weapons, missiles, and particle accelerators.

**Benefit:** Characters make attack rolls with weapons they are proficient in normally, without penalty.

**Normal:** Untrained characters are not able to operate these systems.

**Special:** If the character does not already have at least a skill rank of 1 in Gunnery, he or she automatically gains the skill (as a class skill) with a rank of 0.

### WEAPON PROFICIENCY (SWORDSMAN)

The character is skilled in the use of all forms of bladed weapons including daggers, blades, foils, swords, cutlasses, and broadswords.

**Benefit:** Characters make attack rolls with weapons they are proficient in normally, without penalty.

**Normal:** An untrained character using one of these types of weapons suffers a -4 penalty on attack rolls.

### WEAPON PROFICIENCY (THROWN WEAPONS)

The character is familiar with the use of all thrown weapons, from knives and shuriken to axes and javelins. Any character can throw a rock or similar object with no penalty, but throwing weapons require specialist training if they are to be effective.

**Benefit:** Characters make attack rolls with weapons they are proficient in normally, without penalty.

**Normal:** An untrained character using one of these types of weapons suffers a -4 penalty on attack rolls.

### WEAPON PROFICIENCY (VEHICULAR WEAPONS)

The character is familiar with the use of all vehicle-mounted weapons, from aircraft-mounted missiles and autocannon to tank lasers and plasma guns. While a character with Weapon Proficiency (Heavy Weapons) proficiency can operate a machinegun mounted on an APC without penalty, and a character with Weapon Proficiency (Artillery) can fire the gun of a stationary tank, this feat is required to make effective use of tank guns, fighter cannon, and missiles etc on the move.

**Benefit:** Characters make attack rolls with weapons they are proficient in normally, without penalty.

**Normal:** An untrained character using one of these types of weapons suffers a -4 penalty on attack rolls.

### WEAPON SPECIALIZATION

**Prerequisites:** Must be taken as part of an advancement in level in the Army, Barbarian, Law Enforcer, Marine or Mercenary classes. Must already have Weapon Focus with the weapon in which the character will now specialize.

**Benefit:** On achieving 2<sup>nd</sup> level or higher, as a feat the character may take Weapon Specialization. Weapon Specialization adds a +2 damage bonus with a chosen weapon. If the weapon is a

ranged weapon, the damage bonus only applies if the target is within 30 meters, because only at that range can the soldier strike precisely enough to hit more effectively.

## WEIGHTLIFTING

The character can lift very heavy weights without inflicting self-injury.

**Prerequisites:** Must be taken as part of an advancement in level in the Athlete class.

**Benefit:** He may treat his strength as if it were 4 points more than it actually is, for purposes of determining dead lift capability and STR bonus as applied to tasks such as pulling or pushing a heavy weight. His carrying capacity is not improved, nor is damage done with any weapon.

## WELL CONNECTED

The years spent traveling across space by a Traveller has resulted in a multitude of contacts, acquaintances, and friends spread across numerous worlds.

**Prerequisites:** Must be taken as part of an advancement in level in the Traveller class.

**Benefit:** Once per visit to a world, the character may roll  $1d20 + 1$  for every Traveller class level vs. a DC equal to 30 – the world's Population UWP digit. If successful, the Traveller has remembered someone on the current world that might be able to help in some way (provide accommodation, learn of news and rumors, etc.).

This feature only provides for "remembering" such a contact. Actually locating them and talking them into actually helping are another set of tasks altogether. A "single" visit begins when a character arrives via Jump into the world's star system and ends when the character leaves the star system by Jumping to another star system.

## WIPED SLATE

**Prerequisites:** Must be taken as part of an advancement in level in the Convict class.

**Benefit:** This feat can be taken twice. Wiped Slate I indicates that the character's criminal history has been buried or hidden well enough to escape a cursory computer search or scan of arrest lists. Wiped Slate II indicates that the character's history has been almost totally eradicated from records. Only the most thorough search would turn up any indication of previous criminality. Note that Wiped Slate I and II can be taken in place of any other feat by any character who has been a convict, whether they are still serving in the class or not.

## XENO-EMPATHY

The individual has a natural affinity and understanding of alien lifeforms and their cultures.

**Benefit:** Add +2 to all Decipher Script and Use Alien Device checks.

## XENO-MEDICINE

The character is familiar with the unusual medical needs and requirements of certain alien races.

**Prerequisite:** T/Medical

**Benefit:** The character may apply his T/Medical skill normally towards treating patients not of his own race.

**Normal:** Without xeno-medicine a doctor or medic suffers a penalty of at least –4 (as determined by the Referee) when treating a patient of a race other than their own.

**Special:** This feat can be selected more than once. When choosing this feat the character must specify the alien race he will be familiar with.

## ZERO-G COMBAT

The character is trained and familiar with the use of weapons and combat in a zero or low gravity environment.

**Prerequisites:** Vac Suit feat

**Benefit:** May conduct combat in a low or zero gravity environment without penalty.

**Normal:** Firing a weapon in zero-g is at a –4 penalty (blades and polearms attack at –5), and when using any weapon the user must make a Dexterity check (DC 15) or lose control of their orientation.

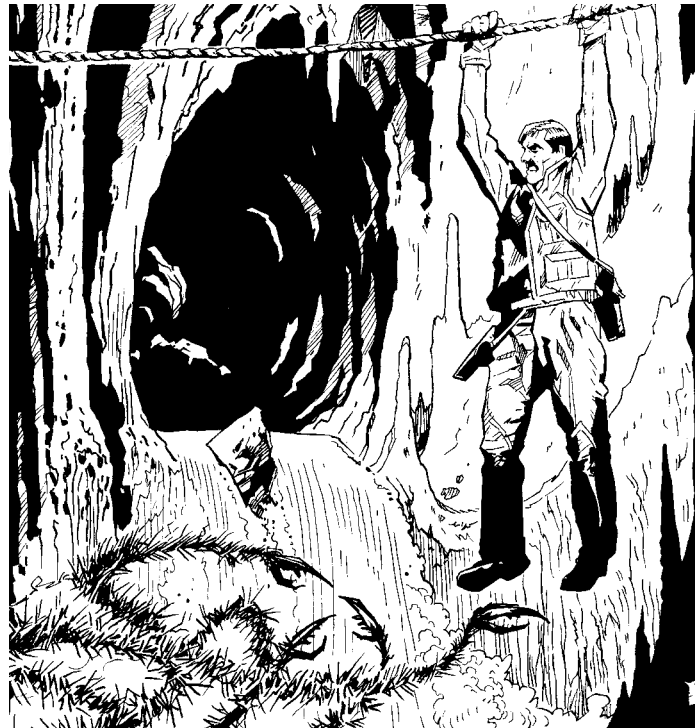
## ZERO-G OR LOW GRAVITY ADAPTATION

The character is comfortable and familiar with working and living in a low or zero gravity environment.

**Prerequisites:** Armor (Vac Suit) feat.

**Benefit:** The character only suffers a –2 penalty when using skills in a zero-g or low gravity environment, except for combat skills, which require the Zero-G Combat feat.

**Normal:** Untrained characters suffer a –4 penalty on any skill use in a low or zero-g environment.



# EQUIPMENT AND STARTING FUNDS

8

EQUIPMENT

## MONEY

The standard monetary unit used in **T20** is the Credit. A Credit, abbreviated Cr, is worth roughly \$3 (US as of 2001) in real-life monetary terms. Prices in Credits are always written Cr followed by the actual amount, for example Cr1000. For large amounts, there is also the Kilocredit (KCr) worth 1,000 credits, the Megacredit (MCr) worth 1,000,000 Credits, and the Gigacredit (GCr) worth 1,000,000,000 Credits.

## EQUIPMENT

In a technological game like **Traveller**, what your character is equipped with is at least as important as his or her skills. Some tasks cannot even be attempted without the correct tools, while others are made much easier by having access to advanced equipment. It is sometimes possible to create low technology versions of advanced equipment. Technology in **Traveller** is rated according to a series of "tech levels" that give a general idea of the level of sophistication available to the local population. The tables at the end of this chapter summarize the most advanced technology available to a culture of any given tech level.

## PRIOR HISTORY AND MUSTERING OUT

How much money and equipment a character will start the game with depends on how many terms they spent developing their background in Prior History as well as the rank the character attained during their employment.

## STARTING FUNDS

All characters receive the amount listed as Starting Funds for the first class the character took a level in. For example if a character takes their very 1<sup>st</sup> level of experience in the Academic class, that character would automatically start with Cr1000.

## RETIREMENT PAY

In addition to any other cash or benefits a character may earn from their background developed in Prior History, characters that spent 5 or more terms in a specific career or service are entitled to retirement pay. How much the character will receive annual as their payment depends on how many terms were served.

Terms Served	Annual Pay
5 terms	Cr4000
6 terms	Cr6000
7 terms	Cr8000
8+ terms	Cr10,000

## ADDITIONAL BENEFITS

Characters who spent time developing their backgrounds in Prior History may also earn additional benefits in the form of cash, equipment, travel vouchers, exclusive memberships, or other reward. Exactly what benefits are available will vary from career to career and from service to service, and must be determined separately for each.

For each term a character has spent in a specific career or service, they receive 1 benefit roll on the Mustering Out Benefits table for that career. If the character reached a rank of O1 or O2 in that career or service, they receive an additional benefit roll. Characters who reached a rank of O3 or O4 in that career or service receive 2 extra benefit rolls. Characters who reached a rank of O5 or higher in that career or service receive 3 extra benefit rolls.

<i>Accomplishment</i>	<i>Benefit Rolls Earned</i>
Per term spent in a career or service	1
Rank O1 or O2	+1
Rank O3 or O4	+2
Rank O5 or higher	+3

A character may take up to 3 of their benefit rolls (if they have that many) on the Cash column for the given career. Characters with a Gambling skill rank of 5 or higher may add +1 to any roll on the Cash column.

Any remaining rolls may be taken on the Materials column for the career. Characters with a final rank of O5 or higher in the career may add +1 to any rolls on the Materials column.

The various material benefits available from each profession or service are detailed below.

**Blade:** The character may select any one bladed weapon available (up to Cr100 in value) and add it to his or her possessions. The weapon must be selected immediately upon receipt of this benefit, or the character may elect to "sell" the weapon for 90% of its value (Cr90) instead and pocket the cash.

**Education:** The character's Education ability score is raised by the given amount.

**Gold Watch:** The character receives a very nice gold watch worth Cr500. It can be sold or kept.

**Gun:** The character may select any one handgun, rifle, shotgun, or submachine gun available (up to Cr500 in value) and add it to his or her possessions. The weapon must be selected immediately upon receipt of this benefit, or the character may elect to "sell" the weapon for 90% of its value (Cr450) instead and pocket the cash.

**High Passage:** The character receives a high passage ticket entitling him or her to first class (high) passage on any ship headed between one world and the next world visited by the ship. High passage includes excellent cuisine and allows up to one ton of baggage. A high passage normally costs Cr10,000 when purchased. This high passage ticket may be cashed in for 90% of its value (Cr9000) if desired.

**Instruments:** The character receives a set of high-quality instruments to assist in his or her future work.

**Intelligence:** The character's Intelligence ability score is raised by the given amount.

**Low Passage:** The character receives a ticket entitling him or her to low passage on any starship between one world and its next destination. This type of passage involves travelling via a cryogenic capsule (cold sleep or suspended animation). Passengers are unconscious for the entire course of the journey. As a side benefit, one does not age while in cold sleep. Unfortunately this does not offset the intrinsic dangers involved in this type of travel if proper medical supervision is not available upon awakening. Low passage costs Cr1000 when purchased and includes a 10kg baggage allowance. This low passage ticket



may be cashed in for 90% of its value (Cr900).

**Middle Passage:** The character receives a ticket entitling him or her to middle passage on any starship between one world and its next destination. Middle passage includes second-class accommodation (still of reasonable quality), passable food and drink, and up to 100kg of baggage. The passenger is expected to tend to his or her own affairs (maid service, laundry, cleaning, etc.) during the voyage. Middle passage costs Cr8000 when purchased, and this middle passage may be cashed in for 90% of its value (Cr7200) if desired.

**TAS Membership:** This benefit may only be received once. Any subsequent receipt of it is ignored (and not rerolled). The Travellers' Aid Society (TAS) is a private organization, which maintains hostels and facilities at all class A and B starports in Human space. Such facilities are available (at a reasonable cost) to members and their guests. In addition to the use of TAS facilities and services, each member receives a free high passage ticket every two months. This ticket may be kept, used, or cashed in for 90% of its value (Cr9000) as needed.

In addition to earning membership when mustering out, membership may be purchased for an initiation fee of MCr1. Membership is for the life of a character, and may not be transferred.

**Social Standing:** The character's Social Standing ability score is raised by the given amount.

**Vehicle:** The character may select any vehicle available (up to Cr5000 in value) and add it to his or her possessions or may "hold" the benefit to see if it comes up again. If so, each receipt of this benefit is worth Cr5000 towards the purchase of a vehicle (not a starship). The vehicle must be selected and paid for when mustering-out is completed, using only whatever cash the character gained in mustering out and/or as starting cash. Alternatively the character may elect to "sell" the vehicle for 90% of its value (Cr4500 per receipt of this benefit) instead and pocket the cash.

**Weapon:** The character may select any one weapon (of any type) up to Cr1000 in value and add it to his or her possessions. The weapon must be selected immediately upon receipt of this benefit, or the character may elect to "sell" the weapon for 90% of its value (Cr900) instead and pocket the cash.

**Sponsorship Deal:** The character is involved with advertising or sponsorship. This is worth Cr2d6X1000 per year, for 1d6 years after mustering out.

**Scout Ship:** It is the policy of most Scout Services to make surplus Scout ships available to selected members of the service that are entering detached duty (mustering out). The recipient is free to use the vessel for any legal purposes, but both the ship and its captain are subject to recall to active duty at any time without prior notice. The ship remains the legal property of the Scout Service and may not be sold. Fuel for these ships is available free at any Scout base, and maintenance is also free at any Scout base located at a class B or A starport. The captain is responsible for any other upkeep and crew costs.

**Other Starships:** The character receives title and ownership to some type of starship (Free Trader, Yacht, Lab Ship, Mercenary Cruiser, or Seeker) depending upon the class they are mustering out of. The ship's purchase loan is not paid off, however, and the character is now responsible for the monthly bank payments, maintenance, crew costs, and other expenses.

If the character receives this benefit more than once (from any prior history class), each subsequent receipt indicates that the original ship received is actually 10 years older, and the total payment term on the loan is reduced by ten years. By this method it is possible for a character to end up with a ship, owned free and clear, by successfully receiving this benefit five times (once to receive the ship, four times to pay off the 40-year loan.) Such a

ship is at least 40 years old, obviously.

Note that in the case where a member of the Traveller class receives a ship as a benefit, it is up to the Referee to decide what type is appropriate. Payments are the same as for any other class, including on a Scout/Courier awarded to a Traveller.

## WHAT NEXT?

Once your character has mustered out of a service or career there are three options you can take: furthering the character's education, pursuing a new career or service in Prior History, or finish up the character and begin play. Each option is explained below.

### FURTHERING EDUCATION

If the character plans to further their education, return to the Prior History chapter and follow the rules for the Educational Path for the character's next term.

### NEW CAREER OR SERVICE

A character may choose to enter a different career or service for their next term instead of continuing their current one. As long as they are qualified to enter that career or service and as long that they were not kicked out of that career or service in a previous term, the character may pursue their new job by returning to the Prior History chapter and following the normal Employment Path rules for taking on a new career or enlisting into a service.

### FINISHING UP

If your character is through generating their prior history, you should now move on to the Money and Equipment section of this book.

## WEAPONS

Personal weapons available to characters are listed below, detailing their cost, weight and other factors needed for play. This section includes additional weaponry to that contained in the *T20* basic rulebook. Some of this hardware appeared in *Travellers' Aide Volume 1: Personal Weapons of Charted Space*, though not all of the weaponry presented in that volume is here.

## WEAPON PERMITS

The Imperium recognizes the right of individuals to arm themselves for self-defense, though it places restrictions on the sort of hardware a private citizen may own and use. As a general rule, the more accountable an individual is, the more the authorities are likely to trust them. Restrictions are based upon the ability of weapon owners to take on Imperial forces or cause massacres.

Permits are not necessary to transport weaponry in proper containers, of course. Transport of and trade in weapons are both covered by the laws of interstellar commerce and unless the shipment mysteriously comes open in transit, the authorities will not take an interest.

These restrictions and permit requirements are those imposed by the Imperium. Local laws always apply – your Category 4 merc permit does not allow you to wander around a high-law city with a machinegun. Imperial permit restrictions supersede local law where the Ministry of Justice has jurisdiction. That is, if a certain weapon is legal on a given planet, but the user does not have an Imperial permit for it, action can still be taken against him or her – but only if the MoJ has a reason to become involved. If only local law enforcement is involved in an incident, there is no problem.

This grey area gives the MoJ the vital ability to crack down

on arms traders who set up on low-law worlds and sell powerful weaponry to all bidders, hiding behind loose local weapons laws as they supply dangerous criminals with military-grade weapons. Such irresponsible arms dealing is damaging to the stability of the region, and thus trade and the well-being of all Imperial citizens.

Weapon permits can be General or Specific. General permits allow the ownership of any weapon in that category, while specific permits allow only the ownership of a single example of a given weapon type, though multiple permits can be issued.

Weapons and military equipment fall into five categories:

### CATEGORY 1: UNRESTRICTED WEAPONS

No permit is required, anyone can buy and own such weapons. So long as the weapon is legal in this locality, even someone convicted of weapons-related crime could carry without interference.

#### Examples:

- All melee weapons (cutlasses, daggers, batons, shock batons etc)
- Non-Lethal Firearms (Tranq guns, Thud guns)
- All bow weapons

### CATEGORY 2: CIVILIAN SMALLARMS

The purchaser must demonstrate “safe use” – any existing weapons permit or half an hour’s accreditation and safety training on the range. No actual skill or reason for purchase is required.

#### Examples:

- Revolvers and most pistols, semi-automatic rifles, shotguns
- Mesh, Jack and Light Ballistic Cloth (“Diplo”) Armor

### CATEGORY 3: PARAMILITARY SMALLARMS

The purchaser must have an actual skill level (or default skill from other weapons training) and demonstrate “suitable need.” The latter is covered by occupations such as shipboard security operative, skip tracer, bodyguard, etc. References from employers may be taken. Employment by an accountable person or body (starship captain, corporation, port authority etc) is desirable. Note that all Imperial Services personnel who leave honorably automatically have a General Category 3 permit for weapons and armor, unless revoked for criminal activity.

#### Examples:

- Light Automatic Weapons (Autorifle, SMG, Assault Rifle, Autoshotgun, Snub SMG)
- Special ammunition (HEAP) for snub weapons
- Laser pistols, rifles, and carbines
- Heavy Ballistic Cloth body armor

### CATEGORY 4: MILITARY SMALLARMS

As Category 3, but restrictions are tighter. Service as an accredited mercenary or similar employment is usually required. Imperial personnel leaving the service with a “Weapon” benefit are assigned a permit for its use and ownership.

#### Examples:

- Military Shotguns
- Gauss Weapons (Rifles and Pistols)
- Advanced Combat Rifles (ACRs)
- Mid-Tech support weapons (grenade launchers, LAWs, Light Machineguns)
- Powerful mid-tech weapons, e.g. Anti-Tank rifles.
- Combat Environment Suit

- Military-grade electronics (advanced sighting equipment etc)

### CATEGORY 5: MILITARY SUPPORT WEAPONS

Only available to accredited mercenary units or personnel with a good record of serving in such a unit, while actively seeking a suitable unit or employer.

#### Examples:

- Plasma and Fusion Weapons
- Gauss support weapons
- Tac missiles
- Military Combat Vehicles
- Battle Dress and Combat Armor

### BLANKET PERMITS

Organizations (merc units, Huscarles, corporate security units) and some high-security starships generally have a “Blanket Permit” for weapons use by personnel as directed by the unit’s legitimate command or employer. Some non-weapon systems fall into these categories and are similarly restricted; e.g. nuclear mining explosives (cat 5), conventional explosives (cat 3), Starship lasers (cat 3), military-grade starship lasers (cat 4).

### OBTAINING A PERMIT

Permits can be obtained by presenting a case for need and accountability to the appropriate office (MoJ offices usually, but permits can be issued by certain nobles and Imperial officials, and by chartered branches of Instellarms’ Information and Advisory Division).

A Free Trader operating on the frontier as a mail ship should be able to obtain permits for military-grade lasers and maybe a couple of ACRs provided the case is put right and the ship’s record is good. Instellarms offers a permit-advisory service and can assist with processing and accreditation. Details are available at any Instellarms Regional Distribution Center, or from the offices of any subsidiary.

### BEYOND THE IMPERIUM

Outside the Imperium, some interstellar states operate a similar permit system, while others have very different ways of controlling civilian weapons ownership, or none at all. In regions where there are no interstellar states, local laws only apply, and it should be noted that even within the Imperium, local laws always take precedence on-planet. It is thus possible (within and without the Imperium) to obtain illegal weapons and keep them hidden from the authorities. Penalties for owning and/or using an illegal weapon vary considerably from place to place.

## WEAPON TYPES

The weapons available to travellers can be broken down into several categories:

#### Non-Lethal Melee Weapons

Some melee weapons tend to hurt and injure their target rather than causing potentially lethal damage. Like unarmed combat attacks, weapons like light batons, knuckle dusters and sticks cause Stamina rather than Lifeblood damage. Such weapons can be used to inflict Lifeblood damage in the same manner as unarmed combat attacks (i.e. a –4 penalty to the attack roll) by attacking vulnerable points.

#### Shock Weapons

Some weapons (stun batons, stunguns etc) contain a high-voltage power source, which shocks the target on contact. Such

weapons can be used to merely touch the target (for shock damage only) or to add shock damage to a normal melee attack. Shock damage is done to Stamina, and armor protects normally against it.

In theory, any melee weapon can be constructed to deliver shock upon contact (though special construction is required, tripling the cost). After delivering a shock, such weapons need to recharge for 1d6+1 combat rounds. Power sources are normally drained after 3-10 (1d8+2) uses, requiring a new power source or recharge of an internal one.

The exception is the stun gun. This device is completely useless against armor unless an unprotected location can be hit (requiring a Called Shot). If it does hit, it inflicts 1d6 Stamina damage and requires the target to make a Fortitude save vs. DC 20 or flop about helplessly on the ground for 3d6 rounds.

### Melee Weapons

The vast majority of melee weapons are designed to inflict potentially lethal (i.e. Lifeblood) damage. Most commonly, Travellers arm themselves with hilt weapons, i.e. swords and daggers. However, enemies may be encountered equipped with a full range of lethal implements, most of which are modeled by the weapons listed above. For example, a club heavy enough to do lethal damage (i.e. a baseball bat) can be treated as a mace. Anything that does not fit one of these categories can be considered an improvised weapon, doing 1d4 Stamina damage (or more, with certain feats).

### Bow and Sling Weapons

Most societies find a use for propelled projectiles, and at low tech levels the only options available are tension or torsion (i.e. bow) weapons or assisted-throwers such as slings. Most such weapons require the user to stand up, making him or her vulnerable, but can be lethal. Bows also have the advantage of being silent.

### Thrown Weapons

Anyone can throw a rock or grenade, but weapons that rely on hitting the target correctly (e.g. with a blade) require more training. Almost any object can be considered to be a “small rock” or a “large rock” if thrown. Large and awkward objects (including large rocks) are thrown at a –2 penalty. Large and small rocks do Stamina damage unless thrown at a life-threatening location (at a –4 penalty, like unarmed lethal attacks).

### Black Powder Weapons

Early firearms use black powder propellant and a loose projectile. They are not only highly unreliable and inaccurate but also give away the firer’s position with a huge cloud of smoke. They are however superior to bow weapons in that they can be more quickly brought into action, require less training, and can be “held” ready to fire. Black Powder weapons are covered by a special Weapon Proficiency feat – Black Powder Marksman. Anyone without this feat can use black powder weapons at a penalty of –4 (–2 if he has the Marksman feat), and suffers Additional Unreliability (see below).

Black powder weapons are extremely unreliable. When a user fires one, roll an additional 1d10. On a 1, the weapon has malfunctioned; consult the table below. For users without the Black Powder Marksman feat, this occurs on a 1-2.

Despite their faults, black powder weapons are lethal and useful. Most are smoothbore weapons, and thus extremely inaccurate (though shotguns are no less so than their modern cousins). However, black powder rifles, which are even slower to load than smoothbores, can be extremely accurate – certainly enough to pose a real threat to travellers. Weapons can be

initiated by flintlocks, percussion caps, wheellocks, matchlocks and other methods, adding to their general clumsiness. The lock mechanism makes pistols difficult to conceal.

### Black Powder Malfunctions

Occur on 1 on 1d10, or 1-2 if user untrained (i.e. does not possess the Black Powder Weapons feat).

*Table: Black Powder Malfunctions*

1d10 Roll	Malfunction
1-2	Hang-fire. Weapon discharges a second or two late. Automatically misses target, may pose hazard to anyone downrange.
3-6	Weapon misfires. May be re-primed (this takes as long as reloading) and firing attempted again.
7-9	Weapon misfires and clogs. Must be cleaned before firing can be attempted.
10	Weapon backfires, ruining it. User takes 1d8 Lifeblood damage from fragments of the barrel and lock.

### Body Pistols

A variety of small, concealable handguns are available. Low-tech versions are simply difficult to spot due to their small size, but more advanced ones use specialist non-metallic materials to make detection by automated equipment difficult. Such low-detectability (or “stealth”) weapons are illegal in most areas.

Body pistols come in two general types: the derringer and the true pistol. Derringers are single or double-barreled weapons that must be manually reloaded after firing. The true “body pistol” is a tiny semi-automatic weapon fed from a magazine, (usually with a capacity of 5 rounds), and can be quickly reloaded.

### Handguns

Two basic types of slug throwing handgun exist; revolvers and self-loading pistols (often known as semi-automatics, automatics or autopistols). Revolvers are (as a rule) slightly more robust, simpler to use, and generally more idiot-proof. They are fed from a revolving cylinder, which normally holds six rounds (fewer in very powerful weapons, more in less powerful ones) and places each round under the hammer in turn. Revolvers are thus somewhat bulky, but this does have the advantage that if a round malfunctions, it is usually possible to simply pull the trigger again to fire the next one. They are also slow-loading, requiring each round to be manually placed in the cylinder. A variety of devices (stripper clips, half-moon clips and speedloaders) exist to speed up this process. It is extremely difficult to silence a revolver; few silenced versions exist.

Autopistols are fed from a magazine (sometimes incorrectly named a “clip”), which is usually inserted in the handgrip. Autopistols are slightly more complex than revolvers, though not really any more difficult to use. They are prized mainly for their high magazine capacity and speed of reloading.

The standard revolvers and autopistols in use throughout Charted Space are 9mm or 10mm caliber weapons, which use interchangeable ammunition that can also be used in some submachineguns.

Lighter revolvers and autopistols, in 7-8mm caliber) are used by those seeking a lighter recoil or a smaller weapon. They are sometimes carried as “holdout” weapons – not truly body pistols, they are nonetheless more difficult to spot than full-size weapons.

Heavy revolvers and autopistols are available in larger calibers (12mm or even 14mm), or in “magnum” versions of the



standard 9-10mm. Magnum ammunition is slightly longer than standard rounds; a Magnum weapon can use standard rounds but not vice versa. Recoil and noise from these weapons is considerable.

Extremely powerful weapons (usually revolvers) are available. An example is the 4-shot Ultra Revolver, an 18mm Magnum caliber monster whose awesome recoil has been compared to being shot with a 9mm. Such weapons are so large and bulky that it is often easier and more practical to buy a submachinegun.

### Snub Weapons

Snub weapons are designed for shipboard use in low-g. They have a large caliber and short barrel, firing low-velocity rounds to minimize recoil. All snub weapons use the same ammunition, which is normally ball (i.e. standard bullets) but can include tranquilizer, gas, flechette and high-explosive armor piercing HEAP. Standard AP (armor-piercing) is of little use in a snub weapon due to the low muzzle velocity. HEAP uses a shaped-charge explosive effect to create reasonable AP effects.

The standard shipboard security weapon is the snub revolver, though autopistol and SMG variants are available.

### Shotguns

Shotguns are smoothbore weapons that normally fire buckshot (large pellets) but can use flechettes (very small sharp fragments), solid slug rounds or a variety of special ammunition types. Sporting guns are usually single or double barreled, with rounds inserted directly into the breech. Sporting guns are sometimes sawed-off to create a deadly close quarters weapon. Sawed-off shotguns cannot fire any ammunition other than flechette or buckshot and they have an even shorter effective range than standard shotguns. However, anyone using a sawed-off shotgun gains a bonus of +4 to hit out to 3 meters, in addition to any ammunition or other bonuses.

Double-barreled weapons have two triggers, allowing both barrels to be fired at once. If this is done, the attack causes an additional die of damage).

Combat shotguns are fed from a detachable or internal magazine. Various configurations exist, with magazine capacities from 4 to 10 rounds, with 6 being fairly standard. Shortened stockless shotguns (usually with a 3 or 4 round capacity) are carried as backup or close-assault weapons by some mercs, while standard combat shotguns are a standard shipboard security weapon due to their low penetration characteristics. They are also in common use with police and security forces. Combat shotguns are either pump-action or semi-automatic.

Military shotguns are semi-automatic weapons designed for close-quarters combat. They use more powerful ammunition that is not compatible with other shotgun types, and often have detachable magazines containing up to 10 rounds. Military shotguns are not legal in localities that only allow shotguns, since they are more properly considered "close assault weapons" than "sporting" or "self-defense" tools. They are thus illegal at law level 6.

Assault Shotguns are a purely military weapon, illegal at law level 3 like all such weapons. Fed from a box or drum magazine, the assault shotgun uses standard shotgun cartridges but is capable of semi-automatic, 3-round bursts and fully-automatic fire. Assault shotguns are normally used to sweep an area and cut down several unarmored foes at once.

### Rifles

A rifle is simply a longarm with a rifled barrel. Various weapons are termed "rifles." They all differ somewhat from one another. Early versions are single-shot or semi-automatic, while more advanced weapons may feature burst fire or full-automatic capability. Most

rifles are fed from a detachable magazine, though earlier versions use an internal magazine fed with individual rounds or from a clip. The most advanced rifles (Advanced Combat Rifles, or ACRs) use ETC (ElectroThermalChemical) propulsion rather than the more traditional primer-initiated chemical propellant. There is no real difference between these methods in use, though ETC weapons are cleaner. ACRs often include sophisticated electronics to aid the user.

Variants of the rifle include the carbine, a shortened version, and specialist heavy "big game" hunting rifles. Many military and quasi-military rifles use a "bullpup" configuration where the magazine is inserted behind the trigger assembly instead of in front. This allows for a shorter weapon, handier for close combat.

Most rifles can carry accessories like a bayonet (though this is uncommon in civilian or hunting weapons) and perhaps a launcher arrangement for rifle grenades (which are launched from the barrel of the rifle) or an underbarrel grenade launcher (which is basically a separate weapon attached to the rifle).

An alternative rifle weapon, intended for low-g combat, is the accelerator rifle, which uses rocket projectiles to keep recoil down.

### Light Automatic Weapons

Other than assault shotguns, there are basically three types of light autofire weapons. The Light Machinegun (LMG) is a purely military weapon, often based on a standard rifle and capable of being used in place of one. It fires rifle-caliber ammunition and can fire armor-piercing (AP) rounds.

The submachinegun (SMG) is favored for urban, shipboard and similar close-quarters combat. It fires pistol-caliber ammunition. Examples vary from almost rifle-sized weapons to tiny sidearms. Variants are available that use lighter or heavier ammunition, much like handguns, though extreme calibers are not effective.

Some users favor "assault pistols." These are simply handguns converted to burst or full-auto fire. Even when fitted with a foregrip and a wire stock, a pistol remains a pistol, and on full-auto these weapons are not very controllable. Burst-fire is possible for additional damage and for an increased chance to hit, but this is offset by a -2 penalty to hit at all ranges when firing an assault pistol on burst or full-auto mode. The most common mode of use is to "spray and pray," emptying the weapon in the general direction of a foe, or to ram the muzzle into a target and hold the trigger down. The latter mode is used mainly by hitmen and assassins.

### Laser Weapons

Lasers use a beam of coherent photons to cause damage to the target by superheating a point. If the target surface contains moisture (e.g. flesh), a laser hit will superheat the water and cause it to flash to steam, causing an almost explosive effect and a very severe wound. Lasers have no recoil, so are useful in zero-g combat, though in a standard atmosphere they are reduced in efficiency by dust, mist, rain and anti-laser aerosols. Laser weapons can be used to designate for artillery or other support weapons if suitably adapted.

Laser weapons require a power source to operate. This is most usually a backpack or belt pack, though some weapons can be fed from fixed sources (e.g. at defense points aboard a starship) or even from internal power cells. The latter are low in capacity and render these "free lasers" less effective than might be desired. Lasers are also rather fragile and do not stand up well to the rigors of field use.

Power supplies for laser weapons are available as backpacks, belt units or internal cells. A backpack unit holds 100

or 300 “power factors,” and is heavy-duty enough to supply all weapons. Belt packs hold 50 power factors, but can only supply carbines and pistols safely. Using a rifle with a belt pack incurs a 1 in 3 chance of overloading the pack and rendering it useless. A discharged pack can be recharged from a starship power plant or similar energy source.

Laser rifles use 3 power factors per shot (i.e. 100 shots from a 300-factor backpack), carbines 2 and pistols 1.

Those weapons fitted for internal batteries can be connected to a pack or used “free” on internal power. A heavy-duty rifle battery holds 15 power factors (5 shots), a carbine battery 20 (10 shots) and a lightweight pistol battery 5 (5 shots). Batteries are not interchangeable and tend to fail after being recharged 3-5 times, making their use highly expensive.

### Support Weapons

Support weapons are normally available only to the military. They include launchers and scaled-up versions of infantry weapons, plus a range of specialist weapons.

The General-Purpose Machinegun (GPMG) is a heavier version of the LMG, capable of sustained firepower. It can be operated by a single individual but is not really suited to an assault role.

The Antitank Rifle (ATR) and Light Assault Gun (LAG) are both based on rifle-type weapons, firing a heavy round over long distances. Advanced superheavy weapons like .50 caliber sniper rifles are sufficiently similar to the antitank rifle to use the same stats, though the sniping version is accurate out to far greater ranges.

Infantry Recoillesses are heavy but man-portable weapons such as the 90mm recoilless rifle, a short weapon fired from a prone position by a 2-man gun team. These weapons cannot be fired on the move unless mounted on a vehicle. Their performance is lower than a real vehicle weapon, but they do give infantry the capability to fight light armor.

### Grenade, Rocket and Missile Launchers

Launchers of various types are used for infantry support and light anti-armor work. The standard grenade launcher is a tube device that is either used alone or fitted under a rifle, while RAM (Rocket Assisted Multipurpose) grenade launchers (sometimes called spigot mortars) are basically a handle and sighting apparatus to which RAM grenades can be attached for launching. Some rifles can also be used as RAM grenade launchers. A variety of projectiles are available such as smoke, explosive, incendiary and anti-armor. Tube grenade launchers can also launch fragmentation rounds, like giant shotgun shells, and baton or “stunbag” rounds.

A special case of the grenade launcher is the Thud Gun, which can fire only a plastic “baton” round designed to knock down and stun the target. Such weapons inflict Stamina damage rather than causing lethal injury.

Designed to attack armored vehicles and structures, disposable launchers are a simple tube/grip/sight/launcher affair containing an unguided rocket-propelled grenade or small missile with a high explosive warhead. These weapons have a significant backblast area, posing a hazard to troops nearby. More advanced launchers contain a guided missile, normally used for attacking aircraft.

Non-Disposable missile launchers are often termed “Light Tac (tactical) Missile Launchers.” The most powerful tac missiles are capable of delivering small nuclear warheads, but these tend to be vehicle-mounted. Early tac missiles are extremely bulky and must be manually guided to the target after launch from a tripod mount. Later versions use fire-and-forget missiles which can be fired from the shoulder by a single individual, though a second

member is usually required to carry ammunition and spot for the operator. Higher-tech light tac launchers can engage ground or air targets with a multimode warhead, selecting the most effective attack and even approach mode automatically.

### Flame Weapons

Flamethrower weapons are hazardous to the user and his companions, but are useful in clearing dug-in troops or in other specialist applications. The mid-tech flamethrower consists of fuel tanks and a sprayer that ignites the fuel as it leaves the nozzle. At higher tech levels, less fuel can be used, allowing a smaller “flame rifle” or even “hand flamer” fed by internal fuel.

At high tech levels, a more advanced super-flamethrower is available which uses gauss (electromagnetic acceleration) technology to propel metallic flakes (which are ignited as well as propelled by the gauss field) in place of chemical fuel. These weapons are expensive and rather rare, since plasma weapons are generally more useful.

### Gauss Weapons

Gauss weapons are military hardware, pure and simple. Instead of a large projectile propelled by chemicals, these weapons use a small needle accelerated to immense velocities by a linear magnetic field.

Gauss pistols are the favored sidearm of the Imperial services. The army and marines use a functional, robust weapon, while the Navy Model has a longer barrel and is generally more elegant, though no less functional. The Scout Service is not issued gauss pistols except for some security applications. Gauss pistols have a fairly low recoil and are not as noisy as slug throwers (though the “crack!” is distinctive). They are capable of semi-automatic or burst fire.

The gauss rifle is a powerful weapon used by the Imperial Marines and some units of the Imperial Army. Using the same technology as the pistol, it can achieve higher muzzle velocities and greater accuracy. Sniper versions are available, and VRF (Very Rapid Fire) gauss guns are mounted on some vehicles as anti-personnel weapons.

The gauss shotgun is an experimental weapon that fires bundles of gauss needles in a conical pattern. The concept has never really caught on, though examples do reach the market from time to time.

### High-Energy Weapons

High-energy weapons (plasma and fusion weapons) hurl bolts of superheated gas, which in some cases proceeds to fusion. They are devastating in effect, but in many cases require battle dress to operate due to the weight of the weapon and its power supply. Higher-tech weapons include gravitic compensation, and can be used by an unarmored soldier. High-energy weapons require careful maintenance, since a containment failure poses an extreme hazard to friendly personnel.

## WEAPON DESCRIPTIONS BY TL

The TL listed is the tech level at which the weapon is first constructed. A higher-tech version may become available. Such more advanced weapons are often more robust, ergonomic and “cool” looking, but their performance is much the same as the basic model.

### TL0 WEAPONS

**Axe, Stone:** A simple weapon constructed by attaching a weight (usually a rock) to a branch or bone handle. Similar implements can be constructed from high-tech equipment if the need arises. Length: 500mm to 1,000mm.

**Cudgel:** A basic stick used as a weapon. Easily obtained from standing trees or through the use of an unloaded long gun such as a rifle or carbine (laser weapons are too delicate to be used as cudgels). Length: 1,000mm to 2,000mm.

**Dagger:** A small knife weapon with a flat, two-edged blade approximately 200mm in length. Daggers are usually carried in a belt sheath, or less frequently concealed in a boot sheath or strapped to the forearm. Daggers are usually as much a tool as a last-resort weapon of defense, and worn constantly. Each weighs 250 grams; that weight, however, does not count against the weight load of the character as the weapon is worn constantly and comfortably.

**Spear:** A long (2,000-3,000mm) polearm with a pointed tip, usually of metal. Often made by the person who carries the weapon, the spear is quite inexpensive.

**Sling:** A projectile weapon that propels small stones or metal bullets using rotational energy. Requires a certain amount of skill to use effectively.

### TL1 WEAPONS

**Axe, Battle:** A large axe with one or two blades, the battle axe is cumbersome to carry but deadly. Large wood axes and fire rescue axes have a similar performance. Length: 1,000mm to 2,000mm.

**Axe, Hatchet:** A light axe head on a short haft, hatchets are basic work tools and are carried as sidearms in some areas. Length: 300mm to 600mm.

**Axe, Throwing:** A hatchet-like weapon balanced for throwing, the axe has a short range but heavy impact. It can double as a hand-to-hand weapon.

**Bow, Short:** A light bow with a weak pull, the short bow is primarily a hunting weapon but sees use in combat from time to time.

**Javelin:** A short spear designed for throwing. Javelins can be pressed into service as spears, and vice versa, though neither is ideal outside its intended role.

**Knife, Throwing:** A small blade weapon designed for throwing, a knife is easy to conceal and carry. Throwing knives can double as hand-to-hand weapons but are not very effective. Damage is 1d3 Lifeblood, Piercing. Length: 100mm to 250mm.

**Mace, Heavy:** A heavy metal weight (often spiked or flanged) on a haft, the heavy mace is sometimes used in two hands. Length: 1,000mm to 1,500mm. Heavy clubs such as baseball bats have a very similar performance.

**Mace, Light:** With a smaller weight and a shorter haft than the heavy version, the light mace is a one-handed weapon carried as a sidearm by some low-tech troops. Length: 500mm to 1,000mm.

**Morningstar Flail:** A spiked mace head on a chain attached to a long haft, the Morningstar is a deadly battlefield weapon but poses a severe threat to an untrained user. Length: 1,500mm to 2,000mm.

**Pike:** A long (3,000mm to 4,000mm) polearm with some form of flat blade tip. A long horseman's lance may be very similar in construction to a pike.

**Sword:** The standard long-edged weapon, featuring a flat, usually two-edged blade. It may or may not have a basket hilt or hand protector. A scabbard to carry the sword may be attached to the belt, or to straps (or a sash) over the shoulder. Blade length may vary from 700mm to 950mm. Swords are constructed in many shapes, straight or curved, designed for cutting or thrusting, or both. A fairly robust "gentleman's sword," an army officer's dress saber and a martial artist's katana would all be termed "swords" and though their mode of use varies they are all roughly similar in terms of capability.

### TL2 WEAPONS

**Black Powder Carbine:** A short-barrelled rifle like weapon (or an extremely large pistol), the carbine fires a pistol ball out to a greater effective range. Carbines are usually carried by low-tech cavalry and possibly artillerymen.

**Black Powder Musket:** A basic infantry firearm, the musket is more powerful than a carbine and has a greater range.

**Black Powder Pistol, Large:** A long, heavy pistol that is awkward to carry, the Large Pistol often has a metal-shod butt, making it a reasonable cudgel once discharged.

**Black Powder Pistol, Light:** A smaller weapon, the light pistol is better suited for carry as a sidearm.

**Black Powder Shotgun:** Little different from a modern shotgun other than the fact that it uses loose ammunition and powder rather than cartridges, the black powder shotgun has similar performance to more modern versions.

**Broadsword:** The largest of the sword weapons, also called the two-handed sword because it requires both hands to swing. The blade is extremely heavy, two-edged, and about 1,000mm to 1,200mm in length. The hilt is relatively simple, generally a crosspiece only, with little basketwork or protection. When carried, the broadsword is worn in a metal scabbard attached to the belt; less frequently, the scabbard is worn on the back, and the broadsword is drawn over the shoulder.

**Halberd:** A quite elaborate polearm featuring a pointed, bladed tip. This weapon may be considered to be a combination of a battle ax and a spear.

**Long Bow:** A long symmetrical or asymmetric bow, the long bow is a powerful low-tech weapon. The stats can also be used for powerful recurve bows, which are shorter than the standard longbow stave.

**Military Crossbow:** A powerful crossbow weapon capable of penetrating even ballistic armor, the military crossbow is easy to operate, though slow-loading.

**Throwing Steel:** A range of small blades can be thrown, including darts, stars and caltrops. They are not especially damaging, and are virtually useless against armor.

### TL3 WEAPONS

**Bayonet:** A knife-like weapon similar to a dagger or blade. When not attached to a rifle, a bayonet is treated as a dagger (or blade), carried in a belt scabbard, and requires dagger (or blade) skill for use to advantage. When attached to the muzzle of a rifle (only, not carbine or auto rifle), it transforms the gun into a polearm, and increases the length of the weapon by 200mm.

**Black Powder Rifle:** Basically a musket with a rifled barrel, the black powder rifle is slow-loading but accurate out to a respectable distance.

**Blade:** A hybrid knife weapon with a heavy, flat two-edged blade nearly 300mm in length, and (often, but not always) a semi-basket handguard. Because of the bulk of the handguard, it is generally carried in a belt scabbard. Blades are as much survival tools as weapons, and are often found in emergency kits, lifeboats etc.

**Crossbow, Repeating:** A quick-firing crossbow cocked by a lever and fed from a magazine of bolts, repeating crossbows are weak and somewhat unreliable.

**Crossbow, Sporting:** A light crossbow intended mainly for hunting or shooting game, the sporting crossbow is quicker to load than its heavy cousin.

**Cutlass:** A heavy, flat-bladed, single-edged weapon featuring a full basket hilt to protect the hand. The cutlass is the standard shipboard blade weapon and sometimes kept in lockers on the bulkhead near important locations; when worn, a belt scabbard is used. Blade length varies from 600mm to 900mm.



**Foil:** Also known as the rapier, this weapon is a light, sword-like weapon with a pointed, edged blade 800mm in length, and a basket or cup hilt to protect the hand. Foils are worn in scabbards attached to the belt.

#### TL4 WEAPONS

**Derringer:** A simple single or double-barreled pistol, the derringer is not a repeating weapon; each barrel must be reloaded after firing.

**Revolver:** An early handgun, the revolver fires 9mm bullets with characteristics similar to those used by the automatic pistol, but not interchangeable with them. No magazine is used: six cartridges are inserted into the cylinder. If reloading with individual ammunition, three rounds can be inserted each round. If a device such as a speedloader is used, the weapon can be fully reloaded in one round.

#### TL5 WEAPONS

**Antitank Rifle:** An oversized rifle weapon, normally bolt-action but sometimes semi-automatic, designed to attack hard targets like primitive tanks and equipment. Can use armor-piercing or explosive ammunition. Ammunition is not compatible with any other weapon. This weapon is too bulky to fire on the move; it must be rested on its integral bipod.

**Assault Pistol:** An autopistol converted to fire bursts of fully automatic fire. Highly inaccurate.

**Autopistol:** Also referred to as a Semi-Automatic Pistol, Automatic Pistol or just a Pistol, the Autopistol is a basic repeating handgun. One cartridge is fired for each pull of the trigger. Autopistol ammunition is interchangeable with submachinegun ammunition (although magazines are not). Preloaded magazines may be inserted into an empty pistol, requiring one combat round.

**Carbine:** A short type of rifle firing a small caliber round. A magazine containing ten rounds is inserted into the underside of the carbine ahead of the trigger guard or behind the handgrip (this configuration is referred to as "Bullpup," and in some localities carbines may be referred to as Bullpups), and one round is fired with each pull of the trigger. Replacement of an empty magazine takes one combat round. Carbine ammunition is not interchangeable with any other type of ammunition.

In essence, a carbine is a short rifle, firing a cartridge of smaller, lighter caliber. A sling usually allows the carbine to be carried on the shoulder, out of the way.

**Flamethrower:** A crude device consisting of fuel tanks, a compressor and an aimable nozzle, the flamethrower is a devastating weapon that can be hazardous to its user and her comrades. Early flamethrowers are prone to leaks and even explosions; more advanced versions are a little safer but remain vulnerable to enemy fire. Flamethrowers are often used as area-clearance weapons.

**Rifle:** The standard military firearm, firing a 7mm, 10 gram bullet at a velocity of approximately 900 meters per second. Longer and heavier than a carbine, it is also more effective. Standard equipment includes provisions for attaching a bayonet and telescopic sights, and a shoulder sling.

A twenty-round magazine is attached to the front of the trigger guard, and one round is fired with each pull of the trigger. Replacement of the empty magazine takes one combat round. Rifle ammunition may also be used in automatic rifles; rifle and auto rifle magazines are interchangeable, and weigh the same.

**Shotgun, Combat:** The basic weapon for maximum shock effect without regard to accuracy. The shotgun has an 18mm diameter barrel and fires shells containing either six 7mm bullets, or one hundred and thirty 3mm pellets. Velocity for the projectiles is about 350 meters per second. A cylindrical magazine rests

under the barrel and parallel to it. This magazine is normally loaded with individual rounds (at the rate of three shells per combat round) and typically holds six rounds. Some versions of the combat shotgun use detachable magazines holding up to ten rounds, but these are bulky and awkward to carry. Changing detachable magazines takes one round. Many combat shotguns are semi-automatic, firing one round per pull of the trigger. Some (and all before TL6) use a pump-action system, whereby the user manually chambers a round before firing.

Shotguns are available in various configurations. Short versions with no stock and a small magazine (3-4 rounds) are popular as backup weapons or for close combat.

Magazines measure approximately 350mm long by 20mm in diameter and are quite clumsy to carry.

Shotguns are equipped with a sling for carrying.

**Shotgun, Sawn-off:** A sporting shotgun with the barrels greatly shortened and the stock removed, the sawn-off has a very short range but a wide spread of shot. Its primary value is intimidation.

**Shotgun, Sporting:** A double or single barreled shotgun for hunting purposes, the sporting shotgun uses standard shotgun ammunition. Each barrel must be manually reloaded after firing. Two barrels can be reloaded per combat round.

**Speargun:** An underwater weapon launching a harpoon or spear using compressed gas. The spear may or may not be attached to the gun by a line. Spearguns must be manually reloaded after every shot, which is a full move action. Spears weigh 1kg and cost Cr10.

**Submachinegun:** A small automatic weapon designed to fire pistol ammunition. Magazines holding 30 cartridges are inserted into the weapon forward of the trigger guard or in the pistol grip, depending on the design. The gun fires a burst of four rounds per pull of the trigger. Replacement of an empty magazine requires one combat round.

Submachinegun ammunition (but not magazines) is interchangeable with autopistol ammunition.

Most submachineguns are equipped with slings for ease of carrying. Some are small enough to be carried in a shoulder or hip holster.

#### TL6 WEAPONS

**Autopistol, Light:** A lightweight, small-caliber version of the standard autopistol, the light autopistol has a smaller recoil and greater concealability, though magazine capacity is low.

**Automatic Rifle (Autorifle):** A highly refined and tuned version of the rifle, capable of full automatic fire as well as semi-automatic shots. Normally, the automatic rifle fires bursts of four bullets for each pull of the trigger. It may be switched to semi-automatic fire at the end of a combat round, after all firing, in which case it is treated as a rifle until switched back to burst mode. Ammunition and magazines are identical to those used for the rifle.

**General Purpose Machine Gun (GPMG):** A light support weapon fed by a belt of ammunition. Basically the same as the LMG (below) but purpose designed as a support weapon rather than being an overgrown rifle. The GPMG is therefore slightly more robust and capable of more sustained fire.

**Light Machine Gun (LMG):** A heavier belt-fed version of the automatic rifle. Reloading takes 3 rounds if the weapon is manned by a single individual, one round if a loader is present. The LMG fires up to a 20-round burst each combat round.

**Revolver, Light:** A small-caliber, lightweight version of the standard revolver. The light revolver is slightly more concealable.

**Revolver, Heavy:** A large-caliber or "Magnum" version of a standard weapon, the heavy revolver is a large and robust

handgun with fearsome recoil and good intimidation capabilities. It is loaded in the same manner as all other revolvers.

**Rifle, Hunting:** A powerful and accurate bolt-action or semi-automatic rifle fed from an internal magazine. Reloading is at the rate of 3 rounds per combat round. Most “sniper” rifles have similar characteristics to the hunting rifle.

**Rifle, Survival:** The rather puny “survival rifle” is a simple double-barreled, collapsible weapon included in survival kits. It can fire a weak rifle cartridge (not compatible with other rifle ammunition) from one barrel (1d6 damage) or a shotgun cartridge from the other. The latter is treated as a flechette round, and does 2d4 damage out to 2 meters and 1d4 after that. It is only any use for knocking over small game.

## TL7 WEAPONS

**Assault Rifle:** A lighter and less expensive version of the automatic rifle.

**Crossbow, Advanced:** A modern version of the sporting crossbow using advanced materials. It is functionally little different.

**Disposable Launcher:** A lightweight, self-contained, disposable, non-reusable version of the Grenade Launcher. Disposable Launchers are designed to fire HEAP grenades only. They are also known as Light Antitank Weapons (LAW) or Light Anti-Armor Weapons (LAAW).

**Grenade Launcher:** Allows users to lob grenades at ranges far exceeding normal throwing distance. Unlike artillery, grenade launchers rely on the destructive power of the warhead alone, as there is little kinetic energy behind their attack. Grenade launchers may be fired once per round as a standard attack action, and require a move action to reload. A grenade launcher may fire any type of grenade, up to a maximum distance of 1,000 meters. A grenade launcher may be attached to an assault rifle for the cost of the assault rifle and the grenade launcher plus an additional Cr50.

**Heavy Submachinegun:** A version of the standard SMG designed to use larger caliber ammunition. More powerful, but almost as large as an assault rifle, heavy SMGs are not popular. Ammunition is not compatible with standard SMGs.

**Infantry Recoilless:** A light support weapon capable of launching projectiles similar in performance to RAM grenades, the Infantry recoilless is a direct-fire weapon crewed by two people and fired from a tripod.

**Micro-Submachinegun:** A tiny submachinegun, little larger than a pistol, designed to fire small-caliber ammunition. Carried as a sidearm instead of a pistol by some personnel.

**Shotgun, Assault:** A heavy shotgun fed from a 7-round detachable box or a bulky 20-round drum, the assault shotgun is capable of semi-automatic or burst fire. It uses the same ammunition as other shotguns. Reloading with either type of magazine takes one round.

**Stun Gun:** A short-range weapon that delivers a non-lethal electric shock to the victim, rendering him helpless for a short time.

## TL8 WEAPONS

**Autopistol, Heavy:** A large-caliber or “magnum” version of the Autopistol, the Heavy Autopistol is bulky and has limited ammunition capacity, but it hits hard and has good intimidation value.

**Axe, Boarding:** A modern version of the halberd with a short haft, the boarding axe is a combination of axe and spear for close assault work. Most have an optional spade head, which can be swapped for the axe in a few seconds.

**Laser Carbine:** A lightweight version of the laser rifle, firing high energy bolts using current from a backpack battery/power

pack. The laser carbine fires a 2mm beam of energy, aimed by integrated optic sights. The power pack is capable of producing 50 shots before it requires recharging. Recharging requires at least eight hours connected to a high-energy source. The laser carbine is connected to the power pack by a heavy-duty cable.

**Light Assault Gun (LAG):** Essentially a heavy (20mm caliber) rifle fed by a 5-round magazine. Requires the firer to have STR 14+ (unless in battle dress) or suffer –2 to hit due to the weight and recoil. The LAG can use a variety of ammunition types.

**RAM Launcher:** Designed to fire RAM grenades, allowing for targets as far away as 1,000 meters. See RAM Grenades. The RAM grenade launcher holds a 3 round clip that may be fire at a rate of one round per pull of the trigger. Reloading the RAM grenade launcher is considered a move action.

**Shotgun, Military:** A semi-automatic weapon fed from a detachable magazine, the military shotgun uses different ammunition to other shotgun types. It can be reloaded in one round.

**Snub Pistol:** A low-velocity autopistol designed for shipboard and zero-g environments. Snub weapons can use a range of ammunition types.

**Snub Revolver:** A low velocity revolver designed for use shipboard and in zero-g environments.

**Snub SMG:** Submachinegun version of the snub pistol intended for shipboard combat.

**Thud Gun:** A single-shot discharger firing a heavy but soft projectile for non-lethal knockdown. Damage is Stamina only.

## TL9 WEAPONS

**Accelerator Rifle:** Designed specifically for zero-g combat, the accelerator rifle fires a specially designed round which upon leaving the barrel is accelerated by a secondary propelling charge. Normally the rifle fires bursts of three rounds per pull of the trigger, but may be adjusted to fire single rounds.

**Body Pistol:** A small, non-metallic semiautomatic pistol designed to evade detection by most weapon detectors. One cartridge is fired for each pull of the trigger. Pre-loaded magazines may be inserted into the pistol when it is empty, taking one combat round to do so. Body pistol ammunition is not interchangeable with the ammunition for any other types of guns.

**Body Pistol, Heavy:** A single or double-barrel version of the body pistol firing a single large cartridge in the manner of a derringer. Heavy Body pistol ammunition is not interchangeable with the ammunition for any other types of guns.

**Disposable Guided Launcher:** Similar to the standard disposable launcher, the disposable guided launcher uses a missile with multimode tracking, capable of attacking armor or aircraft. It is a “fire-and-forget” weapon, self-homing on the target after launch. The disposable carry/launch tube cannot be reused.

**Flame Rifle:** An advanced version of the flamethrower, the flame rifle uses a smaller amount of more efficient fuel for a similar effect. It is self-contained, fed from a bulky tank under the weapon. Flame rifles are somewhat less prone to disaster than backpack-type flamethrowers, but many users cite their self-contained nature as their best feature – the user is not strapped to the weapon but can throw it away at need.

**Laser Rifle:** The standard high-energy weapon, firing energy bolts in the same manner as the laser carbine. Heavier, the laser rifle is also capable of longer sustained action, and is somewhat sturdier. The standard power pack can provide 100 shots before recharging. As with the laser carbine, the laser rifle is connected to the power pack by a heavy-duty cable. Laser rifle power packs can be used with carbines or pistols, but the opposite is not true.

**Revolver, Ultra:** An enormous version of the revolver firing

a massive, overpowered cartridge, Ultra Revolvers are normally fed by a 4-round internal cylinder which is reloaded like any other revolver.

## TL10 WEAPONS

**Advanced Combat Rifle (ACR):** A progressive development of the assault rifle. The ACR is also designed to fire RAM grenades. A single RAM grenade may be fired per round as a standard attack action, with reloading considered a move action. ACRs are available in light and heavy versions, depending upon the preferences of the designers. Heavy versions use a more powerful round.

**Hand Flamer:** A smaller version of the flame rifle, the hand flamer's short nozzle makes it handy in room-clearance operations but also poses a greater hazard to the user. Capacity is small and range short, rendering these weapons rather less than useful on the battlefield.

**Light Tac Launcher:** A tripod-mounted support weapon capable of firing battlefield tactical (tac) missiles. Tac launchers use a powerful missile; some versions have a small nuclear warhead, though the use of such munitions is rather rare.

## TL12 WEAPONS

**Gauss Rifle:** The ultimate development of the slug thrower, the gauss rifle generates an electromagnetic field along the length of the barrel that accelerates a bullet to high velocities. The round itself consists of a dense armor piercing core surrounded by a softer metal covering, ending in a hollow point, giving the round excellent stopping power and good armor penetration. Gauss rifles are also designed to fire RAM grenades. A single RAM grenade may be fired per round as a standard attack action, with reloading considered a move action.

**Gauss Rifle, Sniper:** A super-accurate version of the standard infantry gauss rifle.

**Laser Pistol:** A pistol equivalent of the laser carbine, though still dependent on an external power pack.

**Plasma Gun, Man Portable (PGMP-12):** The weapon consists of a power pack carried on the firer's back, the weapon itself, and a flexible power link. The powerpack powers a laser ignition system in the weapon itself, which heats hydrogen fuel to a plasma state. The plasma is contained in the ignition chamber briefly and then released through a magnetically focused field along the weapon's barrel. The initial plasma jet is 2cm in diameter but begins to dissipate rapidly. Each powerpack has sufficient energy to discharge 40 plasma bolts before recharging is required. Each pull of the trigger discharges one plasma bolt. Because of the recoil of this weapon, it may only be fired once every two rounds. Damage is reduced to one-half at 5-7 range bands, and one-quarter at 8 range bands or more.

**Spurt Gun:** An illegal and unreliable weapon, the spurt gun is a small disposable pistol that fires 200 small ceramic balls in a single burst, becoming very hot in the process. The firer takes one point of Lifeblood damage if the weapon is dropped immediately after firing, and 1d3 more if he keeps hold of it. After firing, the spurt gun is effectively destroyed and useless.

## TL13 WEAPONS

**Gauss Flamer:** An alternative to the standard flame weapon, the gauss flamer (also known as a Gauss-Thermite Superflamer, or GTS) accelerates metallic flechettes to high speed and ignites them, creating a cone of incredible heat. Spread is somewhat erratic however. For this and other reasons, plasma weapons are generally preferred.

**Gauss Pistol:** An advanced weapon using electrometric acceleration to propel metal darts, the gauss pistol is a common sidearm in high-tech military forces. The detachable magazine

contains a battery to power the weapon, which can be reloaded in one combat round. Gauss pistols can use semi-automatic or burst fire modes.

**Gauss Shotgun:** A high-tech close assault weapon using gauss technology to launch bundles of needles in the manner of an assault shotgun. Range is short but the effects are deadly.

**PGMP-13:** Designed to be used exclusively with battle dress armor. The strength enhancement units of the armor serve as a recoil carriage, allowing the weapon to be fired each round. Damage is reduced to one-half at 5-7 range bands, and one-quarter at 8 range bands or more.

## TL14 WEAPONS

**Fusion Gun, Man Portable (FGMP-14):** Similar in design and function to the PGMP, differing only in that it contains the plasma slightly longer until a fusion reaction begins to take place. The weapon is therefore somewhat more powerful than a plasma gun, and may only be used by individuals wearing battle dress. May still only be fired once every two rounds. Damage is reduced to one-half at 5-7 range bands, and one-quarter at 8 range bands or more.

**PGMP-14:** The ultimate development of the plasma gun, the PGMP-14 incorporates a gravitic field generator that provides near total recoil compensation. This enables personnel not in powered armor to both carry and fire the weapon every round. The weight listed before the slash is the weight of the weapon with the gravity field generator off, the weight listed after the slash is with the gravity field generator on. Damage is reduced to one-half at 5-7 range bands, and one-quarter at 8 range bands or more.

## TL15 WEAPONS

**FGMP-15:** Incorporates a gravitic field generator similar to that used on the PGMP-14, allowing use by firer's wearing non-powered armor every round. The weight listed before the slash is the weight of the weapon with the gravity field generator off, the weight listed after the slash is with the gravity field generator on. Damage is reduced to one-half at 5-7 range bands, and one-quarter at 8 range bands or more.

## NON-STANDARD AMMUNITION

In addition to the standard ammunition available for weapons, some weapons may use the following non-standard ammunition:

**Flechette Rounds:** These rounds break apart in flight releasing numerous small, sharp shards of metal, increasing the chance of hitting the target, (+2) but inflicting considerably less damage (replace each damage die, of any type, with 1d4). Flechette rounds are useless against armored opponents. Cost is x2 per round.

**High-Explosive (HE) Rounds:** These rounds are designed to explode once they penetrate a target, inflicting +1 die of damage. Cost is x10 per round.

**Armor Piercing (AP) Rounds:** As the name implies, these rounds are specifically designed to penetrate ballistic cloth and other types of armor. Reduce the target's AC bonus for any natural or manufactured armor by -1 per penetration bonus of the round. Cost is (x 3 plus x1 per penetration bonus of the round). For example a +2 AP round has a penetration bonus of 2 and cost 5 times (x3 +x2) the normal price of a round for the given weapon. Armor-piercing ammunition intended for rifle and carbine weapons can have a bonus equal to half the tech level it was manufactured at, rounding fractions up. Handgun and SMG rounds may have a maximum AP bonus of 1/4 the TL the ammunition was manufactured at, rounding up. Standard AP rounds are not useful in snub weapons, so HEAP is used



instead.

**Tranquilizer Rounds:** The target must make a Fortitude save vs. DC15 or fall unconscious. Save is made at +1 DC per round hitting the target.

**Buckshot:** Buckshot has a very short range but is highly lethal. At up to 3 meters, buckshot will hit any single target for 3d6 damage. At up to 6 meters, it will hit any single target for 2d6 damage. Beyond 6 meters, buckshot inflicts 1d6 damage on anyone in a 2 meter wide path out to its maximum range. However, buckshot ammunition penetrates very poorly and suffers a penalty against armor of -2 PV (and an additional -1 PV per range band after the first in addition to normal range penalties).

**HEAP:** High-explosive armor piercing ammunition is available for snub weapons. It is designed to offset the low velocity of the round with a shaped explosive effect, enabling snub weapons to punch through armor. Treat snub HEAP as standard AP fired from a normal handgun, but maximum bonus is equal to half the TL of the round, rounding fractions up. Cost is x20 per round.

**Stunbag or Baton:** Available for shotguns and dischargers, stunbag rounds cost x3 per round, and deliver their damage to Stamina rather than Lifeblood.

### AMMUNITION PERMITS

No special permits are required for most ammunition types; they are legal where the weapon that uses them is legal.

Snub HEAP rounds require a Category 3 (paramilitary) permit, since they can penetrate light armor.

Armor-piercing rounds require a permit according to their capability:

- **Up to +3:** Category 3 (paramilitary)
- **+3 to +6:** Category 4 (military)
- **+7 or more:** Category 5 (military)
- **High-Explosive Rounds** require a Category 4 (military) permit.

### ACCESSORIES

The following special accessories are generally available for the various weapons.

**Telescopic Sights** (800 grams; Cr200; TL6): High-quality telescopic sights for attachment to weapons, for increasing their accuracy, especially at longer ranges. A weapon equipped with such sights effectively doubles its normal range increment.

Telescopic sights are delicate, however, and may be jarred out of alignment by any violent action (such as being left untended in a moving truck, a close explosion, or being dropped) on a basic check (DC12). When the sights go out of adjustment, the basic throw to hit should not be revealed to the firer, and he or she will always miss.

**Electronic Sights** (1,500 grams; Cr2000; TL9): Electronic sights with image enhancement and light intensifications capabilities are available to provide the capability to see and hit in the dark. Treat any low-light conditions as normal lighting for weapons equipped with such sights. These sights are treated like telescopic sights for damage and reliability, and function similarly, but do not increase the weapon's range increment.

**Electronic Telescopic Sights** (1800 grams; Cr3000; TL9) Electronic sights combining the capabilities of both electronic and telescopic sights. They are still rather fragile.

**Toughened Sights:** Ruggedized versions of these sights are available at one tech level higher, and at 1.5 x the cost. Ruggedized sights of this sort are extremely tough; they can be used to hit someone over the head and will remain accurate.

**Pistol Silencer** (600 grams; Cr200; TL6): Devices are available which will muffle or eliminate the sound of guns firing,

but so far they have proven practical only when applied to body pistols, a very small number of specially made revolvers, automatic pistols and submachine-guns. A silencer attaches to the muzzle of the pistol, increasing its total length, and making it impossible to holster until the silencer is removed. Silencers are not interchangeable; one must be purchased for each specific model of pistol used.

**Rifle Suppressor** (1kg; Cr500). It is possible to more or less silence a rifle, though this requires dropping the muzzle velocity to subsonic levels, which imposes a reduction in damage of -1 point per die. Special ammunition must be used, which costs double the price of normal ball rounds.

**Shoulder Stocks** (1,000 grams; Cr75; TL5): It is possible to produce a shoulder stock that may be attached temporarily to a pistol or revolver, resulting in a crude carbine arrangement and some greater accuracy at longer ranges. Ignore the first range penalty incurred when firing a pistol or revolver equipped with such a stock. The overall length of the pistol is increased by the length of the stock, and the pistol cannot be holstered. Attaching the stock (or detaching it) requires five combat rounds.

**Folding Stocks** (500 grams; Cr100; TL6): Carbines, rifles, and shotguns can be equipped with folding stocks which make it possible to reduce the overall length of the weapon by 300mm.

**Laser Dot Pointer:** A small laser projector can be built into a projectile weapon to indicate where the round will be placed. This costs Cr250 per weapon so converted. Weight is negligible. A dot pointer gives a +2 bonus to hit within the weapon's first range increment.

**HUD Conversion:** A weapon can be converted so that a reticle showing where its projectile is aimed can be displayed on a personal Heads-Up Display unit. Converting a weapon in this manner takes 1 hour and costs Cr500 in addition to the price of the HUD. The conversion has negligible weight. A HUD gives a +3 bonus to hit at all ranges, but is not compatible with other aiming systems such as telescopic sights or a laser dot pointer.

### MISSILES, GRENADES AND EXPLOSIVES

Explosives and other devices can be propelled to their target by a variety of means. They can be thrown, launched as indirect projectiles by a launcher, accelerated some of the way by a rocket or similar engine, and in some cases can be guided to their target by various means. They are military weapons, and are legal for military/police use only except at the lowest law levels.

#### HAND GRENADES

The majority of grenades are hand-thrown. At lower tech levels (up to 9) they are mechanically fused. The normal mode of operation is to have dual trigger. The user removes a safety pin, holding down a spring-loaded lever or "spoon" while the grenade is held. Once it is thrown, the lever is no longer held in place and the fuse (normally 2-5 seconds) is initiated. After the preset delay, the grenade bursts or ignites. Pins can be reinserted, making the grenade safe, so long as the lever has not been released.

At TL9 and above, electronic fusing is standard. This electronic version of the pin and fuse allows grenades to be set for a time delay between 1-10 seconds after throwing. Again, a spring-loaded lever is normally used to prevent accidental discharges. A more sophisticated Multimode Fusing System is available, which doubles the cost of the grenade and raises the accident rate under combat conditions somewhat. With MFS, a grenade can be set for timed delay, or to explode on impact (there is a short "arming" distance in case the grenade is dropped, but this is not 100% reliable). Impact fusing is very hazardous to the user. Long-delay timed fusing is also possible, as is "trembler" fusing, which allows a primed grenade to be left behind as a

booby trap, to detonate if it is disturbed. Finally, MFS grenades can be part of a remote-controlled defensive system, detonated at will from a central command position.

Hand grenades are available in all types except HEAP, Parachute Flare, Baton and Multiple Projectile.

## LAUNCHED GRENADES

Grenades fired from a launcher are sent on their way by a charge in the same manner as a bullet. After that they are unpowered and unguided, traveling in a high arc to drop onto the target. Grenade launchers can be standalone weapons, fitted under a rifle, or even belt-fed support weapons. Launched grenades have a minimum safe distance within which they will not arm. The unarmed grenade is still a heavy object moving fast, and will do 2d6 damage to anyone stuck by it. The projectiles fired from the Infantry Recoilless can be considered to the launched grenades, though their trajectory is not so high.

Grenades designed to be launched in this manner include all types listed below.

## ROCKET ASSISTED MULTI-PURPOSE (RAM) GRENADES

RAM grenades have a built-in booster system, which ignites upon firing, vastly increasing the velocity (and thus the range) of the round. RAM grenades may be fired from special launchers and as rifle grenades from the ACR and the gauss rifle. RAM grenades are available in most types: Flechette/Fragmentation, HEAP, Smoke, Tranquilizer, Incendiary, Baton, Multiple Projectile, Illuminating and Aerosol.

## ROCKETS AND MISSILES

Some weapons launch a missile with a warhead equivalent to a RAM grenade, but moving in a flatter trajectory propelled by rockets, and guided to the target. Missiles are guided in various ways: operator-guidance, heat-seeking and radar-seeking are common. Some are designed to home in on the spot "painted" by a laser designator, which can allow the missile to be launched in an indirect trajectory and to then receive targeting information while in flight. At higher tech levels, multimode target seeking is common, whereby the missile uses more than one seeker mode to improve accuracy and resistance to countermeasures.

Unless noted otherwise, the warhead of a battlefield missile should be considered to be the same as that of a RAM grenade. For guided missiles in combat, see the Combat chapter.

## WARHEADS AND EXPLOSIVES

When a grenade or other explosive is set off, its effects are spread out over a given radius from where it landed. Anything within the blast radius is automatically hit. Those affected may attempt a Reflex saving throw to take only half damage (this does not apply to vehicles or ships).

### Grenade Warheads

	Dmg	Blast Radius	Range Increment	Weight	Cost
Plastic Explosive	1d20	1.5 m	-	250g	Cr5
TDX	4d6	6 m	6 m	1kg	Cr150
Flechette/ Fragmentation	6d6	6 m	3 m	1kg	Cr12 Cr200
HEAP	4d6	3 m	3 m	1kg	Cr15 Cr240
Smoke	*	6 m	3 m	1kg	Cr10 Cr160
Tranquilizer	*	6 m	3 m	1kg	Cr25 Cr400

Aerosol	*	6 m	3 m	1kg	Cr12 Cr200
Incendiary	1d6 <sup>(1)</sup>	1.5 m	*	1kg	Cr10 Cr160
Illuminating	*	-	*	1kg	Cr10 Cr160
Flashbang	*	1.5 m	3 m	500g	Cr15 Cr240
Baton/Stunbag	6d6 <sup>(2)</sup>	-	-	1kg	Cr10 Cr160
Multiple Projectile	4d8 <sup>(3)</sup>	-	*	1kg	Cr15 Cr240

<sup>(1)</sup> Incendiary rounds inflict this damage each round the target is exposed

<sup>(2)</sup> Stamina Damage only

<sup>(3)</sup> Treat as a shotgun – 4d8 damage out to 3m, then 3d8 to 6m, 2d8 to 9m and 1d8 to 12m

\* The range increment of launched grenades depends upon the launcher, not the payload.

**Plastic Explosive:** Because of its nature, plastic explosive may be molded and shaped allowing the user to direct and control to a fair degree the force of the blast. It cannot be used on its own as a grenade, since it needs a detonator. See Demolitions for more information.

**TDX:** A gravitationally polarized explosive. Unlike conventional explosives, TDX expends its energy only along the horizontal plane of the blast. For example, a TDX explosive set 1 meter off the ground would inflict its damage on anything within its blast radius that is also at a height of 1 meter. Objects above or below this level would not be affected. Because of this effect, TDX is quite useful at tasks such as felling trees, cutting the supports of a bridge or trestle, etc. Anyone caught in the blast radius may make a Reflex save (DC15) to take no damage.

**Flechette/Fragmentation:** This is the standard anti-personal grenade, inflicting 6d6 damage against any targets within a 6-meter blast radius. Anyone caught in the blast radius may make a Reflex save (DC 15) to take half damage.

**HEAP:** High Explosive Armor Piercing grenades. They have a smaller blast radius, but give you more bang for your buck and are designed to penetrate heavy armor. Reduce the target's AC bonus for natural or manufactured armor by 5. Anyone caught in the blast radius may make a Reflex save (DC 15) to take half damage.

**Smoke:** This grenade releases a thick cloud of smoke that rapidly engulfs a 6-meter radius, reducing visibility down to ½ meter. This effectively gives everyone in the cloud a 90% Concealment modifier (+8 to Defense). The cloud will persist for 1d3+6 rounds (1d3+1 in windy conditions).

**Tranquilizer:** Anyone caught in the 6-meter blast radius of a Tranq grenade must make a Fortitude save (DC 15) or immediately fall unconscious. This save must be made each round the character remains within the blast radius of the grenade and the gas persists. The gas will persist for 1d3+6 rounds (1d3+1 in windy conditions).

**Aerosol:** These grenades release an anti-laser aerosol that will impose a –4 to hit modifier for anyone using a laser weapon within the grenade's blast radius. The aerosol will persist for 1d6+6 rounds (1d3+3 in windy conditions).

**Incendiary:** Incendiary grenades burn hotly for 10 to 20 seconds, and will cause flammable material close by to catch fire. The incendiary effect has no effect on hardened structures like bunkers or the outer hull of an armored vehicle or starship, but will damage the internal components of such a vehicle if it is set off inside. Personnel not in combat armor, combat environment

suit or battle dress will take 3d6 damage every round they remain within a 2-meter radius of a burning grenade. Anyone within 4 meters takes 1d6 damage per round. Non-sealed armor does not protect against this damage. Vac suits will protect in the outer radius, but cannot stand up to the intense heat in the inner radius. A vac suit will absorb one die of damage per AR it possesses, and then be destroyed.

**Illuminating/Flare:** Illuminating grenades are designed to shed light over an area. RAM and launcher types are designed to be fired into the air and descend on a parachute (this is only useful where there is an atmosphere). Hand flare grenades are thrown or placed on the ground. The light created by such means is brighter than daylight, but it is harsh and casts stark shadows that can confuse the eye. Treat a scene lit by an overhead flare as normal daylight, and one lit by ground flares as twilight. Thermal and light-intensification equipment is designed to cut out and protect the user's eye, so these grenades cannot be used to blind the enemy, though they will make advanced sighting gear less useful and thus level the playing field for those without it. Flare grenades do burn, and will cause fires in flammable material. Anyone within 1m of a burning flare will take 1d4 damage per round unless wearing sealed armor (including vac suits).

**Flashbang:** Used for training purposes and for close assault, flashbangs are non-lethal grenades that burst with a loud noise and a bright flash. They are intended to stun opponents for a moment to gain an advantage. An alternative version, which has little flash but an impressive noise, is referred to as a Concussion grenade. The effects of both are similar. Anyone within 3m of a flashbang, who is not in sealed armor or protected by, say, an intervening wall, must make a DC20 Fortitude save or be stunned for 1d3 rounds. Those who do save are considered to be flat-footed for the remainder of the round and all of the next.

**Baton/Stunbat:** Only available for launchers, baton rounds allow the user to deliver a non-lethal attack. Anyone hit by a baton round takes 2d8 Stamina damage and in addition must make a Reflex save at DC 15 to avoid being knocked down. Specialist launchers ("Thud Guns") that can only fire baton rounds exist and are used by riot and security forces.

**Multiple Projectile:** Multiple Projectile grenades are only available for a tube grenade launcher. They are in effect a giant shotgun shell used for riot work and room clearance. The projectiles have a base range of 3m, like a shotgun. Damage is 5d6 at this distance, dropping by 1d6 per 3m the target is from the weapon. A multiple projectile grenade has a cone effect. Targets directly in front of the grenade are attacked at +2 to hit. Anyone within 1m of a target that is hit may be subject to a secondary attack. Roll to hit at -2; damage is 2d6 less than in the primary attack zone. Thus the secondary zone is dangerous out to 9m, after which the projectiles are too dispersed to hit anything.

### Missile Warheads

Type	Blast Damage	Radius	Weight	Cost
TL6 High Explosive	6d8	6m	10kg	Cr250
TL8 Shaped Charge	6d10	1m	5kg	Cr1000
TL8 Bomblets	6d10	10m	5kg	Cr500
TL10 Shaped Charge	8d10	1m	3kg	Cr2000
TL12 Plasma	10d12	15m	5kg	Cr3500
TL12 Directed Plasma	10d12	1m	7kg	Cr5000

Micronuclear	*	250m	15kg	*
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\* Micronukes are not normally available on the open market. Anything within the primary blast radius is destroyed. Out to 500m, damage is 10d20 (Reflex save for half). Damage is reduced by 1d20 per full 50m beyond that (i.e. 8d20 at 600m, 2d20 at 1,000m).

## FLAME WEAPONS

Flame weapons are by definition area-effect weapons. A single shot from a flame weapon can sweep an area 5m across (3m for a hand flamer) and attacks every target in the swept area at +5 to hit. It is not possible to select targets, miss out a given target, or make a called shot with a flame weapon. All targets may make a Reflex save at DC20 to take only half damage.

The fuel used in a flame weapon is designed to stick to the target and burn for some time; it carries its own oxygen and will thus burn underwater or even in a vacuum. In normal atmospheres, a flame weapon uses up the oxygen in a confined space and can suffocate those it does not burn alive.

When a target is struck by a flame weapon, it catches fire. Every subsequent round, damage is halved (dropping fractions) until it reaches zero. At that point the fire is out. If a target is hit by multiple flamethrowers, he takes only from the highest amount of damage that round. The residual damage caused by fire is determined by the highest amount of flame damage the character has suffered to that point.

*Example: Jonny Merc is hit by a hand flamer for 11 points of damage. Next round, he is on fire. He should take 5 more points (half of 11, rounded down) from residual fire, but he is hit again, this time for 16 points. Even with a successful Reflex save, this is 8 points. Jonny's damage on round 3 is 4 (half of 8, rounded down) because until he takes more flame damage from an initial hit, his highest damage so far determines how much he takes each round.*

*On round 4, Jonny would take 2 points, but the flamer operator hoses him again for 11 points. Jonny fails his Reflex save and takes full damage. Another flamer hits Jonny for 7 points, but this is less than 11 so it's irrelevant.*

*On round 5, Jonny is on fire again, suffering 5 points, unless the flamer twins open up again. Of course, by this time Jonny is probably a charred corpse....*

Armor is less effective against flames than other types of weapon. It reduces damage by half its AR, though AC is unaffected. The exception is sealed environmentally-controlled armor such as combat armor or a vac suit. Such protection counts at its full value. A reflex suit adds +1 to AR against flames, as it is slightly useful as a heat-suit. Battle dress is immune to flame weapons so long as it remains properly sealed.

If a character using a flame weapon is hit by an enemy weapon, there is a 1 in 10 chance that the fuel tank will be ruptured and the character will take a single hit from his own weapon, which is now ruined. This chance is reduced to 1 in 20 for gauss flamers.

## ARMOR

Armor reduces the amount of damage a character takes from a hit, based on the type of armor worn. The rating for a set of armor is equal to the damage dice reduction value of the armor in combat when you are hit.

### TLO ARMOR

**Hide:** This armor is prepared from multiple layers of leather and animal hides. It is stiff and difficult to move in.



## TL1 ARMOR

**Breastplate:** A breastplate covers the front and back. It comes with a helmet and matching greaves (plates to cover the lower legs). A light suit or skirt of studded leather beneath the breastplate protects limbs without restricting movement much.

**Leather:** The breastplate and shoulder protectors of this armor are made of leather that has been stiffened by boiling in oil. The rest of the armor is softer and more flexible leather.

**Padded:** Padded armor features quilted layers of cloth and batting.

**Studded Leather:** This armor is made from tough but flexible leather (not hardened leather as with normal leather armor) reinforced with close-set metal rivets.

**Scale Mail:** This is a coat and leggings (and perhaps a separate skirt) of leather covered with overlapping pieces of metal, much like the scales of a fish. It includes gauntlets.

## TL2 ARMOR

**Banded Mail:** This armor is made of overlapping strips of metal sewn to a backing of leather and chainmail. The strips cover vulnerable areas, while the chain and leather protect the joints and provide freedom of movement. Straps and buckles distribute the weight evenly. It includes gauntlets.

**Chain Shirt:** A shirt of chainmail protects the torso while leaving the limbs free and mobile. A layer of quilted fabric underneath it prevents chafing and cushions the impact of blows. It comes with a steel cap.

**Chainmail:** This armor is made of interlocking metal rings. It includes a layer of quilted fabric underneath it to prevent chafing and to cushion the impact of blows. Several layers of mail are hung over vital areas. Most of the armor's weight hangs from the shoulders, making chainmail uncomfortable to wear for long periods of time. It includes gauntlets.

**Full Plate:** This armor consists of shaped and fitted metal plates riveted and interlocked to cover the entire body. It includes gauntlets, heavy leather boots, and a visored helmet. Buckles and straps distribute the weight over the body, so full plate hampers movement less than splint mail even though splint is lighter. Full plate is also known as field plate.

**Half-Plate:** This armor is a combination of chainmail with metal plates (breastplate, epaulettes, elbow guards, gauntlets, tassets, and greaves) covering vital areas. Buckles and straps hold the whole suit together and distribute the weight, but the armor still hangs more loosely than full plate. It includes gauntlets.

**Splint Mail:** This armor is made of narrow vertical strips of metal riveted to a backing of leather that is worn over cloth padding. Flexible chainmail protects the joints. It includes gauntlets.

## TL5 ARMOR

**Jack:** A natural (cured) or synthetic leather jacket or body suit covering the torso and upper arms and legs. Jack is somewhat better than ordinary clothing or bare skin when defending against blades. It has no value against firearms or lasers.

## TL6 ARMOR

**Cloth:** A heavy-duty body suit tailored from ballistic cloth, containing light metal or ceramic plates at critical points. The fabric absorbs impact energy, distributing the blow over the body of the target and possibly resulting in bruising. Cloth armor is almost the best and the most versatile modern armor available. This early version is effective, but somewhat cumbersome.

## TL7 ARMOR

**Slash:** Slash is tough material designed to prevent melee

weapons from penetrating. Its AR of 1 is applicable only against blades, flechettes, grenade fragments, impaling melee weapons and low-velocity projectiles like arrows. It is totally ineffective against high-velocity projectiles (bullets), lasers, and bludgeoning weapons. It does work against shotgun buckshot. Slash can be built into normal civilian clothing, and disguised as such, for double the cost. Many items of utility wear (e.g. engineers' coveralls) are made from this material at TL9+ as a matter of workplace safety.

**Flak Jacket:** A less expensive military version of ballistic cloth armor, generally only covering the torso and groin.

**Mesh:** A jacket or body suit made of natural or synthetic leather and reinforced with a lining of flexible metal mesh, similar to chain mail but lighter and stronger. Mesh reduces or stops penetration by blades and has some effectiveness against guns; it is ineffective against laser fire.

## TL8 ARMOR

**Flex:** Sometimes known as Enhanced Cloth, Flex armor uses a base of Cloth onto which heavy ceramic or metal plates are added, to create a "bulletproof breastplate." This improves protection but at the expense of weight and bulk. The resulting armor is as good as combat armor for stopping bullets, but less versatile as it can only cover the torso and cannot be sealed against vacuum, gas or flames. A complete suit of Flex would restrict the user so much as to be virtually useless in combat conditions, and would still be vulnerable at the joints. If the user does not need to move quickly, a full suit could be worn (at triple the cost and weight), but the applications of such a suit are limited to static functions such as Explosive Ordnance Disposal as the user can only waddle along at 3m per round.

## TL9 ARMOR

**Ablat:** Ablat is a cheap alternative to reflect, and is fashioned from a material that will ablate (vaporize) when hit by laser fire. The ablation of the material carries away the energy of the laser, and protects the wearer. Continued fire against ablat degrades its effectiveness, but the armor is cheap and easily replaceable. Ablat also has some value against other forms of attack.

**Vac Suit:** The personal vacuum or space suit is designed to protect the individual from vacuum, tainted or noxious atmospheres, and some radiation situations. It carries its own communicators, oxygen tanks for six hours, and other basic survival appurtenances. Use of a vac suit requires Armor Proficiency (Vac Suit). Being armored against space debris and similar hazards, a vac suit acts much like cloth armor when subject to attacks. Vac suits are relatively bulky, and weigh 10 kilograms; the weight counts against personal weight allowances. This weight is reduced 2 kilograms per tech level as the suit gains increasing sophistication. For example, a TL10 vac suit weighs 6 kilograms, and a vac suit at tech level 13+ adds no apparent weight.

**Light Cloth:** Advanced materials allow a very light version of Cloth armor to be constructed. While not as good as regular cloth, Light Cloth can be tailored into what appear to be normal clothes, making it difficult to detect. For this reason it is sometimes known as "diplo" (diplomatic) armor. Light Cloth is good against all weapons.

**Advanced Cloth:** More advanced materials make standard Cloth armor slightly less bulky at higher tech levels. Even without insert plates, Advanced Cloth offers excellent ballistic protection, balanced against good freedom of movement.

## TL10 ARMOR

**Combat Environment Suit:** A neck to toe air-tight, loose fitting suit constructed of ballistic cloth. Generally worn open at the neck and wrists, the combat environment suit can be sealed

by donning gauntlets and a clear flexible plastic head bag, thus giving complete protection against most chemical agents, tainted atmospheres, biological agents, and a moderate defense against radiation.

**Reflec:** Reflective material on a plastic base can be tailored into a body suit that is ineffective against most weapons, but superior in defense against laser fire. Unlike other forms of armor, reflec is worn under other clothing. Reflec is expensive and often difficult to obtain.

**Advanced Flex:** Advanced materials make a lighter version of Flex armor possible at higher tech levels. Advanced Flex is still bulky but it does offer excellent protection for assault troops and similar heavy-combat units. Normally only the torso is protected, but for double the cost a full-body kit is available. This is an Advanced Cloth suit with an Advanced Flex breastplate and limb protectors. The suit is bulky in the extreme; max DEX bonus is 0 and armor check penalty is -7.

### TL11 ARMOR

**Combat Armor:** Combat armor is a complete vac suit-like array of metal and synthetic armor. Combat armor is strictly military and not available on the open market; it is issued to troop units and elite mercenary battalions. Before combat armor can be worn, the user must have the Armor Proficiency (Vac Suit) feat.

### TL12 ARMOR

**Chameleon:** This technology can be applied to any vac suit, combat environment suit, combat armor, or battle dress. It is designed to mimic the color, temperature, and shading of the wearer's current physical environment, helping to render them difficult to track by both the naked eye and IR systems. First available at TL12, a more advanced version becomes available at TL14.

**Hostile Environment Suit:** A hardened version of the vac suit, offering heavier protection from the elements and physical damage in hostile environments such as nearby volcanic activity or within a corrosive. Hostile environment suits are heavier and more expensive than combat armor, but nearly as effective and available to the general public.

### TL13 ARMOR

**Battle Dress:** The ultimate in individual protection, battle dress is an advanced and powered version of combat armor. Battle dress enhances the strength and senses of individuals wearing it with variable feedback personal controls, servo-powered limbs, and various kinds of electronic assistance. Rather than being listed under the armor tables, battle dress is actually considered a vehicle and is detailed as such.

### TL14 ARMOR

**Tailored Vac Suit:** A tailored vac suit is very much what it sounds. Made of a lightweight but strong material, the suit is tailored to the user allowing for a more comfortable fit and allowing the wearing much more freedom of mobility than with a standard vac suit. A tailored vac suit may not be used by anyone other than the person it was tailored to fit.

## SHIELDS

**Buckler:** This small metal shield is strapped to the forearm, allowing it to be worn and still use the hand. A firearm, bow or crossbow can be used without penalty. An off-hand weapon can be used, but a -1 penalty on attack rolls is imposed because of the extra weight on your arm. This penalty stacks with those for fighting with the off hand and, if appropriate, for fighting with two

weapons. In any case, if a weapon is used in the off-hand, the character doesn't get the buckler's AC bonus for the rest of the round.

**Small Shield:** A small shield's light weight lets a character carry other items in that hand (although the character cannot use weapons).

**Large Shield:** A large shield is too heavy to use the shield hand for anything else.

**Tower Shield:** This massive wooden shield is nearly as tall as the wielder. Basically, it is a portable wall meant to provide cover. It can provide up to total cover, depending on how far a character comes out from behind it.

## HELMS AND HELMETS

Characters wearing body armor can normally be assumed to be wearing appropriate headgear, and most attacks hit the torso anyway. However, it may sometimes become important to know what sort of helmet a character is wearing. Complete suits of armor (plate, combat armor, and vac suits) of course include a helmet that matches the rest of the suit. Indeed, without such a helmet, many of the benefits of the armor are lost. Combat environment suits, combat armor and vac suits will not provide protection against vacuum, gas, smoke, heat etc without being "buttoned up" with an appropriate helmet in place.

Some kinds of headgear are only really effective against a melee attack. Archaic armor and certain security products fit into this category.

### TL0 HELMS

**Cap/Hood:** A hat, hood or cap made from tough hide or leather offers a little protection against melee attacks. Examples include primitive hunters' headgear, a TL3 solder's shako, or a paranoid traveller's extra-stout leather hat.

### TL1 HELMS

**Leather Helm:** A helm constructed of leather on a metal frame, possibly with some metal reinforcement, offers reasonable melee protection. It is useless against modern weapons.

### TL2 HELMS

**Open Helm:** An open-face helm constructed mainly of metal, or a chainmail coif, offers good melee protection.

**Closed Helm:** Adding cheekpieces and a nasal bar increases the protective capabilities of a helm.

**Full Helm:** A very solid, completely enclosed helm offers excellent melee protection and might even deflect bullets.

**Great Helm:** A massive helm of thick metal construction, Great Helms are often designed to resist early firearms, and offer some protection against more modern weapons.

### TL5 HELMETS

**Steel Helmet:** A simple metal headpiece offers basic protection against shell fragments and projectiles.

### TL6 HELMETS

**Skullcap:** A metal insert in an otherwise ordinary cap or hat offers some protection against overhead melee attacks, but is of no value against projectiles. An industrial hard hat has identical characteristics.

### TL7 HELMETS

**Ballistic Helmet:** An advanced version of the Steel Helmet using metal and ceramic components, the Ballistic Helmet offers good protection and is a standard item of infantry equipment.

## TL8 HELMETS

**Security Helmet:** An advanced, lightweight helmet with a face guard, used by riot police and security guards to protect against melee attacks. The security helmet does give some protection against projectiles. Safety helmets used by aircraft and grav-bike (and motorcycle) pilots have similar characteristics.

## TL9 HELMETS

**Flex Helmet:** A highly advanced infantry helmet constructed of advanced lightweight materials, the Flex Helmet is often paired up with a Flex body protector for heavy combat duty.

# EQUIPMENT

The following section lists examples of common equipment. Given the enormous number of variations in design, alternate technologies and the possibility of manufacturing a given item at higher or lower tech levels, it is impossible to list specifics of every possible piece of equipment. The objects below are presented as indications of common qualities and values.

Each listing notes the object's name, followed by its technological level, a price in credits, and a basic description. The technological level indicates local technology required to manufacture something with the capabilities listed. Price and weight are for an item manufactured by an interstellar society of tech level 10-15; items produced at lower tech levels will probably be bulkier and more expensive. An item with no weight or size given can be carried or worn without difficulty. Additional explanation is given where necessary.

## EQUIPMENT DESCRIPTIONS

Equipment is presented here by the TL at which it first becomes available. Higher-tech versions of various items may be available bringing in some cases greater capability, smaller size or lighter weight. Other items improve very little after their initial introduction.

### TL0 EQUIPMENT

**First Aid Kit:** At TL0, a first aid kit consists of little more than material for a splint, and a few herbs and plants that are reputed to have medicinal qualities, but it is better than nothing. At higher tech levels, the quality of materials and drugs included in the kit improves significantly, greatly increasing the odds of successful treatment. Higher tech kits cost considerably more.

**TABLE: First Aid Kits**

<i>Tech Level</i>	<i>Cost</i>	<i>Medical DC Modifier</i>
TL0-3	Cr100	+2
TL4-7	Cr125	+/-0
TL8-12	Cr250	-2
TL13-15	Cr500	-4
TL16+	Cr2000	-6

### TL1 EQUIPMENT

**Cold Weather Clothing, Basic:** Protects against frigid weather (-20° Celsius or below). Adds a +5 circumstance bonus to all Fortitude saves against cold weather exposure. Reduce the weight by 1 kilogram for every 5 TL.

**Snowshoes:** A pair of wide shoes designed to spread the user's weight and make walking on soft surfaces like snow or volcanic dust safer.

**Surgical Kit:** Tools for performing surgery, including scalpels,

saws and forceps. At low tech levels, the kit is rather basic but fulfils the same functions as its more advanced cousins. Any kit at all offsets the No Surgical Tools penalty. Higher-tech kits give a bonus to perform surgery. The kit does not include anesthetics or other drugs.

**TABLE: Surgery Kits**

<i>Tech Level</i>	<i>Cost</i>	<i>Medical DC Modifier</i>
TL1-2	Cr150	+5
TL3-4	Cr250	+3
TL5-7	Cr1000	+/-0
TL8-10	Cr2000	-3
TL11+	Cr5000	-5

**Survival Kit, Personal:** A small backpack or belt pack containing personal survival equipment. Higher-tech versions include more advanced equipment, but basic functionality is the same. Contents include:

- Small knife
- Fire-starting equipment
- Blanket/poncho
- 4 days' preserved rations
- Water bottle
- Compass
- Light cord or string
- Mirror
- Water purification tablets
- Survival manual

**Tarpaulin:** A canvas or waterproof cloth sheet used to create a temporary shelter 2 by 4 meters. Protects against precipitation and can withstand light winds.

**Torches:** Flammable material on a handle or stick of some kind. A torch will last about one hour and illuminate 6-meter radius, producing a thick, heavy smoke.

### TL2 EQUIPMENT

**Gas or Oil Lamp:** A lamp lasts about 6 hours on a half-liter of oil or gas, and will illuminate a 5-meter radius to the equivalent of normal daylight. The fuel poses a fire hazard if spilled.

**Grapnel and Cable:** A hooked device used to attach a rope for climbing purposes, plus 10m of stout cord. Grapnels can be thrown or propelled by a launcher. Getting one to attach requires a DEX check. DC depends upon the surface – DC10 for a rugged rockface, wall or tree, higher for smooth surfaces or when trying to get the grapnel to bite into soil.

**Handcuffs:** Higher tech levels produce stronger and lighter designs. To slip out of a pair of handcuffs requires a Dexterity check (DC25). To break a pair of handcuffs requires a successful Strength check (DC25 +1 per 2 TL). To pick a mechanical lock requires a successful T/Mechanical skill check (DC20 +1 per TL), while electronic locks require a successful T/Electronics skill check (DC25 +1 per TL over TL9). Apply a –4 circumstance penalty if the person wearing the cuffs attempts to pick the lock.

**Piton Hammer:** A small hammer used for hammering pitons into rock.

**Tent:** Basic shelter for two persons offering protection from precipitation, storms, and temperatures down to 0° Celsius, and withstanding light to moderate winds. Larger, more elaborate tents capable of sheltering more people, or resisting higher winds or colder temperatures weigh and cost more.

**Tool Set, Woodworking:** Includes basic tools necessary to cut, shape and build with wood. Required for the use of the Craft



skill when working with wood, without suffering a –2 circumstance penalty.

### TL3 EQUIPMENT

**Axe, Ice:** A small axe optimized for digging into ice when climbing. Gives a +3 circumstance bonus when climbing on ice or trying to halt a slide. Treat as a Hatchet in combat.

**Backpack:** A basic carrying bag with shoulder straps and external pockets. From TL6, backpacks are more waterproof; enough to keep the contents dry during a brief immersion if properly sealed. At TL7 and for Cr150, a “Bivvy Pack” is available, which includes a waterproof blanket and hood that fold out of the lining, allowing the emptied pack to be used as a sleeping bag or ready-made bivouac.

**Binoculars, Optical:** Binoculars magnify the appearance of objects being viewed through them, effectively increasing the visual range of the user. The effective field of view is reduced however as the magnification increases. Price stays the same across tech levels, though the weight may be reduced through the use of lighter weight components.

TABLE: Binocular Magnification

Tech Level	Magnification
TL3-4	x5
TL5-6	x10
TL7-9	x50
TL10-12	x100
TL13+	x1,000

**Boots, Outdoor:** A basic set of hiking boots. Boots can be considered to be AR3 against melee attacks and hazards like punji stakes. Higher-tech books are lighter and tougher, but similar in function.

**Compass, Magnetic:** Indicates direction of magnetic north, if any exists.

**Desert Kit, Individual:** A basic desert outfit including loose-fitting trousers and shirt, a wide-brimmed hat, sunglasses, water bottle and mineral tablets.

**Field Kit, Personal:** A basic field operations and survival kit containing a bush hat, pants, shirt and a warm jerkin, a waterproof poncho/blanket, water bottle, belt pack with fire-starting equipment and 1 day’s (almost inedible) iron rations, and a machete (treat as Blade). Boots must be purchased separately. Above TL6, the kit also includes half a dozen chemical lightsticks.

**Mask, Filter:** A filter set that allows an individual to breathe tainted atmospheres (types 4, 7, and 9). Also protects against the inhalation of heavy smoke or dust.

**Skis:** A set of skis and poles. Skis make travel over snow much faster and less fatiguing.

**Spade/Shovel:** A basic digging tool with many uses.

**Swimming Equipment:** Includes swim fins, face mask and a snorkel. Improves speed and maneuverability underwater; add +2 to all Swim skill checks in these situations when wearing proper swimming equipment.

### TL4 EQUIPMENT

**Chain, Medium:** 10m of moderately heavy chain, suitable for heavy lifting or towing applications, or to anchor a light water vessel.

**Climbing Kit, Basic:** A set of accessories designed to make climbing easier. Includes a safety harness, gloves and rock shoes, belt with secure holders for tools, and head protection.

**Ice Terrain Kit, Personal:** A set of accessories that make crossing ice or climbing icy surfaces a little less hazardous.

Includes crampons for boots, snowshoes, rope and a brightly colored “rescue blanket.” The ice terrain kit does not include clothing.

**Lock Pick Set:** Allows picking of ordinary mechanical locks. Picking a lock takes 3 rounds and requires a successful T/ Mechanical skill check (DC based on the type of lock). Lockpicks are illegal on worlds of law level 8+; on such worlds the cost rises to Cr100 or more.

**Parachute:** A basic parachute kit including harness and reserve chute.

**Pitons:** Metal spikes designed to be hammered into rock crevices to secure a rope for climbing.

**Scientist’s Field Kit:** A basic set of scientific equipment for taking and examining samples. Includes a small microscope, sample containers, gloves etc. A metallurgist’s kit will contain slightly different equipment to that used by a forensic scientist, but the basic cost remains the same. When undertaking field analysis, the TL of a scientist’s equipment will give a circumstance bonus:

TABLE: Scientist Equipment TL Bonus

TL	Bonus
4-5	-2
6-7	+/- 0
8-10	+2
11+	+5

The field kit does not include any electronic sensors or similar complex equipment.

**Tool Set, Excavation:** Basic digging tools; shovels, picks and sledgehammers. Working with improvised tools takes at least four times as long.

**Tool Set, Metalwork:** A basic metalwork kit including cutting, polishing and grinding equipment, necessary for most metal fabrication. Includes basic tools necessary for metalworking, including welding and cutting. Required for the use of the Craft skill when working with metal, without suffering a –2 circumstance penalty.

**Wrist Watch:** A simple timepiece. Price determines quality and functionality.

### TL5 EQUIPMENT

**Bull-Horn:** Amplifies voice allowing it to carry up to half a kilometer away, but is very bulky and awkward to carry.

**Communicator, Medium Range:** A belt-mounted or sling carried radio set capable of up to 30 kilometer range, and contact with official radio channels. Five separate channels. At tech level 7, the unit’s weight drops to 500 grams.

**Communicator, Short Range:** A belt-mounted radio capable of 10 kilometer range (much shorter underground or underwater). Three separate channels. At tech level 7 the unit’s weight drops to 300 grams and it becomes hand-held.

**Cutting Torch:** A basic cutting tool using incandescent gas fed by a heavy canister. Cutting torches are effective against most metals and alloys, but will not work on starship hulls or armored vehicles constructed at TL10 or higher.

**Electric Torch:** The common flashlight. It is battery powered and will last for about 6 hours of continuous use. A torch produces a wide cone of light up to 18 meters long with a radius of 6 meters at the end of the beam. Later TL models have adjustable beams allowing them to also produce a tight beam of light up to 36 meters long, with a 1-meter radius, or be used to illuminate a circle of 10 meter radius.

**Field Medical Kit:** Contains drugs, surgical supplies, and

diagnostic materials for use by doctors and field medics. Reduces the DC required for most T/Medical skill checks. Higher tech level kits cost more but offer a better range of treatment options and quality of care, increasing the odds of successful treatment.

**TABLE: Field Medical Kits**

<i>Tech Level</i>	<i>Cost</i>	<i>Medical DC Modifier</i>
TL5-7	Cr1000	-2
TL8-12	Cr1250	-4
TL13-15	Cr2500	-6
TL16+	Cr5000	-8

**Fire Extinguisher:** A simple handheld firefighting device. More advanced units reduce weight by 0.5 kilogram per TL down to a minimum of 1.5 kilograms, and can be tailored to specific fire types (liquid, electrical, etc).

**Flare, Illuminating:** A small parachute flare designed to be fired from a launcher to illuminate an area. The flare casts harsh, bright light for 1 minute before falling to the ground in a standard or dense atmosphere, half a minute in thin atmosphere. It may start fires if it hits the ground before burning out. A free-standing area-illuminating flare costs Cr50 and burns for 2 hours.

**Flare Launcher:** A simple pistol or tube type launcher for use with signaling or illuminating flares. Used as a weapon, a flare gun is highly inaccurate (-3 to hit at all ranges) and does 1d6 damage only, though it may set flammable objects on fire.

**Flare, Signaling:** A colored flare designed to be highly visible but which casts little light, launched from a flare launcher.

**Goggles/Shades:** Sunglasses or full goggles designed to protect the eyes from damage by bright lights. At TL7, reactive lenses are available that allow the user to keep his shades on while moving from dark to light conditions. At TL9, shades can (for ten times the cost) include automatic protection against very bright light such as lasers, nearby flares or nuclear detonations. The shades remain very dark for a full minute after protecting the user in this way, and must be removed if the wearer wants to be able to see anything.

**Intrusion Kit, Basic:** A small kit containing lock picks, wire, small screwdrivers and a saw designed to make entry into mid-tech secured areas easier.

**Janitorial Kit:** Includes a vacuum cleaner, chemical storage and dispensing systems, along with other basic cleaning tools and supplies.

**Mask, Combination:** A combination of both filter mask and respirator, which allows breathing of very thin, tainted atmospheres (type 2), plus all atmospheres listed under filter and respirator masks.

**Mask, Face:** A basic face mask and goggles used by aviators and riders of open vehicles. Protects against windblown dust and similar hazards.

**Oxygen Tanks:** A complete set of compressed oxygen tanks, which allow independent breathing in smoke, dust, gas, or exotic (type A) atmosphere. Two tanks last 6 hours. Refill of proper atmospheric mixture for any given race costs Cr20.

**Radiation Counter:** Indicates presence and intensity of radioactivity within a 30 meter radius. The indicating signal will grow stronger as it gets closer to the source.

**Respirator:** A small compressor that allows an individual to breathe in very thin atmospheres (type 3).

**Rope:** 10m of strong but light rope made from natural or artificial fibers.

**Sleeping Bag:** A warm, lightweight and somewhat waterproof personal sleeping bag. Two or more can be fastened together to make a larger enclosure.

**Tool Set, Mechanical:** Includes basic tools necessary to repair and alter mechanical devices. Required for the use of the T/Mechanical skill without suffering a -2 circumstance penalty.

**Underwater Air Tanks:** Equivalent to oxygen tanks but designed for use underwater. Two tanks last 6 hours. Refill of proper atmospheric mixture for race and expected depth cost Cr20.

**Water Purification Kit:** A basic set of filters and chemical purification tablets.

**Welding Kit, Electric:** A basic arc welding kit useful for many light applications.

## TL6 EQUIPMENT

**Camera (Film):** A basic photographic device using chemical film to record images.

**Chain Saw:** Motorized saw for cutting and shaping trees. The chain saw could possibly be used as a weapon, but at a -4 penalty (-2 if the character has the Weapon Proficiency (Swordsman) or Brawling feat) to hit and inflicting 2d6 damage (x2).

**Chemical Alarm:** A handheld device, which can also be mounted on clothing or a pack strap, or positioned upwind of a camp. The alarm gives audible and visible warning when dangerous chemicals (industrial chemicals, sulphurous emissions from a volcanic vent or chemical weapons) are detected. It does not detect radioactive fallout or biological hazards such as spores or bio-weapons.

**Chemical Lightstick:** a 10cm rod of clear plastic containing chemicals which, when mixed by twisting the stick, give off a soft glow. Lightsticks last for about 24 hours and are bright enough to read by or find your way around in a cave.

**Cold Light Lantern:** A fuel cell powered version of the electric torch, but will last 3 days with continuous use. Produces a wide cone of light up to 18 meters away with a radius of 6 meters at the end of the beam. Also capable of producing a tight beam of light up to 36 meters away with a 1-meter radius or be used to illuminate a 10-meter radius.

**Commsat, Short-Term:** A simple communications-relay device designed to be placed in orbit from a starship or ground launcher. It will last about 4-8 weeks in orbit and is not reusable.

**Communicator, Long Range:** A backpack mounted radio capable of ranges up to 500 kilometers and contact with ships in orbit. Ten separate channels. At tech level 7 the unit's weight drops to 1.5 kilograms and it becomes belt or sling mounted.

**Depth Gauge:** The depth gauge allows a character to know how far underwater he or she is. It is a simple device at TL6. More advanced versions have more functions including air-remaining calculations and depressurization-halt warnings.

**Dive Suit:** A basic wet or dry diving suit designed to give a swimmer some protection from cold water.

**Ice Terrain Kit, Vehicular:** Comprises tire studs or chains, a light snowplow blade and "winterizing" of components to allow a vehicle to cross icy or snow terrain with lesser chance of mishap. Provides a +3 circumstance bonus for driving in ice conditions.

**Flare, Distress:** A free-standing incendiary flare that gives off a bright light and large amounts of colored smoke. The distress flare is designed to float upright in water. It is triggered by a lanyard and is very difficult to extinguish once lit (it will burn underwater).

**Goggles, Infrared:** These goggles allow the user to see by visible light or thermal imaging, allowing temperature differences to be detected. This makes warm objects like animals, people, and vehicles very obvious unless there is a lot of "heat clutter" in the area, but does not allow the user to find his way around in a cave or similar environment where everything is much the same temperature. The wearer can see heat sources (infrared radiation) up to 18 meters away. Quality of vision is necessarily

distorted. The presence of light does not affect this capability.

**Metal Detector:** Indicates presence of metal within a 3 meter radius (including underground), with the indicating signal growing stronger as it gets closer to the source.

**Navsat:** A simple orbital beacon to assist navigation in space or on the ground. It can be deployed by a starship with missile launchers (in which case its orbital duration is indefinite, though systems will eventually fail) or from a ground launcher, in which case orbital life is a few weeks.

**Pre-Fabricated Cabin:** Modular unpressurized quarters for 6 persons, capable of withstanding severe winds. Offers excellent shelter from precipitation, storms, and temperatures down to -10° Celsius. Requires 8 man-hours to erect or dismantle. There are 16 modules, each, 1.5 meters wide by 1.5 meters long by 2 meters high that can be organized into any layout required. Dismantled and ready for shipment, the cabin weighs 4 tons.

**Sonar Rangefinder:** A simple sonar unit used primarily to determine the depth of water under a diver or the keel of a boat. Simple sonar units are not very accurate, and are fooled by seabed clutter, fish and similar false returns. This personal unit is of little use in combat.

**Suit, Protective:** A sealed, air-conditioned suit designed to allow the user to survive in corrosive atmospheres. The suit's internal air supply is good for 6 hours. A heavy version is available at TL7. Mass is the same but the cost is Cr1400. The heavy protective suit also protects against insidious atmospheres.

## TL7 EQUIPMENT

**Attaché Case:** A lightweight metal case used to transport documents, scientific instruments and other items throughout Charted Space. If used as cover, an attaché case has an AR of 2.

**Atmosphere Tester:** A hand-held device that monitors air breathability and quality. A simple readout indicates pressure ("Thin," "Dense" etc) and whether the air is within breathable parameters. An audible alarm and flashing warning indicates unbreathable or toxic gas mixes, but the unit does not indicate what the hazard composition is.

**Beacon, Navigational:** A simple radio beacon that can be set to respond to a specific signals or to transmit constantly.

**Cargo Hoist:** A portable powered hoist used to maneuver heavy objects (such as cargo containers) outside a starship or in a frontier port with no facilities available.

**Communicator, Laser:** A line-of-sight communications device, a laser comm has limited range but is almost completely secure and undetectable. At TL9, microwave lasers can be used, which allow faster data transfer. The cost is the same as for a basic laser unit.

**Disguise Kit:** Allows change of personal appearance on a temporary basis. Required for the use of the Disguise skill without suffering a -2 circumstance penalty.

**Goggles, Light Intensifier** These goggles allow clear, monochrome vision up to 18 meters in anything less than total dark. While some light is required to produce this effect, anything approaching normal daylight conditions severely degrades the clarity of the view and the range.

**Grapnel Launcher:** A grenade launcher-like device used to propel a grapnel to its target. If used as a weapon, damage is 1d6.

**Hand Calculator:** Provides basic mathematical calculations. The hand calculator is the basic tool of any competent astrogator and a weapon of last resort when the ship's computer is down. If the astrogator has a calculator handy, the penalty for no astrogation computer when plotting a course is reduced to only +4 on the DC.

**Heatproof Suit:** A reflective and insulating suit and helmet,

the heatproof suit protects the wearer from all but the most extreme temperature conditions. The suit is rather clumsy, and imposes a -4 DEX penalty no matter what proficiencies the character may have. Damage from flame weapons and fire, heat etc, is reduced by the suit - treat it as having an AR of 5 for the purposes of resisting damage only - the suit does not make the wearer any harder to hit. Against lasers, the suit can be considered to be equivalent to Reflec armor.

**Iris Valve Opener:** A crank device designed to allow Iris valves to be slowly opened or closed when no power is available. This task is slow and strenuous, taking 3-5 minutes.

**Mask, Environment:** An environment mask functions as per the TL5 combination mask, and in addition it is designed to fit with NBC or environment suiting, creating a sealed environment for the user and thus protecting against chemical and biological threats. The environment mask is designed to allow communications devices to be used, and includes a drinking apparatus. An environment mask will not function in vacuum or underwater.

**Medical Kit, Vehicle:** A larger version of the Field Medical Kit designed to be carried in an ambulance or similar vehicle and allowing treatment of more patients. The kit also contains more technological equipment including a defibrillator, electronic monitors and so on. The kit gives the same bonuses as the field medical kit.

**Parawing:** An advanced parachute that allows much more control over where the character lands. The parawing kit includes a reserve chute and harness.

**Pressure Tent:** Basic pressurized shelter for two persons, providing standard atmosphere and conditions, along with protection from precipitation, storms, and up to strong winds. There is no airlock: the tent must be depressurized to enter or leave it.

**Radiation Suit:** A standard NBC suit will protect a user against contamination from radiated particles of dust and such like, but offers little or no protection against direct radiation such as solar flares or a reactor breach. A vac suit will offer some protection, but for areas of hard radiation, a dedicated radiation suit is required.

When a character is exposed to bursts of direct radiation, a rad suit provides a DR of 5 for purposes of resisting stamina and lifeblood damage. For prolonged exposure to radiation, a rad suit reduces the dose by 75%.

**Satellite Ground station:** A portable ground control and communications station allowing satellites to be controlled or maneuvered in orbit. The ground station does not include launch capability.

**Scanner, Comms:** A handheld communications detector that allows the user to intercept and listen to (but not jam) radio traffic. Scanners cannot decrypt or record transmissions, nor can it detect bugs and similar low-power transmitters.

**Thrust Pistol:** A handheld reaction jet using compressed gas, a thrust pistol allows independent maneuver during EVA (Extra-Vehicular Activity, or "Spacewalk") operations. The pistol's internal reserves allow for an hour of moderate maneuvering or three minutes of continuous thrust.

**Tool Set, Electronic:** Necessary tools for basic electronic assembly and repair. Required for the use of the T/Electronics skill without suffering a -2 circumstance penalty.

**Water Purification/Distillation Kit:** Designed to provide safe drinking water for 4 persons, the kit contains chemical tablets and filters, plus a collapsible still (which requires a heat source; normally this is heat tablets provided with the kit) to distil liquids.

**Vac Suit Emergency Kit:** A belt-carried pack, the emergency kit is designed to allow a vac suit user to save himself or someone else, and to increase the chances of a search finding him. Yanking a lanyard will release a tethered balloon reflector. This is



somewhat similar to a rescue ball, but filled at very low pressure. It inflates into a 3m-diameter radar reflector, which is tethered to the user's belt.

The kit itself contains a radio beacon/repeater, a handheld strobe beacon, tethering cord, suit patches, spray sealant for multiple small holes, a 30-minute replacement air bottle and two hand-held gas thruster units. The latter are designed to give the stranded spacefarer a last-ditch attempt to reach safety. The kit also contains a metallic reflectorized blanket that will increase radar detectability and somewhat reduce absorbed radiation in the event that the spacefarer is caught outside in a solar flare.

## TL8 EQUIPMENT

**Advanced Base:** Modular unpressurized quarters for 6 persons and capable of withstanding anything less than hurricane force winds. Offers excellent shelter from precipitation and all but the most extreme of temperature ranges. Requires 12 man-hours to erect or dismantle. There are 16 modules, each, 1.5m wide by 1.5m long by 2m high that can be organized into any layout required. Dismantled and ready for shipment, the advanced base weighs 6 tons.

**Artificial Gill:** Extracts oxygen from water to allowing the wearer to breathe for an unlimited time while submerged under water. Functions only on worlds with thin, standard, or dense (type 4 through 9) atmospheres. Artificial gills are used with a mask of some kind, such as the life-support mask.

**Artificial Psionic Shield Helmet:** Acts as a shield against psionic forces.

**Binoculars, Electronic:** Similar to optical binoculars, electronic binocs also include a laser rangefinder and a light intensification function that eliminates all poor lighting penalties except for total darkness.

**Biohazard Alarm:** A handheld device that can also be emplaced to give early warning. The biohazard alarm detects airborne proteins and can be used to give early warning of biological threats such as airborne bacteria, spores or bioweapons.

**Breaching Charge:** A prepacked, shaped charge in a small canister fitted with adhesive pads for easy deployment. A breaching charge has very little area effect but is effective at blasting holes in walls, doors etc, or in light armored vehicles. It is emplaced as per a satchel charge (see the Demolitions rules).

**Camera, Digital:** A basic digital visual recording device capable of interfacing with a computer or personal comm.

**Chemical Analysis Unit:** A small portable lab unit that can analyze gases or liquids, or even small samples of solids such as rock and metal. The unit gives a readout of composition and can monitor for certain compounds automatically, functioning as a chemical-threat alarm system.

**Climbing Kit, Advanced:** Includes a lightweight harness suitable for abseiling or rappelling, expanding mini-pitons for small rock crevices, and more advanced versions of the accessories in the basic kit.

**Deep-Diving Suit:** A heavy, armored suit designed to allow the user to operate in extremely deep water. The deep-diving suit includes an advanced gel-breathing system, which is tremendously unpleasant to use but allows 6 hours of operation. The gel is tiring to breathe, and there is a hazard in both donning and removing the suit, in that the character must "drown" in the gel, and then get it out of her lungs afterwards.

**Dive Suit, Heated:** An insulating suit fitted with small heater coils powered by a belt battery unit. A heated dive suit allows the user to operate without harm in very cold water for several hours.

**Heatsuit:** A coverall-like garment incorporating battery-powered heater coils. The heatsuit eliminates the ill effects of temperatures down to -60 Celsius. It is not damaged by immersion

in water, but will not function while the user is immersed. The battery lasts 12 hours and can be recharged or replaced. The suit can also be directly powered from the output socket of a vehicle plant or a fusion still.

**Mask, Life-Support:** The Life-Support, or "space" mask is functionally similar to the TL7 environment mask, but can be used in space or underwater down to a depth of 5m. It gives a full seal with NBC or other emergency suiting such as a body pressure sleeve. The mask has integral filters but is normally connected by a hose to a belt-mounted filter/blower unit or 1-hour air tank. Using the belt filter makes breathing easier and reduces fatigue. The air tank is necessary for vacuum or underwater use.

A filter unit and a single air tank are included in the mask price. Additional units cost Cr500 and mass 1.5 kilograms.

**NBC Alarm:** A personal alarm unit that automatically monitors for radiation, chemical and biological threats, and gives both alarm and an indication of severity (Mild-Moderate-High-Severe-Extreme). It does not indicate the specific threat but will inform the user whether the hazard is radiation, biological or chemical. For Cr1000, a more detailed output is available that will indicate the specific threat if known to the unit's database.

**NBC Suit:** An advanced protective suit composed of "breathable" fabric that prevents heat buildup while protecting the user from airborne contaminants, biological or chemical weapons, and radioactive fallout. It offers no protection from direct radiation or vacuum, and requires an environment or life support mask to be effective. NBC suiting is designed to be easy to decontaminate and is only slightly more cumbersome than the normal field uniform worn by soldiers.

**Slaplock:** A simple mechanical or combination lock that can be "slapped" onto any door or container to secure it. The Slaplock will prevent the portal or lid from opening by accident, and will defeat casual attempts at entry, but it is not particularly robust and can be easily broken. The primary use of slaplocks is to prevent casual pilfering, to detect intrusion or to secure a broken portal for the time being.

**Survival Kit, Vehicle:** A standard survival kit carried aboard ATVs, lifeboats and small craft throughout Charted Space. Each kit is designed to equip 4 people. Imperial Law requires that all spacegoing vessels include one kit per 4 passengers or crew. Contents include:

- 1 Survival Rifle, plus 50 rounds shot and 50 ball
- 1 Hatchet
- 1 Field Medical Kit
- 4 Personal Survival Kit
- 4 Field Kit, Personal
- 4 Sets/Emergency Cold Weather Clothing
- 4 Combination Masks plus extra filters
- Field Rations for 60 person-days (15 days for 4 people)
- 4 Bulk water storage containers with filters
- 1 Water Purification Kit
- 2 Pressure Tent

**Tool Set, Rescue:** A comprehensive set of supports, cutting gear and other tools used to reach and rescue trapped persons. Does not include sensors.

**Vac Suit:** A vac suit is a sealed suit that provides against hostile conditions such as vacuum and trace, exotic, or corrosive atmospheres. May also be worn in very thin or tainted atmospheres if desired. Includes oxygen tanks, short-range communicators, and other required equipment. Vac suits offer some protection against radiation and physical damage, though if torn they will rapidly lose pressure.

## TL9 EQUIPMENT

**Beacon, Emergency:** A multi-frequency beacon/repeater

designed to assist rescuers. The beacon transmits an emergency signal and can record a simple message to be played if the beacon receives a signal (usually this is the direction or location of the beacon's users, if they have had to move). The beacon will also signal with a siren and flashing strobe light if manually triggered or if it receives an activation signal on the civilian or military emergency channels.

**Bio-Analysis Unit:** A portable laboratory unit capable of identifying the composition of organic matter in a few minutes. Can be used to determine if an organism is edible or to determine the nature of a biological weapon.

**Cable:** 10 meters of strong fiber or metal cable suitable for climbing or light towing applications. Very similar to the cargo tethers used aboard merchant starships.

**Cargobot:** Not a true robot, the cargobot is a powerful lifting/carrying unit operated from close by. Most cargobots use a "waldo" system, whereby the user directly controls the bot with his or her own body motions.

**Cold Weather Clothing, Advanced:** Using quick-drying, waterproof, and super-insulating materials, advanced cold weather clothing protects against frigid weather (-20° Celsius or below). Adds a +10 circumstance bonus to all Fortitude saves against cold weather exposure.

**Combination Viewer:** A set of goggles incorporating IR and light intensification functions, along with brightness-linked safety cutouts. The viewer can be used in optical, IR or thermal mode, or any combination of the three, though this can be disorientating to unskilled users.

**Communicator, Personal ("Comm"):** A hand-held, single channel communication device. On world with a tech level of 8 or higher a personal communicator is able to tap into the world's satellite communication network and with the proper address, contact any other communicator in the world (for a fee). The channel is private, but not secure and may be monitored on some worlds. Usually network access can be arranged at the local starport for a small fee. On worlds with a tech level of 7 or less, personal communicators will not work except for direct comm-to-comm contact over distances of not more than a few hundred meters.

Many individuals purchase accessories for their comm. The most useful is a specialized computer device called an Aide. The Aide stores a considerable amount of information that the character feels he may find useful, downloads news or market information when available, and reminds the character about his schedule at appropriate times. Many travellers conduct their business by comm while on the move.

An Aide costs Cr250.

**Commsat, Standard:** A simple communications-relay device designed to be placed in a stable orbit from a starship or ground launcher. It will last about 6 months to a year in orbit and is not reusable.

**Desert Suit, Advanced:** An all-in-one suit designed to minimize moisture loss by trapping sweat between the porous inner layer and impermeable outer one. The suit is reflectorized to reduce the heating effect of the sun (though a dulled or camouflage option is also available). It includes a hood, facemask, and goggles. The suit adds a +5 bonus to Fortitude saves to avoid the ill effects of a desert climate.

**Inertial Locator:** Indicates direction and distance traveled from the starting location.

**Personal HUD:** A personal HUD (heads-up display) can be fitted to a set of goggles or shades, a monocle, or the inside of a helmet faceplate. The HUD displays information from a variety of sources. Incoming messages and video from a character's personal comm, data pulled up from a handcomp or an aiming reticule for weapon canal be displayed. Tying any given device or

weapon into the HUD and calibrating it properly takes an hour and costs Cr500. Information exchange can be by cable or wireless means. The latter creates a certain amount of radio "noise" which can be detected or jammed, so military HUDs normally use fiber-optic cable.

**Portable Airlock:** A flexible pressure tent kept rigid by a collapsible frame, the portable airlock has two openings and thus can be sealed to a bulkhead to create an emergency airlock. It is most commonly used when cutting into a starship hull for rescue purposes, to preserve the environment inside, but can be also used to seal a building against NBC conditions. The airlock is big enough for two vac suited persons at once, and is reasonably robust. It comes with a small air bottle to inflate it, but normally relies on pressure from the area being cut into.

**Rescue Ball:** A rescue ball is intended to allow personnel to survive a pressure breach in a space vessel. It consists of a 2 meter diameter ball of reflectorized plastic and a small air bottle good for 4 person-hours. Rescue balls are mandatory aboard passenger-carrying starships. They are located at strategic points around the ship and in staterooms. Intended for untrained personnel, they are very easy to use. The character open a zipped flap, climbs inside and zips the opening shut, then triggers the air bottle to inflate the ball. A clear section allows vision, and most rescue balls have a "glove" that a character can insert her arm into in order to manipulate outside objects in addition to a towing or securing tether.

The ball is reasonably robust, and gives a good radar return due to the metallic coating. A person inside one can move around (assuming there is some gravity) by walking on the inside, treadmill fashion. Balls are normally intended for the use of a single person, though more than one individual can get into one at need.

**Scrambler Unit:** A small com-scrambler and encryption unit that can be used with a personal comm or other communications devices.

**Welding Kit, Advanced:** A composite plasma/electric arc welding kit useful for many light and medium applications.

## TL10 EQUIPMENT

**Body Pressure Sleeve:** A form-fitting garment similar to a wetsuit, worn as an under-uniform by some spacegoing services. The body pressure sleeve is designed to protect the user in low pressure environments (allowing normal function in Very Thin and Trace atmospheres) and to give some protection against vacuum. The ankles seal to boots, and a set of gloves are normally carried in a belt pouch. To be any use, the suit's hood must be pulled up and sealed to a Life-Support Mask (not included in the price of the suit).

The Body Pressure Sleeve is designed to give personnel a survival margin in an emergency. It is not a substitute for a proper vac suit, though it can be worn under one. A user with a proper mask can function indefinitely in Very Thin atmosphere, for about 15 minutes in Trace Atmosphere, and for about 5 minutes in hard vacuum. After this period, the character begins to take half damage from vacuum exposure.

**Bulkhead Patches:** A set of rigid and flexible bulkhead patches of assorted size, plus adhesives and sealant to allow pressure breaches in a starship or space vessel to be temporarily repaired. The patches are no substitute for a real repair, and tend to fail after 6-24 hours. They are mainly used to allow the crew to make a more permanent repair.

**Camera, Advanced Digital:** An advanced version of the digital camera capable of recording and displaying moving holographic images.

**Combination Analysis Unit:** A Biological/Chemical lab unit in a portable housing, capable of all the functions of the bio and

chemical analysis units but faster and with greater accuracy. The unit's database contains many common and uncommon compounds and can advise on the properties of (and hazards posed by) most known substances.

**Cutting Gear, Laser:** A backpack power supply and laser or plasma cutting unit, this cutting gear is standard for use aboard starships. It can cut through most materials, though superdense hull armor will require a very long time to breach.

**Intrusion Kit, Advanced:** A similar kit to the basic version, the advanced intrusion kit is constructed of more advanced materials and includes test probes for investigating electronic locks.

**Parachute, Grav:** A personal harness incorporating a smaller version of the Grav Belt. The chute can be manually controlled or set to activate at a given altitude. Instead of relying upon wind resistance, a grav chute uses a localized contragrav field to slow the user's descent. It does not allow much more lateral movement than a standard parachute but functions even on worlds with no atmosphere. It can be cut in and out, or used for slight braking rather than the all-or-nothing available with a conventional chute. The internal batteries are good for one descent. A grav parachute cannot be used to give "lift" for upward movement. It will slow the user's fall whichever way up he or she may be. Internal safety devices will normally ensure that the user makes a soft landing, often at very low speed, even if unconscious.

**Personal Re-Entry Kit:** A re-entry kit consists of an alignment thruster, altimeter and a parawing, plus an ablative heat shield. The latter is deployed in the form of a frame and a foam covering that sets hard in seconds. If the user gets it just right, she can make a controlled re-entry to any world with a Thin atmosphere or better, protected from heat by the shield and finally making a descent by parawing. The procedure is complex and dangerous. Characters without the Armor proficiency: Vac Suit feat cannot attempt a controlled re-entry and will automatically fail in lethal fashion. Those who have the Vac Suit feat suffer a -4 penalty on all DEX checks unless they have the basic Drop Trooper feat. Subsequent levels of Drop Trooper give a bonus to DEX checks (see the Additional Feats section for more details).

The procedure for a controlled re-entry is as follows:

Initial stage: the character must set up an appropriate angle of entry. This requires a DEX check at DC15. Failure by 9 or less means that the character has "skipped" off the atmosphere. Roll 1d6. If the result is 1 to 5, the character can have another attempt at setting up the entry, but DC goes up by whatever the roll was. On a 6, the character drifts out into space, beyond the ability of her suit thrusters to compensate, and will die if not rescued.

If the roll is failed by 10 or more, the entry was far too steep and the character meets a fiery death.

If the entry is set up correctly, the character can deploy her heat shield and attempt to keep it properly aligned. This requires another DEX check at DC15. Success means that the character re-enters correctly and descends to a rather rough but safe landing by parawing. Failure by 10 or more means instant death. Failure by 9 or less means that the character is on the verge of losing control. She takes 3d6 Stamina damage and can roll again for control, this time at DC20. If control is not regained, but the failure margin is 9 or less, the character again take 3d6 Stamina damage and can make a final bid for control. If this one is made, the parawing is deployed late and badly, and the character slams into the ground for 3d6 Lifeblood damage. If it is failed, the character's parawing burns off, or does not deploy correctly, and the character makes an impressive crater with no chance of survival.

Some individuals make a sport of personal re-entry. It is banned on many worlds, for safety reasons.

It is not possible to take10 or take20 while re-entering.

Re-entry computers are available, which can function as an autopilot for emergency re-entry. The computer costs Cr2500 (more than the kit itself!) and allows an untrained user to attempt re-entry as if she had a DEX bonus of 0 and with no penalties for lacking any required feats.

**Portacomp:** A laptop or briefcase-sized computer capable of interfacing with a personal comm and larger computers. A portacomp can run a range of programs, and can be used to provide additional processing power to a translator or analysis unit, or simply to store data.

**Tool Set, Starship Engineer:** A full tool kit for shipboard engineering personnel, including PRIS goggles, manual Iris valve opener, electronic and gravitic test and repair equipment, wrenches, sockets, and a large hammer.

## TL11 EQUIPMENT

**Hand Computer:** The "handcomp" provides services of a small computer, plus serves as a computer terminal when linked (by its integral radio, network interface jack, or by other circuit) to a standard computer. If an astrogator has a handcomp handy, the penalty for no astrogation computer when plotting a course is reduced to only +2 on the DC.

**Satellite Launcher, Field:** A semi-mobile ground launch unit for small satellites. The unit includes a gantry and control unit, plus a single booster, but no satellites. Additional boosters cost Cr50,000 and weigh 200 kilograms. The launcher can only put up temporary satellites into low orbit.

**Survey Satellite:** A Sursat can be launched from a shipboard missile launcher or a ground launcher. It is capable of undertaking basic communications and beacon functions and quite sophisticated mapping and survey operations. Sursats can report on weather and atmospheric conditions constantly. Life is 3-5 years if placed in a stable orbit. Sursats have a small internal power source, backed up by solar collectors.

## TL12 EQUIPMENT

**Binoculars, PRIS:** PRIS (Portable Radiation Imaging System) binocs have no lenses, but instead project an image for the user as if she were using optical binocs. The image can be gathered using a variety of wavelengths: optical, infrared, ultraviolet, radio and x-ray to name a few. The binocs do not emit these wavelengths, they merely read emissions and reflections of naturally-occurring wavelengths, then convert the data into an optical display using false color. Composite images using different spectra are possible and can highlight things missed when viewing in just one mode, but very confusing to an unskilled user.

**Bug Detector:** A handheld scanning device designed to detect electronic listening devices. The basic bug detector can only be used to scan for bugs, but for Cr2500 a detector/jammer is available. This unit has two more settings: it can overload and destroy bugs within range (a few meters) or simply jam their output for a time, leaving them functional after the jammer is switched off. The detector can only detect, jam, or destroy bugs up to TL12.

**Bugging Kit:** A set of small electronic listening/transmitting devices and a receiver unit. More advanced kits are available at TL13, TL14 and TL15. Each TL adds Cr2000 to the price of the kit but makes detection a little harder.

**Communicator, Personal, Advanced:** A more capable version of the basic hand-held comm, normally worn as a wristband. The advanced comm incorporates all the functions of an Aide, and has more memory available for specialist functions.

**Emergency Hostile Environment Suit:** A disposable emergency vac suit designed to protect the wearer from corrosive, insidious, and similarly hazardous atmospheres (and of course



vacuum). The suit is good for 6-8 hours, after which there is a 10% (non-cumulative) chance that it will fail every hour. Emergency suits are usually carried by starships to allow engineering crew to make emergency repairs under unusual conditions. The suit can be refurbished for 75% of its initial cost, but each refurbishment adds 5% to the chance of failure after the "safe" time, and additionally reduces time to failure by 1 hour. Once the failure chance has reached 50%, the suit is too degraded to be any further use.

**Emergency Softsuit:** A disposable emergency vac suit including gloves and a soft, collapsible "bubble" helmet, the softsuit has no armor value and offers no protection against hostile environments. Starships are required to carry enough emergency suits or rescue balls to allow the crew and all passengers to survive depressurization. Softsuits are more difficult to use, and require the vac suit feat, so are normally used for crew only. Well-equipped ships include a softsuit at each crew position and a few spares at strategic points, in addition to the crewmember's personal vac suit.

The softsuit includes a small air bottle (4 hours' worth) and can be plugged into shipboard life-support points to prolong this supply. It is rather flimsy, and it offers no protection against radiation, making it a poor choice for repair work or routine duty and a desperate last resort for EVA work.

**Medikit, Personal:** A personal medikit is basically a small personal electronic pharmacy tailored to a specific user's body chemistry. When worn (usually on upper arm, thigh, or lower back) it is always active and monitoring the wearer's bio-signs for any changes. As needed the medikit will dispense anti-toxins, antibiotics, stimulants, sedatives, and other pharmaceuticals needed to keep the user at peak efficiency. This has the added benefit of boosting the user's natural base healing rate from 1 Stamina point per hour to 2. Under normal (adventuring) conditions a personal medikit will need to be recharged every 4 weeks. Of course heavier demands on the medikit may considerably reduce the available drug supply much sooner.

In the event of poisoning or infection, a personal medikit will impart a +5 to all Fortitude saving throws against the effects of such dangers.

Most medikits are also equipped to store and dispense a single dose of Medical Slow drug should it ever be needed. If the wearer is ever dying (0 Lifeblood or lower), the medikit will automatically use the Medical Slow drug if it is available and there is not a risk of overdose. The user can activate the Medical Slow at any time if needed. If desired, this can be replaced with a dose of Slow, Combat, or Medical drugs instead.

It is very dangerous to attempt to use a Medikit that has been tailored to another person's body chemistry. If such an attempt is made two Fortitude saving throws must be made. If the first saving throw (DC15) fails, the user immediately suffers a Traumatic Shock injury (1d6 Lifeblood damage, ignore the second saving throw). If the second saving throw (DC10) fails, the medikit simply does not work for the user. If both saving throws are successful, the medikit will function normally for the user.

A Personal Medikit costs Cr15,000, plus Cr500 for basic supplies. Specialized drugs must be purchased separately.

**Mediscanner, Personal:** A small bio-monitoring unit normally worn on the belt or upper arm. A personal mediscanner monitors a character's life signs and data such as blood composition, blood sugar, and body temperature. It warns when exhaustion or dehydration are becoming dangerous, gives information to the user or medical personnel about poisoning and other dangerous conditions, and allows a quick diagnosis of many conditions. The mediscanner gives a +3 circumstance bonus to all medical skill checks.

**Mediscanner, Portable:** A general version of the personal

mediscanner for use by field medics. The device is not optimized for a single user, so takes up to 2 minutes to calibrate itself to each new subject. It gives the same data as the personal version (though slightly less detailed), allowing a +2 circumstance bonus to all medical checks once it is calibrated. Most mediscanners are able to deal with all common species, and add-on chips for other species are available at Cr500 each.

**Thrust Pack:** An advanced maneuvering system incorporated in a vac suit backpack, the Thrust pack allows four hours of moderate maneuvering or about 15 minutes of near-continuous thrust. The unit includes a simple inertial autopilot and stabilizer/spin-correction computer.

**Translator:** A handheld device capable of translating audible language into Galanglic (or any other language). The basic translator is set for several dialects and the common languages of the region. Additional language chips are available for Cr500 per language.

The translator cannot translate an unknown tongue. It is not "smart," but merely recognizes sounds and converts them.

A unit capable of translating nonverbal communication (pheromones, sign language etc.) costs five times as much as the basic version.

## TL13 EQUIPMENT

**AutoDoc:** An autodoc is a small self-contained diagnostic, pharmaceutical, and surgical system about the size of a Low Berth chamber or large coffin. Often found on starships, it is capable of diagnosing and treating disease, infection, injuries, and other medical conditions as if a qualified doctor of Skill rank 12 was attending the patient.

<i>Autodoc</i>	<i>Cr1,000,000</i>	<i>0.5 tons</i>
<i>Supplies</i>	<i>Cr100,000</i>	

### Capabilities

Heals all Stamina in one hour (1 per day is natural)

Speeds the base natural healing of Lifeblood to 5 per week

Broken Bones	DC10
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Minor Surgery	DC15
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Routine Surgery	DC20
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At TL14, an Autodoc is capable of reanimation, provided no more than 15 minutes have passed since the subject's death. This period can be extended by extremely cold conditions or placing the corpse in a low berth.

**Densitometer:** A bulky device used by field scientists and engineers to determine the thickness and density of materials. Densitometers can give an indication of the likely composition of a material and can be used to map underground areas or buildings without entering them. A TL14 version costs Cr12,000 and weights half as much.

**Fusion Still:** A fusion still is built around a small fusion unit, which will run continuously for 5 years. The still has a hopper, which can take fluids or organic matter. Collection areas within the still allow potable water to be extracted, or a just-about-edible nutrient product normally known as "glop." The exact composition of glop varies depending upon what is put into the still, and in some cases vital nutrients will be missing. The still's readout advises the user as to how good his or her glop will be today, but even the best technology cannot make glop taste any better. Glop can be output as dry, jaw-busting bars or a damp and fairly disgusting porridge.

The still has a power output socket and a cable for recharging items like powered tools, and indeed includes two hand lamps. It

also has a built-in light unit and a heater that can be used to warm a shelter or to provide localized heat for cooking. Marooned starfarers with a fusion still will usually find that their food and water needs are taken care of. However, many users cite the still's food output as the single greatest drain on their will to live.

Fortunately, the still can also be used to distill alcoholic beverages into spirits for medical or recreational use.

**Rescue Suit:** An advanced vac suit with additional equipment built in, the rescue suit is designed to maximize the capabilities of rescue workers. Somewhat more bulky than the standard suit, a rescue suit includes an oversized power unit for tools, a "buddy" air supply to feed another suit, a specialized tool harness containing a range of rescue tools, and an arm attachment for either a lightweight laser cutter unit, a set of pincer-jaws or other heavy tools. The suit has a full towing/attachment rig and a powerful built-in maneuvering system.

## TL14 EQUIPMENT

**Biosniffer:** A portable biological detection and analysis unit, the biosniffer can be used to detect traces of organic processes (i.e. life) or to analyze the composition of matter. Its internal database allows rapid indications to be made as to the nature of biological matter and whether it poses a threat to travellers. Biosniffers can be emplaced and used for remote analysis and monitoring and can be programmed to indicate the presence of specific types of creature. They can thus be used to indicate, for example, whether a given game trail is used by Humans, Vargr, or the local predators, or to give warning of the approach of any large carnivore. Biosniffers are most commonly used by field scientists surveying planets or by botanists searching for new species.

**Neural Activity Detector:** A large and bulky unit that detects brainwave activity and can indicate the order of the creature emitting it (i.e. Human-equivalent might be Vargr, Aslan or Droyne; Dog-equivalent might actually be a horse or a Kian), and the number of emissions (individuals) within an area. The unit is not very reliable or precise, and can be fooled by large numbers of low-order brainwave emissions. At TL15, the unit weighs only 10 kilograms and costs Cr65,000. It is far more reliable however.

## TL15 EQUIPMENT

**Bug Detector, Advanced:** A handheld scanning device designed to detect electronic listening devices. The standard bug detector can only be used to scan for bugs, but for Cr7500 a detector/jammer is available. This unit has two more settings: it can overload and destroy bugs within range (a few meters) or simply jam their output for a time, leaving them functional after the jammer is switched off. The advanced detector can only detect, jam or destroy bugs up to TL15.

## DRUGS AND PHARMACEUTICALS

The active components in drugs may be derived from many sources. On some worlds, eating a particular leaf may have the same effect as taking a high-technology manufactured prescription drug. Thus it is always possible that drug prices will vary. Tech levels and costs therefore refer to reliably synthesized drugs.

**Anagathics:** Anagathics are a specialized drug treatment that can halt the effects of aging in its tracks. They are illegal in some areas. The drug must be taken regularly each month for as long as the age retarding effects are desired. It takes approximately one year of regular dosage for the full effect to develop. This means that during the first year on Anagathics a character will continue to age normally. After that first year, as

long as the regular monthly dose is taken, the character will no longer age and remain at their present physical age.

Once past the first year, a character can miss one month without suffering ill effects, but if a character misses two or more dosages, they must abstain completely for one year before once against restarting the treatments. The one-year build-up period must be again completed before the character gains any benefits. Characters who interrupt their anagathics course and do not abstain for a year run the risk of severe, possibly fatal, side effects.

*Anagathics* TL15 Cr200,000 per dose

**Antibiotics:** Antibiotics are effective against bacterial disease, infection, and secondary conditions associated with viral diseases. They add +2 to Fort saves against such diseases.

*Antibiotics* TL6 Cr50 per dose

**Antidotes:** Antidotes to Slow and Fast drugs are available. A dose of Antidote costs the same as one of the drug it counteracts. The effects of the drug are immediately cancelled, but the subject suffers any normal recovery requirements.

**Broad Spectrum Anti-Toxin:** At TL12 and beyond broad spectrum Anti-Toxins become widely available and prove effective against all but the rarest of diseases. Even viral diseases can be treated in this manner.

*Antitoxin* TL12+ Cr250 per dose

<i>Potency of Anti-Toxins</i>	<i>TL</i>
+5 to Fort saves	12
+5 to Fort saves, or may Take10	13
+10 to Fort saves	14
+10 to Fort saves, or may Take20	15

**Combat Drug:** +4 Strength, +5 Lifeblood. Lasts for 30 combat rounds, after which the user must make a Fortitude saving throw (DC15) or their Stamina is reduced to 1. If Stamina is already at 1 or below, the character suffers a Traumatic Shock and suffers 1d6 Lifeblood damage. If the Combat Drug is taken more than once in a 24 hour period there is a high risk of overdose. The user must make a Fortitude saving throw (DC25) or immediately fall unconscious (reduce stamina to 0) and suffer 3d6 lifeblood damage.

*Combat Drug* TL9 Cr750 per dose

**Fast Drug:** Fast drug speeds up the apparent passage of time for the user, to the point that 60 days will pass for the user as 1 day. The drug slows the metabolism of the user by a factor of 60, reducing the effect of aging and reducing the need for consumable supplies such as food, water, and air during the period the user is under the effects of the drug. An antidote does exist which can be taken to cancel the remaining effects of Fast Drug.

*Fast Drug* TL9 Cr2000 per dose  
*Antidote* TL12 Cr2000 per dose

**Medical Slow Drug:** Patient is rendered immediately unconscious in a coma-like state for the next 20+1d6 hours. If the patient is already dying, the slow drug will only stabilize their condition for the period of the coma, ensuring no further deterioration of life signs. If the patient is not dying and merely injured the slow drug will heal all Stamina points, and (4 + the patient's Constitution modifier) in Lifeblood points. If more than one dose of slow drug is taken within a week period there is a

high probability of a severe overdose. The user must make a Fortitude saving throw (DC25) or immediately fall unconscious (reduce stamina to 0) and suffer 3d6 lifeblood damage.

*Medical Slow* TL7 *Cr100 per dose*

**Metabolics:** Metabolics are designed to alter the metabolism of the subject to enhance his or her ability to fight a specific disease. They are only effective against that disease.

*Metabolics* TL8 *Cr1000 per dose*

**Medical Drug:** A complex quick-heal formula with an unpronounceable name and thus normally known as “medical drug” or “med” by field personnel, Medical Drug heals 3d6 Stamina and 1d4 Lifeblood damage per dose. If more than one dose is taken in a 24 hour period there is a high risk of overdose. The user must make a Fortitude saving throw (DC20) or immediately fall unconscious (reduce Stamina to 0) and suffer 3d6 Lifeblood damage. If any more Medical Drug is administered to the patient within 3-6 days of an overdose (depending upon the patient’s metabolism), he or she automatically suffers another overdose.

*Medical Drug* TL8 *Cr100 per dose*

**Recreational Drugs (“Drug Drug”):** Recreational drugs vary widely. Many cultures have a legal recreational drug, such as alcohol. Most legal drugs are relatively mild in effect but can be harmful in large doses. More potent drugs are usually illegal, especially those that affect the user in such a way as to make him or her dangerous to others. Manufacturers and suppliers will charge whatever the market will bear.

**Slow Drug:** Twice normal speed and double the normal actions allowed each combat round. The effects last for 40 combat rounds, after which the user must make a Fortitude saving throw (DC15) or their Stamina is reduced to 1. If Stamina is already at 1 or below, the overdose causes 1d6 lifeblood damage.

*Slow Drug* TL8 *Cr5000 per dose*

*Antidote* TL11 *Cr5000 per dose*

**Truth Serum:** Truth serum is intended to force the subject to answer questions truthfully. It must be tailored to the species being questioned, and carries some risks. One dose usually forces the subject to be truthful for 2 minutes (A DC20 Fortitude save is permitted to resist each dose; additional doses raise the DC by 5 per dose). At the end of the 2 minute period, the subject takes 2d6 Stamina damage and becomes unconscious for 1 hour. Truth serum costs Cr500 per dose, or more if it must be prepared for a different species.

*Truth Serum* TL5 *Cr500 per dose*

**Vaccine, Specific:** Vaccines increase the body’s immunity to a given disease, giving a +10 on Fortitude saves to resist that disease.

*Vaccine, Specific* TL5 *Cr15 per dose*

**Vaccine, Broad-Spectrum:** Broad-Spectrum Vaccines increase the body’s immunity to a number of similar diseases, giving a +10 on Fortitude saves to resist any or all of them.

*Vaccine, Broad-Spectrum* TL10 *Cr20 per dose*

**Psi Drugs:** Psi Drugs are covered in the chapter on Psionics.





## AVAILABLE WEAPONS

8

EQUIPMENT

	Cost	TL	Weight	RoF	Range	DMG (Crit)	Size	Type	Recoil	Rounds	Ammo Weight	Ammo Cost
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### Non-Lethal Melee Weapons

Brass Knuckles	Cr10	1	neg.	-	1.5 m	special (19)	Tiny	Bludgeoning				
Stunfist	Cr100	9	neg.	-	1.5 m	special (19)	Tiny	Bludgeoning				
Baton/Cudgel	Cr10	0	1kg	-	1.5 m	1d6 (x2)	Medium	Bludgeoning				
Stun-Baton	Cr350	9	1kg	-	1.5 m	Special (20)	Medium	Bludgeoning				
Martial Arts Flail	Cr20	1	500g	-	1.5 m	1d6 (19)	Medium	Bludgeoning				

### Lethal Melee Weapons

Dagger	Cr10	0	250g	-	1.5/3 m	1d4 (19)	Tiny	Piercing				
Blade	Cr50	3	350g	-	1.5 m	1d6 (19)	Small	Piercing				
Foil	Cr100	3	500g	-	1.5 m	1d4 (18)	Medium	Piercing				
Sword	Cr150	1	1kg	-	1.5 m	1d8 (x2)	Medium	Piercing/Slashing				
Cutlass	Cr100	3	1,250g	-	1.5 m	1d8 (18)	Medium	Slashing				
Broadsword	Cr300	2	2.5kg	-	1.5 m	2d6 (19)	Large	Slashing				
Bayonet	Cr10	3	250g	-	1.5 m	1d8 (x2)	Large	Piercing				
Halberd	Cr75	2	2.5kg	-	3 m	1d10 (19)	Large	Piercing/Slashing				
Spear, short/light	Cr10	0	2kg	-	3 m	1d8 (x2)	Medium	Piercing				
Spear, long/heavy	Cr20	0	2.5kg	-	3 m	1d10 (x2)	Large	Piercing				
Pike	Cr40	1	3kg	-	3 m	1d12 (x2)	Large	Piercing				
Axe, Stone	Cr0	0	3kg	-	1.5 m	1d8 (20)	Medium	Bludgeoning				
Axe, Hatchet	Cr25	1	500g	-	3 m	1d6 (20)	Medium	Slashing				
Axe, Battle	Cr40	1	1kg	-	3 m	1d8 (19)	Large	Slashing				
Axe, Boarding	Cr100	8	1.5kg	-	3 m	1d10 (19)	Large	Piercing/Slashing				
Light Mace/Bat	Cr30	1	1kg	-	3 m	1d6 (19)	Medium	Bludgeoning				
Heavy Mace	Cr50	1	1kg	-	3 m	1d8 (19)	Large	Bludgeoning				
Morningstar Flail	Cr100	1	2.5kg	-	3 m	2d6 (20)	Large	Bludgeoning				

### Bows and Low-Velocity Projectile Weapons

Sling	Cr1	0	-	1	15 m	1d4 (x2)	Small	Bludgeoning	-	-	100g	-
Short Bow	Cr50	1	500g	1	18 m	1d6 (x2)	Medium	Piercing	-	-	100g	Cr2
Long Bow	Cr75	2	1kg	1	30 m	1d8 (x2)	Large	Piercing	-	-	100g	Cr2
Advanced Bow	Cr200	7	500g	1	45 m	1d8 (x2)	Medium	Piercing	-	-	100g	Cr2
Military Crossbow	Cr250	2	6kg	1	36 m	1d10 (19)	Medium	Piercing	-	-	100g	Cr2
Sporting Crossbow	Cr150	3	3kg	1	24 m	1d8 (19)	Medium	Piercing	-	-	100g	Cr2
Repeating Crossbow	Cr200	3	4kg	1	24 m	1d8 (19)	Medium	Piercing	-	10	100g	Cr2
Speargun	Cr100	5	3kg	1	9 m	1d8 (x2)	Medium	Piercing	-	1	1kg	Cr10

### Thrown Weapons

Rock, Small	Cr0	0	250g	1	5 m	1d4 (x2)	Small	Bludgeoning				
Rock, Large	Cr0	0	750g+	1	3 m	1d8 (x2)	Medium	Bludgeoning				
Throwing Steel	Cr15	2	250g	1	3 m	1d3 (x2)	Tiny	Piercing				
Knife	Cr20	1	250g	1	3 m	1d4 (x2)	Tiny	Piercing				
Axe	Cr30	1	500g	1	5 m	1d6 (x2)	Small	Piercing				
Javelin	Cr5	1	1kg	1	10 m	1d6 (x2)	Medium	Piercing				

**Black Powder Weapons**

Pistol, Small	Cr100	2	400g	1	6 m	1d6 (20)	Small	Piercing	Yes	1	10g	Cr1
Pistol, Large	Cr150	2	750g	1	9 m	1d8 (20)	Medium	Piercing	Yes	1	10g	Cr1
Carbine	Cr250	2	1.5kg	1	12 m	1d8 (x2)	Medium	Piercing	Yes	1	15g	Cr1
Musket	Cr350	2	3.5kg	1	25 m	1d10 (x2)	Medium	Piercing	Yes	1	25g	Cr2
Shotgun	Cr100	2	3kg	1	3 m	3d6/2d6/1d6	Medium	Piercing	Yes	1	20g	Cr2
Rifle	Cr400	3	3kg	1	50 m	1d10 (x2)	Medium	Piercing	Yes	1	20g	Cr5

**Body Pistols**

Derringer	Cr150	4	500g	1	5 m	1d6 (X2)	Tiny	Piercing	Yes	1 or 2	10g	Cr1
Body Pistol <sup>(1)</sup>	Cr200	9	250g	1	9 m	1d6 (x2)	Tiny	Piercing	Yes	5	65g	Cr38
Heavy Body Pistol <sup>(1)</sup>	Cr200	9	250g	1	5 m	1d8 (x2)	Tiny	Piercing	Yes	1 or 2	25g	Cr15

**Handguns**

Light Revolver	Cr100	6	650g	1	15 m	1d6 (x2)	Small	Piercing	Yes	6	75g	Cr3
Light Autopistol	Cr150	6	500g	1	15 m	1d6 (x2)	Small	Piercing	Yes	8	200g	Cr10
Revolver	Cr150	4	900g	1	30 m	1d10 (x2)	Small	Piercing	Yes	6	100g	Cr5
Hvy/Magnum Rev.	Cr400	6	1.5kg	1	45 m	1d12 (x2)	Small	Piercing	Yes	6	150g	Cr6
Ultra Revolver	Cr1500	9	2kg	1	65 m	1d12+2 (19)	Medium	Piercing	Yes!	4	500g	Cr6
Auto Pistol	Cr200	5	750g	1	45 m	1d10 (x2)	Small	Piercing	Yes	15	250g	Cr10
Hvy/Magnum Auto	Cr500	8	1.5kg	1	65 m	1d12 (x2)	Small	Piercing	Yes	9	400g	Cr25
Spurt Gun	Cr2000	12	200g	Special	30 m	1d10 (x2)	Small	Piercing	Yes	200	-	-

**Snub Weapons**

Snub Revolver <sup>(2)</sup>	Cr150	8	250g	1	18 m	1d10 (x2)	Small	Piercing	No	6	200g	Cr6
Snub Pistol <sup>(2)</sup>	Cr250	8	500g	1	18 m	1d10 (x2)	Small	Piercing	No	15	400g	Cr10
Snub SMG <sup>(2)</sup>	Cr400	8	2kg	1/4	25 m	1d10 (x2)	Medium	Piercing	No	30	1kg	Cr50

**Shotguns**

Combat Shotgun <sup>(3)</sup>	Cr200	5	3.75kg	1	3 m	3d6/2d6/1d6 (x2)	Medium	Piercing	Yes	6	750g	Cr10
Sporting Shotgun <sup>(3)</sup>	Cr150	5	3.5kg	1	3 m	3d6/2d6/1d6 (x2)	Medium	Piercing	Yes	2	250g	Cr3
Sawn-off Shotgun <sup>(3)</sup>	Cr150	5	2kg	1	2 m	3d6/2d6/1d6 (x2)	Medium	Piercing	Yes	2	250g	Cr3
Military Shotgun <sup>(3)</sup>	Cr1500	8	5kg	1	7 m	3d8/2d8/1d8 (x2)	Medium	Piercing	Yes	10	1kg	Cr30
Assault Shotgun <sup>(3)</sup>	Cr750	7	4.5kg	1/4	3 m	3d6/2d6/1d6 (x2)	Medium	Piercing	Yes	20	750g	Cr40

**Rifles**

Rifle	Cr200	5	4kg	1	72 m	1d12 (x2)	Medium	Piercing	Yes	10	500g	Cr20
Hunting Rifle	Cr1000	6	7kg	1	150 m	2d8 (x2)	Medium	Piercing	Yes	7	100g	Cr10
Survival Rifle	Cr50	6	2kg	1	25 m	1d6 (x2)	Medium	Piercing	Yes	2	30g	Cr2
Carbine	Cr200	5	3kg	1	45 m	1d10 (x2)	Small	Piercing	Yes	20	125g	Cr10
Auto Rifle	Cr1000	6	5kg	1/4	60 m	1d12 (x2)	Medium	Piercing	Yes	20	500g	Cr20
Assault Rifle	Cr300	7	3kg	1/4	45 m	1d12 (x2)	Medium	Piercing	Yes	30	330g	Cr20
Accelerator Rifle	Cr900	9	2.5kg	1/3	60 m	1d12 (x2)	Medium	Piercing	No	15	500g	Cr25
ACR <sup>(4)</sup>	Cr1000	10	3.5kg	1/4	72 m	1d12+2 (x2)	Medium	Piercing	Yes	20	500g	Cr15
Heavy ACR <sup>(4)</sup>	Cr1500	11	4.5kg	1/4	100 m	2d8 (x2)	Medium	Yes Piercing	30	600g	Cr25	

**Gauss Weapons**

Gauss Pistol	Cr2500	13	1,250g	1/4	80 m	1d12 (x3)	Small	Piercing	Yes	30	250g	Cr200
Gauss Rifle	Cr1500	12	3.5kg	1/4/10	96 m	2d12 (x2)	Medium	Piercing	No	40	400g	Cr30
Gauss Sniper Rifle	Cr25,000	12	10kg	1	250 m	2d12 (x3)	Medium	Piercing	Yes	10	150g	Cr25
Gauss Shotgun	Cr2500	13	7kg	1/6	10 m	3d10 (x2)	Medium	Piercing	Yes	20	3kg	Cr50

**Light Automatic Weapons**

Assault Pistol	Cr750	5	1kg	1/10	4 m	1d10 (x2)	Small	Piercing	Yes	15	400g	Cr20
Micro SMG	Cr600	7	1.5kg	1/4	15 m	1d8 (x2)	Small	Piercing	Yes	20	350g	Cr20
SMG	Cr500	5	2.5kg	1/4	45 m	1d10 (x2)	Small	Piercing	Yes	30	500g	Cr20
Heavy SMG	Cr750	7	3kg	1/4	45 m	1d12 (x2)	Medium	Piercing	Yes	30	750g	Cr40
LMG	Cr1200	6	5.5kg	1/10/20	60 m	1d12 (x2)	Large	Piercing	Yes	100	2,500g	Cr120

**Non-Lethal Ranged Weapons**

Baton ("Thud") Gun	Cr100	8	1kg	1	8 m	2d8 (20)	Medium	Bludgeoning	Yes	1	500g	Cr20
Stun Gun	Cr50	7	neg.	1	2 m	Special	Small	Shock	No	1	-	-

**Laser Weapons**

Laser Pistol	Cr1000	12	1,200g	1	36 m	2d10 (x2)	Small	Laser	No	25	500g	Cr100
Laser Carbine	Cr2500	8	5kg	1	45 m	3d8 (x2)	Small	Laser	No	50	3kg	Cr200
Laser Rifle	Cr3500	9	6kg	1	60 m	3d10 (x2)	Medium	Laser	No	100	4kg	Cr300

**Support Weapons**

Antitank Rifle	Cr400	5	7kg	1	80 m	2d8 (x2)	Large	Piercing	Yes	5	?g	Cr?
GP Machinegun	Cr600	6	7kg	1/10	60 m	1d12 (x2)	Large	Piercing	Yes	100	?g	Cr?
LAG <sup>(5)</sup>	Cr600	8	4kg	1	96 m	2d10 (x2)	Large	Piercing	Yes	5	500g	Cr20

**Launchers**

Grenade Launcher <sup>(6)</sup>	Cr200	7	3kg	1	100 m	*	Medium	*	Yes	1	1kg	*
RAM Launcher <sup>(6)</sup>	Cr400	8	5kg	1	200 m	*	Large	*	Yes	3	1.4kg	*
Infantry Recoiless	Cr2000	7	15kg	1	120 m	*	Large	*	No	1	n/a	n/a
Disposable Launcher <sup>(6)</sup>	Cr200	7	1.5kg	1	100 m	*	Medium	*	Yes	1	n/a	n/a
Disposable Guided	Cr5000	9	10kg	1	1,000 m	*	Large	*	No	1	-	-
Light Tac Launcher	Cr35,000	10	25kg	1	2,000 m	*	Large	*	No	1	Special	

**Flame Weapons**

Flamethrower <sup>(7)</sup>	Cr500	5	20kg	1	15 m	4d6	Large	Flame	No	10	10kg	Cr100
Flame Rifle <sup>(7)</sup>	Cr1500	9	8kg	1	20 m	4d8	Medium	Flame	No	5	5kg	Cr150
Hand Flamer <sup>(7)</sup>	Cr1000	10	2kg	1	3 m	3d8	Small	Flame	No	2	1kg	Cr50
Gauss Flamer <sup>(7)</sup>	Cr10,000	13	9kg	1	50 m	4d10	Medium	Flame	No	12	5kg	Cr1000

**High Energy Weapons**

PGMP-12	KCr10	12	6kg	1	24 m	6d12 (18)	Large	Energy	Yes	40	3lg	KCr2.5
PGMP-13 <sup>(8)</sup>	KCr65	13	900g	1	36 m	7d12 (18)	Large	Energy	Yes	40	7kg	KCr50
PGMP-14	KCr300	14	9kg/50g	1	36 m	8d12 (18)	Large	Energy	Yes	40	1.6kg/90g	KCr250
FGMP-14 <sup>(8)</sup>	KCr100	14	1kg	1	45 m	7d20 (18)	Large	Energy	Yes	40	9kg	KCr65



# WEAPON DESCRIPTIONS

The following format is used for all weapon descriptions.

**Cost:** Price in Credits (Cr) or 1000s of Credits (KCr).

**TL:** The minimum tech level required to manufacture such an item.

**Weight:** Weight in grams (g) or kilograms (kg).

**RoF:** Rate of Fire. The number of rounds that may be fired during a standard attack action in the format: Single Shot / Burst Fire / Automatic Fire.

**Range:** The range increment for this weapon.

**DMG (Crit):** The damage a weapon inflicts. The number in parenthesis is the Critical Threat Range for the weapon. A multiplier (i.e.: x2, x3, etc.) in parenthesis is the damage multiplier if a critical hit occurs.

**Size:** The size of a weapon. Used in comparison to the size of the person using it to determine if the weapon must be use one-handed, two-handed, or is too large for a character to use.

**Type:** The type of attack the weapon uses.

**Recoil:** Lists if the weapon has recoil when fired.

**Rounds:** The number of rounds the weapon may fire before it must be reloaded or recharged.

**Ammo Weight:** The weight of a full magazine or power pack for a weapon.

**Ammo Cost:** The cost of a full magazine of standard ammunition or power pack for a weapon.

**Weapon Structural Integrity:** All weapons have a SI rating of 1.

## Targeting Aids

Aide	Cost	TL	Weight	Notes
Telescopic Sight	Cr200	6	800g	Doubles range increment
Electronic Sight	Cr2000	9	1,500g	Low-light capability
Electronic Telescopic	Cr3000	9	1,800g	Combines both of the above
Toughened Sights	X1.5	+1	-	Ruggedized version of any of the above
Laser Dot Pointer	Cr250	7	-	Gives +2 bonus to hit at close range
Personal HUD	Cr2000	9	2kg	Gives +3 to hit at all ranges

## Critical

x2	Weapon does double damage on a critical hit.
x3	Weapon does triple damage on a critical hit
18	Threat range is increased to 18-20 instead of just 20. Does double damage on a critical hit.
19	Threat range is increased to 19-20 instead of just 20. Does double damage on a critical hit.

\* Characteristics depend upon ammunition type.

(1) Stealth weapon designed to evade detection by standard weapon detectors.

(2) Fires Tranquilizer, Standard (Ball), High Explosive, or Armor Piercing rounds.

(3) Fires Standard, High Explosive, or Flechette rounds.

(4) Fires Standard or High Explosive rounds.

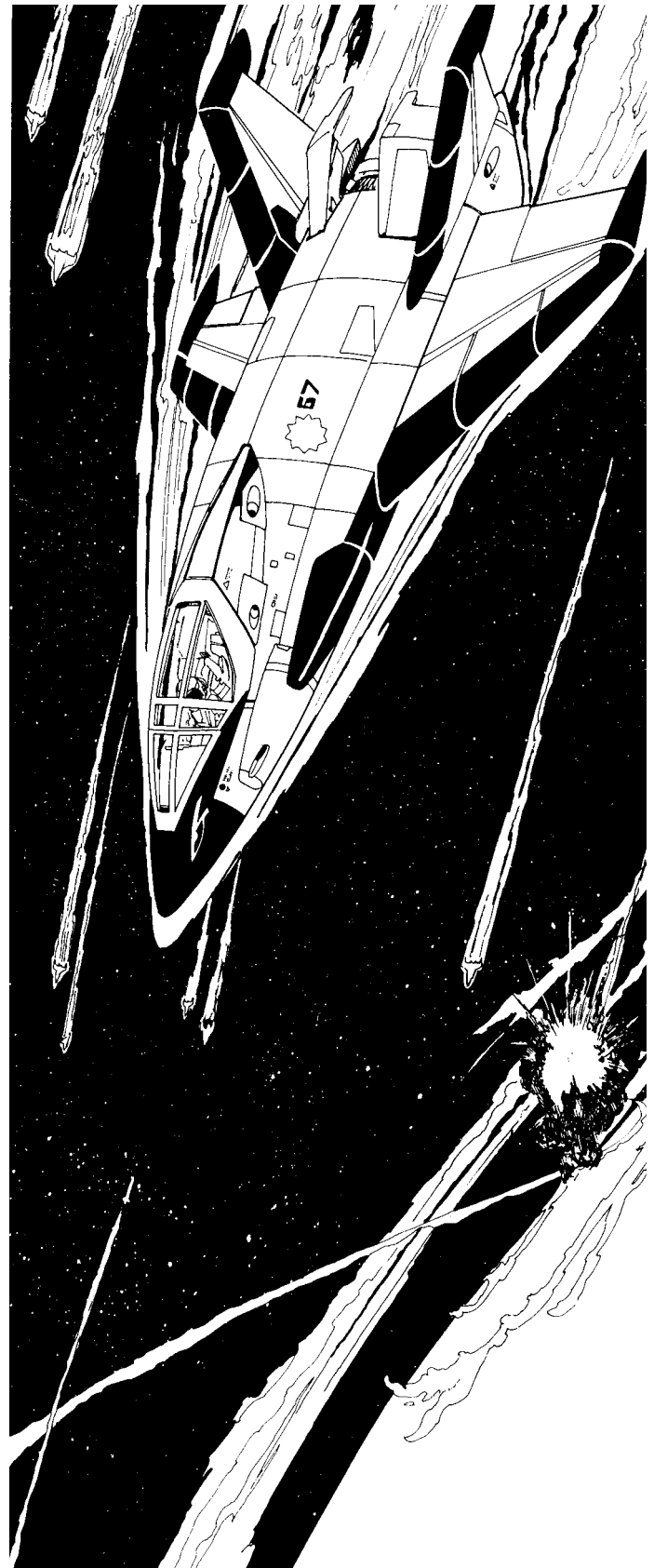
(5) Fires Standard, High-Explosive or Flechette rounds.

(6) Fires a range of munitions. See "Grenades" for details.

(7) Flame weapon with area effect.

(8) Requires the shooter to be wearing battle dress.

NB: Almost any projectile weapon can use armor-piercing ammunition instead of standard (ball) rounds. Characteristics are marginal for low-velocity weapons such as handguns, so normally only rifles will use such ammunition.



## ARCHAIC ARMOR

These types of armor are fairly effective against melee attacks low-velocity weapons such as bows or crossbows; their full AC bonus applies against such attacks. Against modern firearms, lasers, and energy weapons they do not fare as well; their AC bonus should be halved against these forms of attacks. This reduced value is listed in parenthesis next to the standard AC rating.

	<i>Armor Rating</i>	<i>Max DEX Bonus</i>	<i>Armor Check Penalty</i>	<i>Cost</i>	<i>Weight</i>	<i>TL</i>	<i>Speed 9m</i>	<i>6m</i>
<b>Light Armor</b>								
Padded	1 (0)	+8	0	Cr5	4.5kg	1	9	6
Leather	2 (1)	+6	0	Cr10	7.5kg	1	9	6
Studded Leather	3 (1)	+5	-1	Cr25	9kg	1	9	6
Chain Shirt	4 (2)	+4	-2	Cr100	11kg	2	9	6
<b>Medium Armor</b>								
Hide	3 (1)	+4	-3	Cr15	11kg	0	6	3
Scale mail	4 (2)	+3	-4	Cr50	13.5kg	1	6	3
Chainmail	5 (2)	+2	-5	Cr150	18kg	2	6	3
Breastplate	5 (2)	+3	-4	Cr200	13.5kg	1	6	3
<b>Heavy Armor</b>								
Splintmail	6 (3)	0	-7	Cr200	20.5kg	2	6	3
Banded mail	6 (3)	+1	-6	Cr250	16kg	2	6	3
Half-plate	7 (3)	+0	-7	Cr600	22.5kg	2	6	3
Full plate	8 (4)	+1	-6	Cr1500	22.5kg	2	6	3

## MODERN ARMOR

Modern armor is effective against most forms of attack, from archaic melee weapons and bows to modern weaponry.

	<i>Armor Rating</i>	<i>Max DEX Bonus</i>	<i>Armor Check Penalty</i>	<i>Cost</i>	<i>Weight</i>	<i>TL</i>	<i>Speed 9m</i>	<i>6m</i>
<b>Light Armor</b>								
Slash	1 <sup>(1)</sup>	+10	0	Cr100	0.5kg	7	9	6
Jack	2 (0)	+8	0	Cr50	1kg	5	9	6
Mesh	3	+5	-1	Cr150	2kg	7	9	6
Flak jacket	4	+6	0	Cr100	1kg	7	9	6
Reflec */**	0/6	+8	0	Cr1500	1kg	10	9	6
Light Cloth (Diplo)	2	+10	0	Cr350	1kg	9	9	6
<b>Medium Armor</b>								
Ablat */***	2/5	+5	-1	Cr75	2kg	9	6	3
Cloth	6	+4	-2	Cr250	2kg	6	6	3
Advanced Cloth	6	+6	-1	Cr500	1.5kg	9	6	3
Combat Env Suit	6	+2	-3	Cr1500	3kg	10	6	3
<b>Heavy Armor</b>								
Flex ****	7	0	-5	Cr750	8kg	8	6	3
Advanced Flex****	7	+2	-3	Cr1250	6kg	10	6	3
<b>Vac Suit</b>								
Combat Armor	7	+3	-4	Cr20,000	18kg	11	6	3
Combat Armor	7	+5	-1	Cr30,000	10kg	12	6	3
Combat Armor	8	+6	0	Cr60,000	6kg	14	6	3
Hostile Env Suit	5	+2	-3	Cr18,000	40kg	12	6	3

Hostile Env Suit	7	+3	-4	Cr150,000	25kg	14	6	3
Tailored Vac Suit	2	+6	0	Cr9000	-	14	9	6
Vac Suit	4	+0	-5	Cr9000	8kg	9	6	3
Vac Suit	3	+2	-3	Cr8000	2kg	12	6	3
Vac Suit	2	+4	-2	Cr7000	-	14	6	3

\* AR is used instead of body armor AR to calculate AC in the event of a called shot to the head (which is subject to the usual to-hit penalty). Archaic and "security" armor performs poorly against lasers and high-velocity projectiles.

## OTHER

The following accessories may be added to vac suits of any type, combat environment suits, combat armor, and battle dress.

Accessory	AC Modifier	Cost	TL
Chameleon	+2 to AC	Cr1000	12
Chameleon	+4 to AC	Cr5000	14
Psionic Shielding	Immunity to Psi attacks	Cr4000	12

\* First number is the base armor rating, the second number is the armor rating vs. laser weapons.

\*\* Can be worn under most other types (except combat armor and battle dress), adding its rating to the rating of the other armor. Reflex may not be worn under combat armor and battle dress.

\*\*\* Unlike other types of armor, the armor rating (vs. lasers) of Ablat is reduced by 1 point every time a laser weapon hits it. Thus after 5 hits by any type of laser, the Ablat armor will be rendered useless (against any type of attack).

\*\*\*\* Flex, or Enhanced Cloth, can only be worn on the torso.

## ARMOR DESCRIPTIONS

The following format is used for all armor descriptions.

**Critical Hits:** Each time a character that is wearing armor suffers a critical hit, the rating of their armor is degraded by 1 point. When the rating of a set of armor is reduced to zero or less, the armor has lost all of its effectiveness and no longer offers any protection.

**Armor Rating:** The value is the armor bonus added to a character's AC, and the damage reduction factor when determining lifeblood damage if an attack does strike the character.

**Maximum DEX Bonus:** This number is the maximum Dexterity bonus to AC that this type of armor allows. Heavier armors limit mobility, reducing a character's ability to dodge blows.

**Armor Check Penalty:** Anything heavier than leather impacts the ability to use some skills.

**Cost:** The cost of the item in Credits (Cr).

**Weight:** The weight of the item in kilograms.

**TL:** The earliest tech level at which this item first becomes available.

**Speed:** The maximum speed of a character when wearing this type of armor.

**Armor Structural Integrity:** The SI rating of armor is equal to its armor rating.





**TABLE: Shields**

Type	AC Bonus	Armor Check Penalty	Cost	Weight	TL
Buckler	+1 to AC	-1	Cr15	2kg	1
Shield, small, wooden	+1 to AC	-1	Cr3	2kg	1
Shield, small, steel	+1 to AC	-1	Cr9	2.5kg	1
Shield, small, ballistic	+1 to AC	0	Cr15	1kg	5
Shield, large, wooden	+2 to AC	-2	Cr7	4.5kg	1
Shield, large, steel	+2 to AC	-2	Cr20	16.5kg	1
Shield, large, ballistic	+2 to AC	-1	Cr25	2kg	6
Shield, tower, wooden	Provides Cover*	-10	Cr30	20.5kg	1
Shield, tower, steel	Provides Cover*	-10	Cr30	20.5kg	1
Shield, tower, ballistic	Provides Cover*	-5	Cr50	5kg	7

\* A tower shield can provide cover as per the Cover rules (see Combat, Cover). The user may expose as little or as much of their body as they wish.

**TABLE: Helms and Helmets**

Type	AR*	Cost	Weight	TL
<b>Archaic Armor</b>				
Cap/Hood	1 (0)	Cr5	Negligible	0
Leather Helm	2 (0)	Cr10	250g	1
Open Helm	3 (1)	Cr50	1kg	2
Closed Helm	4 (2)	Cr100	1.5kg	2
Full Helm	6 (3)	Cr250	2kg	2
Great helm	8 (4)	Cr400	3kg	2
<b>Modern Melee Armor</b>				
Skullcap	2 (0)	Cr25	Negligible	6
Security Helmet	5 (2)	Cr75	1kg	8
<b>Modern Ballistic Armor</b>				
Steel Helmet	3	Cr25	1kg	5
Ballistic Helmet	5	Cr100	1.5 g	7
Flex Helmet	7	Cr250	2kg	9

**Equipment Structural Integrity:** The SI rating of a piece of equipment (excluding armor, weapons, or vehicles) is based on its weight as listed on the table below:

**TABLE: Equipment SI**

Size	Weight or Volume	Base SI	Additional SI (round down)	Weight in Pounds (d20 size)
Fine	up to 0.05	0	0.1 per 0.005 over 0.005	0.11 (1/8)
Diminutive	0.05 to 0.5	1	0.1 per 0.05 over 0.05	1.1 (1)
Tiny	0.5 to 5	2	0.3 per 0.5 over 0.5	11 (8)
Small	5 to 30	5	0.5 per 2.5 over 5	66 (60)
Medium	30 to 250	10	1.5 per 22 over 30	550 (500)
Large	250 to 2000	25	2.5 per 175 over 250	4400 (4,000)
Huge	2000 to 15,000	50	2.5 per 1300 over 2000	33,000 (32,000)

The following listing may be considered a shopping list for PCs. When they originally outfit themselves for an adventure, each may purchase or acquire items from this list in preparation for action or mishap. For the most part, this list does not include weaponry, and all items are generally available for purchase without difficulty on worlds with a sufficient technology level (on other worlds, they may be available as imports at higher prices). Often, the base price for these items will be higher or lower. The Referee may wish to use the trade and speculation rules for percentage price changes.

**TABLE: ENVIRONMENT EQUIPMENT**

	<i>TL</i>	<i>Cost</i>	<i>Weight</i>
<b><i>Atmospheric Protection</i></b>			
Respirator	5	Cr100	0.5kg
Mask, Combination	5	Cr150	1kg
Mask, Environment	7	Cr200	1kg
Mask, Face	5	Cr20	0.75kg
Mask, Filter	3	Cr10	0.5kg
Mask, Life-Support	8	Cr1000	2.5kg
Oxygen Tanks	5	Cr500	5kg
<b><i>Underwater Protection</i></b>			
Artificial Gill	8	Cr4000	4kg
Deep-Diving Suit	8	Cr3000	12kg
Depth Gauge	6	Cr25	Negligible
Dive Suit	6	Cr60	Negligible
Dive Suit, Heated	8	Cr250	3kg
Swimming Equipment	3	Cr200	1kg
Underwater Air Tanks	5	Cr800	5kg
<b><i>Vacuum/Hostile Environment Equipment</i></b>			
Vac, Hostile Environment and Combat Environment suits are listed under Armor			
Body Pressure Sleeve	10	Cr5000	10kg
Bulkhead Patches	10	Cr150	4kg
Desert Suit, Advanced	9	Cr7000	5kg
Emergency Hostile Environment Suit	12	Cr7500	45kg
Emergency Softsuit	12	Cr5000	4kg
Heatproof Suit	7	Cr2000	8kg
Heatsuit	8	Cr350	0.5kg
NBC Suit	8	Cr4000	12kg
Personal Re-Entry Kit	10	Cr1000	100kg
Protective Suit	6	Cr700	5kg
Radiation Suit	7	Cr5000	30kg
Rescue Ball	9	Cr600	3kg
Rescue Suit	13	Cr50,000	50kg
Thrust Pistol	7	Cr8000	10kg
Thrust Pack	12	Cr14,000	38kg
Vac Suit Emergency Kit	7	Cr10	Negligible

**TABLE: FIELD TOOLS AND SURVIVAL EQUIPMENT**

	<i>TL</i>	<i>Cost</i>	<i>Weight</i>
<b><i>Basic Equipment</i></b>			
Attaché Case	7	Cr75	1kg
Backpack	3	Cr45	3kg
Beacon, Emergency	9	Cr750	1kg
Beacon, Navigational	7	Cr30	1kg

Boots, Outdoor	3	Cr50	1.5kg
Cable	9	Cr100	3kg
Chain, Medium	4	Cr150	20kg
Climbing Kit, Basic	4	Cr100	4kg
Climbing Kit, Advanced	8	Cr500	6kg
Cold Weather Clothing, Basic	1	Cr200	4kg
Cold Weather Clothing, Advanced	9	Cr750	2kg
Compass, Magnetic	3	Cr10	negligible
Desert Kit, Individual	3	Cr200	1kg
Field Kit, Personal	3	Cr250	3kg
Fire Extinguisher	5	Cr25	5kg
Flare, Distress	6	Cr12	0.25kg
Fusion Still	13	Cr4500	60kg
Grapnel and Cable	2	Cr15	5kg
Grapnel Launcher	7	Cr100	10kg
Ice Axe	3	Cr25	1.5kg
Ice Terrain Kit, Personal	4	Cr100	1.5kg
Ice Terrain Kit, Vehicle	6	Cr1000	20kg
Inertial Locator	9	Cr1200	1.5kg
Parachute	4	Cr250	15kg
Parachute, Grav	10	Cr2500	15kg
Parawing	7	Cr400	5kg
Pitons (5)	4	Cr25	1kg
Piton Hammer	2	Cr10	1kg
Rope, 10m	5	Cr20	3kg
Scientist's Field Kit	4	Cr500	5kg
Skis	3	Cr100	10kg
Snowshoes	1	Cr60	1kg
Survival Kit, Personal	1	Cr50	3kg
Survival Kit, Vehicle	8	Cr1000	50kg
Water Purification Kit	5	Cr5	Negligible
Water Filtration/Distillation Unit	7	Cr75	1kg
Wrist Watch	4	Cr25+	Negligible
<b><i>Light Sources and Vision Aids</i></b>			
Binoculars, Optical	3	Cr75	1kg
Binoculars, Electronic	8	Cr750	2kg
Binoculars, PRIS	12	Cr3500	2kg
Chemical Lightstick (10)	6	Cr10	0.2kg
Cold Light Lantern	6	Cr20	0.25kg
Combination Viewer	9	Cr1500	2kg
Electric Torches/Flashlight	5	Cr10	0.5kg
Flare, Illuminating	5	Cr25	250g
Flare, Signaling	5	Cr10	250g
Flare Launcher	5	Cr75	1kg
Gas or Oil Lamp	2	Cr10	0.5kg
Goggles/Shades	5	Cr15	Negligible
Goggles, Infrared	6	Cr500	0.25kg
Goggles, Light Intensification	7	Cr500	0.25kg



Personal HUD	9	Cr2000	2kg
Torches	1	Cr1	0.25kg
<b>Shelters</b>			
Advanced Base	8	Cr50,000	6t
Pre-Fabricated Cabin	6	Cr10,000	4t
Pressure Tent	7	Cr2000	25kg
Portable Airlock	9	Cr1000	6kg
Sleeping Bag	5	Cr200	3kg
Tarpaulin	1	Cr10	2kg
Tent	2	Cr200	3kg
	<i>TL</i>	<i>Cost</i>	<i>Weight</i>

TABLE: MEDICAL EQUIPMENT

<b>Medical Kits</b>			
Autodoc	13	Cr150,000	0.5t
Field Medical Kit	5	Cr1000+	10kg
First Aid Kit	See description	Varies	1.5kg
Medical Kit, Vehicle	7	Cr5000	25kg
Medikit, Personal	12	Cr15,000	0.1kg
Mediscanner, Personal	12	Cr10,000	0.1kg
Mediscanner, Portable	12	Cr25,000	1kg
Surgical Kit	See description	Varies	1.5kg
<b>Drugs and Pharmaceuticals</b>			
Anagathics	15	MCr2	-
Antibiotics	6	Cr50	-
Anti-Venom/Antitoxin	6	Cr20	-
Combat Drug	9	Cr750	-
Fast Drug		9	Cr2000
Fast Drug		12	Cr2000
Medical Slow Drug	7	Cr100	-
Medical Drug	8	Cr100	-
Metabolics	8	Cr1000	-
Recreational Drugs	1	Varies	-
Psi Drug	See description	Varies	-
Slow Drug	8	Cr5000	-
Slow Drug	11	Cr5000	-
Truth Serum	5	Cr500	-
Vaccine (Specific)	5	Cr15	-
Vaccine (Broad-Spectrum)	10	Cr20	-
	<i>TL</i>	<i>Cost</i>	<i>Weight</i>

TABLE: ELECTRONIC EQUIPMENT

<b>Instruments and Detectors</b>			
Atmosphere Tester	7	Cr150	1kg
Chemical Alarm	6	Cr200	1kg
Bio-Analysis Unit	9	Cr5000	10kg

Biohazard Alarm	8	Cr2000	2kg
Biosniffer	14	KCr500	5kg
Chemical Analysis Unit	8	Cr2500	5kg
Combination Analysis Unit	10	Cr10,000	12kg
Densitometer	13	Cr10,000	15kg
Metal Detector	6	Cr300	1kg
NBC Alarm	8	Cr500	2kg
Neural Activity Detector	14	KCr50	20kg
Radiation Counter	5	Cr250	1kg
Sonar Rangefinder	6	Cr300	1kg
<b><i>Communications Equipment</i></b>			
Bug Detector	12	Cr1000	1kg
Bug Detector, Advanced	15	Cr5000	1kg
Bugging Kit	12	Cr10,000	2kg
Camera (Film)	6	Cr50	0.2kg
Camera (Digital)	8	Cr150	0.2kg
Camera, Advanced (Digital)	10	Cr400	0.3kg
Comm, Personal	9	Cr50	Negligible
Comm, Personal, Advanced	12	Cr150	Negligible
Communicator, Long Range	6	Cr500	15kg
Communicator, Medium Range	5	Cr200	10kg
Communicator, Short Range	5	Cr100	5kg
Communicator, Laser	7	Cr5000	10kg
Scanner, Coms	7	Cr500	1kg
Scrambler Unit	9	Cr1000	1kg
Translator	12	Cr2000	0.5kg
<b><i>Tools</i></b>			
Breaching Charge	8	Cr200	2kg
Chain Saw	6	Cr500	8kg
Cutting Torch	5	Cr500	20kg
Cutting Gear, Laser	10	Cr1200	9kg
Disguise Kit	7	Cr1000	5kg
Intrusion Kit, Basic	5	Cr50	0.5kg
Intrusion Kit, Advanced	10	Cr500	0.5kg
Iris Valve Opener	7	Cr100	2kg
Janitorial Kit	5	Cr250	10kg
Lock Pick Set	4	Cr10	0.25kg
Slaplock	8	Cr40	0.2kg
Spade/Shovel	3	Cr20	3kg
Tool Set, Electronic	7	Cr2000	5kg
Tool Set, Excavation	4	Cr300	15kg
Tool Set, Mechanical	5	Cr1000	20kg
Tool Set, Metalwork	4	Cr1500	50kg
Tool Set, Rescue	8	Cr2500	25kg
Tool Set, Starship Engineer	10	Cr10,000	20kg
Tool Set, Woodworking	2	Cr300	25kg
Welding Kit, Electric	5	Cr1500	50kg
Welding Kit, Advanced	9	Cr2500	30kg

TABLE: MISCELLANEOUS EQUIPMENT

	<i>TL</i>	<i>Cost</i>	<i>Weight</i>
<b>Personal Devices</b>			
Artificial Psionic Shield Helmet	8	Cr4000	1kg
Bull-Horn	5	Cr120	5kg
Hand Calculator	7	Cr10	1kg
Hand Computer	11	Cr1000	0.5kg
Portacomp	10	Cr5000	2kg
Handcuffs	2	Cr25	0.3kg
<b>Other Devices</b>			
Cargo Hoist	7	Cr10,000	500kg
Cargobot	9	kCr100	50kg
Commsat, Short-term	6	Cr5000	30kg
Commsat, Standard	9	Cr15,000	30kg
Satellite Ground station	7	Cr50,00	40kg
Satellite Launcher, Field	11	kCr100	300kg
Navsat	6	Cr10,000	100kg
Survey Sat	11	kCr100	50kg

TABLE: CLOTHING AND LIVING EXPENSES

	<i>TL</i>	<i>Cost</i>	<i>Weight</i>
<b>Clothing</b>			
Business Clothing	-	Cr300	-
Court Clothing, Basic	-	Cr5000	-
Court Clothing, Noble	-	Cr25,000	-
Formal Clothing	-	Cr500	-
Shipboard/Work Coveralls	-	Cr50	-
Street Clothing	-	Cr25	-
Uniform, Day	-	Cr100	-
Uniform, Dress	-	Cr300	-
Outdoor Clothing	-	Cr100	-
<b>Food and Overhead Per Day</b>			
Average Restaurant Meals	-	Cr10	-
Excellent Restaurant Meals	-	Cr(1d4+1) x10	-
Prepare Own Meals	-	Cr5	1kg
Canned or Packaged Rations	-	Cr20	0.5kg
Dehydrated Rations	-	Cr25	0.2kg
Dismal Lodging	-	Cr2	-
Average Lodging	-	Cr6	-
Good Lodging	-	Cr8	-
Excellent Lodging	-	Cr10	-





Sooner or later, something will try to eat the characters, or someone will decide to end their careers with a swift lead overdose, and the characters will find themselves involved in combat. Combat in **T20** can take place between individuals, creatures, vehicles and even starships, and possibly all at the same time.

## COMBAT BASICS

Combat in **T20** is very lethal. A barroom slugfest can go on for a while, with battered characters able to stagger out of the combat zone before they get seriously hurt. Once guns and blades are introduced, however, things get deadly, and fast. Even a humble autopistol can kill a character with a shot or two. Almost anyone, no matter how tough, will go down if hit a couple of times by a shotgun. This may seem unfair or excessive, but it is realistic, and thus **T20** combat requires a realistic approach to fighting.

The best combat strategy is, of course, to find a way to avoid the conflict and still achieve your goal, but if this is not possible then certain factors will aid survival and ensure victory. Armor helps, of course, but an armored character can still be battered to death by non-penetrating rounds, or killed by a sufficiently powerful bullet – or an armor-piercing one.

The best bet is not to get hit, and achieving that is about more than armor. It's about fighting smart, using cover, and minimizing an enemy's advantages. As a rule, forces that fight as a team tend to do better than those who blaze away as individual heroes. Good tactics will allow characters to minimize an enemy's advantages. For example, a team with a skilled rifleman can engage enemies from beyond their effective range, or someone with an automatic weapon can spray an area with suppressive fire (with little chance of actually hitting anything) to keep enemies' heads down while team-mates maneuver for a clear shot. Plunging into melee with enemies who are using firearms isn't always suicidal – a character running amok with a sword is hard to shoot without a risk of hitting allies, and even if he doesn't take out the opposition, he may well tie up some of their shooters, who are too busy defending themselves at close quarters to engage at their best advantage.

Victory will not always go to those with the most Lifeblood, best armor and biggest guns; tactics and smarts play a big part too. People who stand and shoot at the opposition will kill many foes, but they will also attract a lot of fire and will eventually take a killing shot.

That's how it should be.

## TIME FRAME

**T20** uses 6-second combat rounds, but it is not necessary to account for every millisecond in a combat. That is necessary for a fair and even tabletop skirmish game, but most **T20** games are about drama and action – they're movies, not battleplans.

Thus sometimes it is better to assume combat rounds to be a fluid "few seconds" long and not worry about it too much. This does mean that the characters exchanging a quick flurry of sword blows may seem to be out of synch with the guy climbing over the fence to escape, since their action uses up less time. But it can be assumed to average out in the end; the fencers get into a clinch for several seconds, while the fence-climber fires a couple of pistol shots.

Think of it like a movie combat scene – does everyone begin and end their actions all at once? No, they don't. The round system is a basic structure – a framework to hang a dramatic

scene on. Unless the gaming group is into wargaming and wants everything neatly codified and absolutely "fair" (not that there is anything bad about that), the Referee should feel free to loosen the round sequence up a little to allow for drama.

The end result is the same; everyone gets one round's worth of actions every round, but there is no need to worry about questions like "surely I've got some time left at the end of the round – all I did was press a button!" or players who demand to know why they can only pull a trigger once in six seconds!

It should also be noted that people do all kinds of stuff in combat that takes up time: they aim, shift position, abort a shot because a wounded friend is reeling through their firing arc, assume a fighting stance, feint with weapons, taunt their foes, communicate with their allies, glance around, stumble over corpses, gasp for breath... and so on.

This looser attitude to timing does not mean that characters should be able to make extra attacks or anything unbalancing like that, merely that it is sometimes easier to resolve a fight as several small one-on-one melees rather than do everything in strict initiative order. It also allows the occasional heroic action, like diving to parry an enemy's blow against a friend, that might otherwise be disallowed under a stricter system. Assume that any time "lost" to a short action is used up in one or more of the activities mentioned above, or that the character will "gain" on some longer action later.

The official position of the QLI staff on this subject is that IF your Referee thinks it is appropriate, then a looser, more dramatic combat round system is an excellent idea. If it makes for a good scene or story, it's acceptable. If this looser structure removes timing questions, that's great. If it is abused by players, the strict "miniatures wargame" system should be re-implemented immediately.

## THE T20 COMBAT SYSTEM

**T20** uses the standard **d20** combat system, with a few modifications. This section presents an overview of the system, including new rules and those from **d20**.

## MECHANICS

Some basic mechanics are repeated over and over in a combat. For reference, they are presented here.

### ARMOR RATING

Armor in **T20** has an Armor Rating (AR) that indicates both how well the armor absorbs damage but also how difficult it is to get in a telling shot on the wearer. For example, combat armor not only stops bullets and blows dead, but also can cause some to glance off harmlessly. Thus AR contributes to Armor Class (AC) and also reduces damage if a hit is obtained. Some heavy armor may make a character easier to hit by reducing his ability to dodge, but be worth wearing because it absorbs damage well. Some armor is only good against certain weapons, for example reflex, which is only useful against lasers.

### ARMOR CLASS

Armor Class (AC) is a representative value, indicating how hard it is to get a telling blow or shot in on a character, or even to hit him at all. Base AC is 10, and is modified by dexterity, armor rating, and other defensive factors.



**TABLE: Size Modifiers to Attack Bonus and Armor Class**

Size	Animal or Item Weight (kg) or Vehicle Volume (v)	Size Modifier	Starships and Smallcraft Tonnage (tons)	Weight in Pounds (d20 size)
Fine	up to 0.05	+8	-	0.11 (1/8)
Diminutive	0.05 to 0.5	+4	-	1.1 (1)
Tiny	0.5 to 5	+2	-	11 (8)
Small	5 to 30	+1	-	66 (60)
Medium	30 to 250	0	-	550 (500)
Large	250 to 2000	-1	1 ton	4400 (4000)
Huge	2000 to 15,000	-2	1-9 tons	33,000 (32,000)
Gargantuan	15,000 to 115,000	-4	10-99 tons	253,000 (250,000)
Colossal	115,000 to 1,315,000	-8	100-999 tons	253,000 or more
Enormous	1,315,000+	-10	1,000-9999 tons	-
Monstrous	-	-12	10,000-99,999 tons	-
Stupendous	-	-14	100,000-999,999 tons	-
Incredible	-	-16	1,000,000+ tons	-

the attack is against a lifeform apply the full damage against the target's Stamina rating. In addition, a successful attack against a target may inflict Lifeblood damage against lifeforms or Structural Integrity damage against equipment, vehicles, and ships. The amount of such damage is determined by reducing the original damage roll based on the Armor Rating (AR) of the target.

**Damage Reduction by AR:** Roll all the damage dice, but then remove one die from the damage roll for each point of AR the target possesses. Always remove the lowest rolls first. Whatever the target's Armor rating, leave one die (the highest one) on the table. If there are still points of Armor rating to be accounted, subtract the remaining points from the remaining damage.

**Minimum Weapon Damage:** If penalties to damage, through any means, bring the damage result below 1, a hit deals no damage to the target.

*Example 1: A character attacks a bug-eyed monster and hits, rolling 3d10 for damage (she's firing a Laser Rifle). The damage dice come up 4, 7, and 4 for a total of 15 points of damage. Since the target is a lifeform, this damage is immediately applied against its remaining Stamina. We now determine how much (if any) Lifeblood damage has been inflicted. The bug-eyed monster has an Armor rating of 5, so we must first remove up to 5 dice of damage if possible. We can't obviously because a Laser Rifle only does 3d10 damage. We remove 2 dice from the damage roll, both of the fours because the lowest rolls are removed first. This leaves 7 points of Lifeblood damage, and also 3 points of Armor rating, to account for. Subtracting these 3 points from the Lifeblood damage, the Laser Rifle inflicts an additional 4 points of lifeblood damage to the bug-eyed monster.*

*Example 2: Two grav tanks are taking shots at one another, both with an Armor rating of 12 and firing Heavy Fusion Guns (6d20 damage). One of the tanks scores a hit on its opponent and rolls 6, 12, 8, 4, 15, and 11 for a total of 56 points of damage. Since the target is a vehicle it has no stamina points. Instead we must reduce the damage to account for the target's armor and apply any remaining damage to the Structural Integrity of the vehicle. We remove 5 of the dice leaving just the 15. This accounts for 5 of the 12 points of Armor rating of the target. Applying the remaining 7 factors of armor against the remaining damage roll of 15 leaves the attack inflicting a total of 8 points of Structural Integrity damage.*

#### Scaling Damage Between Lifeforms, Vehicles, and Starships

The scale of armor and weapon power between lifeforms,

vehicles, and starships is quite drastic. To reflect this when playing **T20** and running combats involving lifeforms, vehicles, and/or starships at the same time apply the following damage modifiers.

**Lifeforms Attacking Vehicles:** When a lifeform attacks a vehicle using a personal weapon, automatically reduce the damage by 5 dice before applying any reductions due to armor.

**Lifeforms Attacking Starships:** A lifeform attacking a starship or small craft with a personal weapon will automatically reduce the damage by 10 dice before applying any reductions due to armor.

**Vehicles Attacking Lifeforms:** A vehicle rolls an additional 5 dice of damage when an attack against a lifeform hits. Note that this applies only to weapons designed for attacking other vehicles. A light machinegun mounted on a combat vehicle is still an antipersonnel weapon and should be treated as a normal attack rather than a vehicular one.

**Vehicles Attacking Starships:** A vehicle attacking a starship or small craft with weapons designed to fight other vehicles must reduce its damage by 5 dice before applying any reductions due to armor.

**Starships Attacking Lifeforms:** Starship weapons ignore personal armor, and in addition roll an extra 10 dice of damage when attacking any Lifeforms.

**Starships Attacking Vehicles:** Starships weapons against vehicles may roll an extra 5 dice of damage. In addition, roll twice on the Internal Damage Location tables.

Common sense must be used when deciding whether scaling factors apply. For example, some starships carry anti-personnel or even anti-vehicle weapons for close support work. These would be treated as Lifeform or Vehicle attacks, because those are their intended targets. A tank plasma gun does not become more powerful because it is fitted in a turret under a starship, and likewise if someone were to build an orbital defense tank mounting a starship laser, this would be treated as a starship attack rather than a vehicular one.

Maritime ships are considered to be Vehicles in almost all cases. Warships should be treated as mounting Vehicle weapons unless they have been specially constructed for the COACC (Close Orbit and Airspace Control Command) role. For example, some surface vessels mount lasers and particle accelerators for engaging starships, and meson-gun armed submarines are used by many COACC forces. These units could turn their weapons on



other maritime vessels if they needed to, but they are optimized for engaging starship-class targets.

### Stamina

Stamina represents a character's ability to withstand heavy exertion, accumulated minor wounds, fatigue, and other minor physical impairments and injuries. A higher-level character may have a much larger Stamina reserve to rely upon, developed from years of training and experience. Stamina is modified by Constitution.

*d20 Note: Stamina points are the basic equivalent of Hit Points, with some minor changes. Characters from other d20 games using Hit Points or equivalent translate exactly.*

**Unconscious (0 or Fewer Stamina Points):** When your character reaches 0 Stamina points he or she will fall unconscious from a combination of exhaustion, accumulated minor damage, etc. Any further Stamina damage received by an unconscious character is taken directly against Lifeblood instead (no armor adjustments apply here) until the character has healed to at least 1 Stamina point. The character will remain unconscious for at least 10 minutes, after which they may attempt a Fortitude save (DC15) to recover consciousness. If the save is failed the character may try again every 10 minutes until successful, someone revives them, or they are healed.

### Lifeblood

In addition to Stamina each lifeform, be it a character, NPC, or bug-eyed monster, also has a Lifeblood rating that represents its ability to withstand the traumatic damage and injuries that often accompany futuristic weaponry. The Lifeblood rating is generally equal to the lifeform's Constitution score, but may vary due to size and other factors.

**Dying (0 to -9 Lifeblood):** When a being's Lifeblood drops to 0 or lower, it is dying. At the end of each round, beginning with the round in which Lifeblood fell to 0 or lower, the being must make a Will save (DC15) or lose 1 more Lifeblood and fall unconscious. Once unconscious it will continue to lose 1 additional Lifeblood point at the end of each round. If the being reaches -10 Lifeblood, it is dead. Each round a being remains conscious it does not automatically lose additional Lifeblood and may attempt any type of action other than a move action. However, if an action is attempted while in this condition, the being must make an additional Will save (DC15) after the action to see if the stress causes him/her/it to fall unconscious and begin to lose additional Lifeblood.

**Dead (-10 or lower Lifeblood):** If a character or other being ever reaches -10 Lifeblood, they have died. It is also possible to die even if a being has remaining lifeblood; for example, certain types of poisoning can reduce a character's Constitution score, which if reaches 0 also will cause death.

### Structural Integrity Points (SI)

Vehicles (including robots), small craft, and starships do not have a Stamina or Lifeblood rating. Instead these craft use a Structural Integrity or SI rating to measure damage against them. This SI rating is based on the overall size of the craft, and is determined when the vessel is designed and constructed (see the Vehicle or Starship Design rules in the *Travellers' Handbook*).

**Non-Functional (0 or fewer Structural Integrity):** When a vessel's structural integrity drops to 0 or lower, it is rendered completely non-functional. Nothing will work until repairs are made. Any further damage received will automatically cause internal damage (roll on the Damage Location table below for each hit), and may end up completely destroying the craft.

**Destroyed:** It is difficult to completely destroy a vehicle, small craft, or starship - but it can be done. A craft that takes

an amount of damage greater than or equal to twice (x2) its original Structural Integrity rating has been destroyed completely. Destroyed craft cannot be repaired at all. Thus a 100-ton starship could take up to 200 structural integrity points of damage before being destroyed.

### EFFECTS OF WOUNDS ON STAMINA AND LIFEBLOOD

<b>Stamina 0 or less:</b>	The character is unconscious. Further damage is dealt directly to Lifeblood.
<b>Lifeblood 0 to -9:</b>	The character is dying.
<b>Lifeblood -10 or lower:</b>	The character is dead.

### HEALING DAMAGE

It is not normally possible to heal during a fight. For the effects of medical attention, see Medical Treatment in the Field.

### DAMAGE TO PERSONAL EQUIPMENT

Personal equipment only takes SI damage. If an item takes damage equal or exceeding its total SI rating, it is destroyed beyond repair. If not destroyed, for each point of damage taken there is a 5% chance that the equipment will malfunction each time it is used. There is an even (50/50) chance the item will either fail to work at all, or work but produce incorrect and improper results.

### SAVING THROWS

Characters may sometimes get the chance to make a save to avoid some combat effects, for example a Reflex save to dive to the ground and avoid a hail of grenade fragments. The normal Reflex, Fortitude and Will saves apply in combat.

## COMBAT RULES

Combat is resolved as a series of combat rounds. Once combat has begun characters decide what actions they intend to take, and these are then resolved in initiative order (see below). Combat continues until one side flees, is eliminated, or both sides decide or agree to cease fighting.

### SURPRISE

In the first round of combat, some combatants may not be aware of their opponents, or may not have realized that combat is about to begin. If this is the case, the attackers have surprise, and can act normally while those who are caught by surprise cannot act. It is possible to achieve more than one round of surprise. For example, if a party attacks with silent weapons like lasers and eliminates targets that cannot be seen by their allies before they can raise an alarm. Once the victims become aware that they are under attack, the surprise period ends and next round both sides proceed to normal combat. Surprise should be determined by the Referee based on the individual circumstances of the encounter.

### READINESS

At the beginning of a combat, even if they are not caught by surprise, most characters are "flat-footed," i.e. unready and unable to dodge an incoming attack. Flat-footed characters cannot apply their DEX bonus to AC, though armor and other bonuses do apply. Some feats allow a character to avoid being flat-footed. Once a character acts for the first time in any given combat, he is no longer flat-footed.

**Unaware:** This is the equivalent of being caught *flat-footed* for vehicles, small craft, and starships. Vessels that are unaware of their opponents may not use their Agility bonus when calculating

their AC if attacked. An unaware combatant may not take any actions during the surprise round.

## INITIATIVE

Once normal combat has begun, each character makes an initiative check. This is done by rolling 1d20 and adding the character's DEX bonus. Each round, all combatants act in order, from highest initiative to lowest. For simplicity, initiative may be rolled for groups of combatants. Initiative normally applies for the entire combat, though sometimes a new initiative roll may be called for.

**Vehicle, Small Craft, or Starship Initiative:** When a vessel becomes aware of any opponent(s), it must make an initiative check. An initiative check is a 1d20 roll, adding the Agility bonus of the vessel (if any).

*Vehicles:* If the commander of the vessel has the Tactics (I or II) feat, they may add their WIS modifier to this roll.

*Small Craft and Starships:* If the commander of the vessel has the Ship's Tactics feat, they may add a +2 modifier to this roll.

These Initiative check results determine in what order vessels will act during each round of the encounter. Each vessel may take an action in their initiative order (highest to lowest) every round. If two or more vessels have the same initiative check result, they will act in order based on the vessel Agility bonus (highest to lowest). If there is still a tie, have each side roll 1d6 with the highest roll acting before the lowest roll. Reroll until all ties are broken.

## ACTIONS IN COMBAT

Characters can do pretty much anything they like in a combat round. Most often, they will attack someone and/or move to get a better position, escape etc. Actions in combat fall into several types:

### Free Actions

Some actions are "free," in that they take up no time and can be carried out while doing something else. Common sense suggests that there are only so many free actions that can be taken in a combat round, so the Referee may choose to limit a character who tries to do too much.

### Standard Actions

Most actions in combat are "standard" actions, taking a few seconds or less to complete. A character who undertakes a standard action may move his normal distance (before, after or during the action) and carry out his chosen act. An attack is a standard action, i.e., a character may make a single attack and move her normal distance in a combat round.

### Movement and Move-Equivalent Actions

Sometimes a character will decide to do nothing but move in a round. In effect, the character makes a standard action (move and act) but swaps her action for a second move.

Conversely, move-equivalent actions take the place of the movement allowance in a standard action. They do not necessarily involve movement, but take up an equivalent amount of time to that required to move the character's normal distance. A character who undertakes a move-equivalent action may carry out a standard action such as attacking plus his chosen move-equivalent action (such as standing up from prone). Even if a character has given up his movement allowance by using a move-equivalent action, he may still take a couple of steps, moving 1-2 meters during the round.

## Full-Round Actions

Some actions take up the whole round. The most common of these is the full attack, which allows a character to make multiple attacks if she has the capability. A character undertaking a full-round action can take a couple of steps, moving 1-2 meters, but can make no other movement. Free actions can be undertaken during a full-round action, subject to the bounds of common sense and the number of available limbs the character has.

## Multi-Round Actions

Some actions take up more than one round. They are treated as a series of full-round actions. Common sense dictates whether a character can take a 1-2 meter step each round (if she's defusing a bomb or fixing the maneuver drive, wandering about seems to be counterproductive) and whether the task can be left for a round or two then returned to or whether the multi-round action must be completed all in one go.

## RESOLVING ACTIONS

Details of the various actions a character may take in a combat round follow, but remember that these are not the only possible actions. Most things that a character may try to do will fall into one of the above categories; which one covers any given action is up to the Referee.

## MOVE (AND MOVE-EQUIVALENT) ACTIONS

Certain actions are considered to be move actions even though they may not always include movement.

### Climb

A character may climb at ¼ normal movement speed as a move action.

### Crawl or Roll

As a move action, a character may crawl or roll along the ground half his normal movement distance. He gains the benefits of being prone in terms of defense.

### Dive

As a movement or move-equivalent action, a character may make a headlong dive (usually into the nearest cover). As a movement action, a character may make the equivalent of a double move then dive an additional 1-3 meters, ending up in a prone position. This is a fairly reckless thing to do, and the character will take 1d4 Stamina damage from slamming into the ground unless a DC 15 Tumble check is made. Alternatively, a character may dive from a standing start (traveling up to 2 meters in the process) and still make an attack or other standard action such as attacking with a weapon. Such attacks are made at a -4 penalty and the character has a chance of taking Stamina damage as above. However, this Tumble check is only DC10. Targeting a diving character is at a penalty of -2. In both cases, movement comes to a stop in a prone position.

### Reload

Reloading a personal weapon is considered a move action and does provoke a possible attack of opportunity. Magazine- or belt-fed weapons (autopistols, SMGs, assault rifles, machineguns etc) can be completely reloaded with this action, as can weapons reloaded using tools such as a speedloader for revolvers. It is possible to manually load 3 rounds into a weapon such as a shotgun or revolver, or one round into a larger weapon such as a grenade launcher.

Fitting a rifle grenade to a launcher is also considered a reload action.

**Double Move**

A character can move up to twice her speed in meters if she does nothing else that round. Passing close to an opponent will provoke an attack of opportunity.

**Grab an Object**

Picking up or grabbing a loose object is a move action.

**Holster, Sheathe or Put Away A Weapon or Tool**

Returning a weapon or tool to its sling, holster, or holder is a move action.

**Run**

A character can run up to 4 times his speed in meters (up to 3 times if wearing heavy armor) if he does nothing else. Any dexterity bonus to AC is lost. A character may run for up to his Constitution value in rounds. After this, he must make a DC10 Constitution check each round to keep going. If this check is failed, the character must rest for 1 minute (10 rounds) before running again.

**Stand Up**

A kneeling or prone character can stand up as a move action.

**Use Psionics**

Using a psionic talent in combat is considered to be a move action, and does not provoke an attack of opportunity.

**MISCELLANEOUS ACTIONS**

Characters can undertake various other actions during a combat. Many are “free” actions and can be undertaken while doing other things, thus taking up none of the character’s combat actions. Others are full round actions (i.e. the character can do nothing else), and some take several rounds to complete.

**Activate an Item**

You may turn on a simple device like a flashlight, activate (i.e. prepare, not fire) a weapon, or make some or other similar action. This is a free action.

**Drop an Object**

Any object held in one or both hands and not secured in some way can be dropped at any time. Objects secured by straps, lanyards etc can be let go of, but will remain attached to the character and may impede him.

**Kneel or Go Prone**

A character may drop to a kneeling or lying position as a free action. Any movement must end at this point, naturally.

**Mount or Dismount a Vehicle**

Mounting or dismounting a vehicle is a full round action, and may subject the character to an attack of opportunity. At the beginning of the next round the character is considered to be in the vessel, or just adjacent to the vessel if dismounting.

**Open An Iris Valve, Sliding Door, or Standard Door**

A character may open any standard door, sliding door, or iris valve as a standard action. Moving through the doorway takes an additional move action, and closing the doorway requires a final standard action. If conflicting commands are given to a sliding door or iris valve (one character activates it to open and another activates it to close) will cause the doorway to remain in the position it was at the start of the round and ignore all commands for the round.

**Open a Hatchway**

Opening a hatchway is a full round action. Moving through the hatch takes an additional move action, and closing a hatch requires another full round action. Opening or closing a hatchway may provoke an attack of opportunity.

**Open an Airlock**

Activating an airlock to open or close is a standard action, but the airlock will not finish opening or closing until the fourth round after the command was given. It takes 3 rounds to compress or decompress the airlock, and one full round to open or close the doorway. Once a command to open or close has been given to an airlock, it cannot be overridden until the cycle completes.

**Put on a Pressure Suit**

It takes 2 full round actions to put on a vac suit, and 5 full round actions to put on battle dress or combat armor and seal it. An Intelligence check (DC10) must be made once the suit is on to ensure that its environmental integrity is intact. This check is reduced to DC 5 if the character or someone assisting them has the Armor Proficiency (Vac Suit) feat. If failed, the suit does not provide any defense against explosive decompression.

**Patch a Pressure Suit Breach**

Applying a patch to a breach in a vac suit, battle dress or combat armor is a full round action. An Intelligence check (DC15) must be made to properly apply the patch and seal the breach. This check is reduced to DC 10 if the character or someone assisting them has the Armor Proficiency (Vac Suit) feat.

**Speak**

Talking, shouting, or calling to companions nearby can be done while undertaking other actions. If a communications device is used, the act of communicating may be a move action instead. Most coms and headset communicators are hands-free units, so using them is a free action.

**STANDARD COMBAT OPTIONS****Attacks**

The commonest action in a combat round is the attack. There are three basic types of attack: *attacks*, *charges* and *full attacks*.

- **Attack:** A character who makes a normal attack gains no special benefits, but can move during the round. I.e. this is a standard action.
- **Charge:** A character may charge headlong into an opponent to make a melee attack. He may move up to double his speed to reach the target. If he does so, the character gains a +2 bonus to hit, but can make only a single attack that round. He suffers a –2 AC penalty against anyone trying to hit him until his next action. This is a standard action.
- **Full Attack:** a character who has multiple attacks can only use them if he selects this option. A character making a full attack can move a couple of steps only, i.e. this is equivalent to a full-round action.

**Attacks of Opportunity**

Some actions provoke an *attack of opportunity*. For example, when an unarmed character attempts to close with someone using a weapon, or when a character tries to use a melee weapon against someone with a firearm, the defender may make an attack of opportunity. This is in effect a “free shot” in addition to normal attacks, and is made at full attack bonus. Naturally, a character must have a suitable weapon, or ammunition, available to take advantage of this opportunity. Most characters can only make one attack of opportunity per round, but some feats allow more than one, all made at the character’s full attack bonus. Only one attack of opportunity can be used against a target per round.



A character can only make an attack of opportunity within the area he can reach; his “threatened area.” This is a 1.5 meter radius around himself (every adjacent hex or square). Firearms and other self-powered weapons do not provoke an attack of opportunity when fired at an opponent within the threatened area.

Normally, once a character is “in” to make his attack, no more attacks of opportunity can be made. For example, a swordsman rushing in against a pistol-armed foe provokes an attack of opportunity in the first round, but after that he is “in close” and provided he can stay there, he can attack normally in subsequent rounds.

Attacks of opportunity can also be made with ranged weapons, in the case where a character deliberately covers an area (e.g. a doorway) and waits for someone to move past or through it.

## ATTACK MODIFIERS

Characters’ ability to hit their targets can be influenced by many factors. These are detailed below.

### Gravity

The local gravity can have a major effect on activities in combat, unless a character is acclimatized to such environments through the Heavy Gravity Adaptation, the Zero-G/Low Gravity Adaptation or the Improved Zero-G/Low Gravity Adaptation feats. See Environments - Gravity in the Adventuring chapter for more information.

### Range

Thrown weapons have a maximum of 5 range increments, and all other ranged (non-melee) personal weapons have a maximum range of 10 increments. Modern and future vehicle weapons have a maximum range of 15 increments.

Vehicle and personal weapons each have a range increment listed for them. This represents the range at which the weapon is most accurate. For each additional increment beyond, the weapon’s accuracy is reduced by –2 (applied to the attacker’s to hit roll), and the damage roll is reduced by 1 die. See the Damage rules for more information on applying damage.

### Personal or Vehicle Communication and Sensor Ranges:

Personal or vehicle communication and sensor systems uses the following range increments:

Range	Distance (in Kilometers)
Close	up to 1
Short	up to 5
Medium	up to 50
Long	up to 500
Continental/Very Long	up to 5,000
World-wide/Extreme	up to 10,000

**Starship or Spaceship Communications, Sensors, and Weapon Ranges:** Ship’s Weaponry, Sensors, and Communications are handled differently because of the distances involved. These systems are simply rated by their standard range band (close, short, medium, long, very long, and extreme). For each range band past a system’s standard range it suffers a –2 penalty to any skill checks, attack rolls, etc., and any damage roll is reduced by 1 die. For weapons, treat Extreme 1 – 4 as a single range band; Extreme.

Range	Hexes	Distance (in Kilometers)
Visual	(0)	up to 50
Close	0	up to 15,000
Short	1-3	up to 45,000
Medium	4-5	up to 75,000
Long	6-8	up to 120,000
Very Long	9-16	up to 240,000
Extreme 1	17-20	up to 300,000
Extreme 2	21-24	up to 360,000
Extreme 3	25-28	up to 420,000
Extreme 4	29-32	up to 480,000
Far	33-320	up to 4,800,000
System-wide	321+	beyond 4,800,000

### Relative Speed

The difference between the current speed of the attacker and defender has an impact on how easily the target can be hit. A fast moving target is much more difficult to hit than a slow target. These modifiers apply to vehicle and personal combat only.

Relative Speed	Target AC
Difference	Modifier
0-25 kph	+0
26-50 kph	+1
51-100 kph	+2
101-200 kph	+4
201-400 kph	+8
401-600 kph	+10
601-800 kph	+12
801-1,000 kph	+14
1,001+ kph	+16

### Movement

Characters can normally move up to their movement allowance (speed) in a round, and still make a normal action, attack, evade, etc. Characters may choose to make a double move (up to double their speed), or run up to 4 times their speed in meters (3 times their speed if wearing heavy armor), though they will not be able to do anything else.

### Defensive Actions

A character may decide that staying alive is more important than hurting a foe. He has three options in this case: Fight Defensively, go Fully Defensive, or Break Off.

- **Fight Defensively:** The character fights extremely cautiously or tries to draw his opponent into making a mistake. His attacks are at –4, but he receives a +2 bonus to AC against all attacks.
- **Fully Defensive:** A character who does nothing but try to stop or evade incoming attacks cannot attack at all, but gains a +2 bonus to is AC as above. In addition, he receives a “parrying pool” equal to half his weapon attack bonus. This pool can be allocated as penalties to any and all incoming melee attacks, reducing the attacker’s chance to hit. It is no use against projectile weapons, but the character still gets his +2 AC bonus.
- **Break Off:** A character who wishes to break off and flee acts as if he was fighting defensively (getting a +2 bonus to AC as above), and picks a moment to break off and make a run for it.

His opponent gets an attack of opportunity (the AC bonus counts against this) as the character turns to flee and, depending upon initiative, he may have already made his normal attack. The character breaking off gets to make a double move away from his opponent, who cannot pursue until the next round.

### SPECIAL COMBAT OPTIONS

Characters may undertake a range of special actions in combat.

#### Bull Rush

A Bull Rush can be attempted as either an attack or a charge options. The attacker simply runs into his opponents and tries to shove him bodily backwards. It is not possible to succeed against an opponent who is two or more size categories larger than the attacker.

Attempting a bull rush provokes an attack of opportunity from the defender and anyone you pass to reach him. Attacks made by people other than the defender have a 25% chance of accidentally targeting the defender. Attacks on the defender have a 25% chance of targeting the person rushing at him, instead.

Once the rusher has closed with his target, make an opposed Strength check. Attacker and defender may add +4 for every size class they are larger than Medium, and -4 for every class smaller. The attacker gets an additional +2 bonus if he charged, and the defender gets a +4 bonus if he has more than 2 legs.

If the bull rush is successful, the defender is sent backwards 2 meters. If the attacker wants to follow the defender and keep shoving, add 1 meter to this distance for every 3 points the strength check is won by. If the movement caused by the bull rush sends attacker and/or defender through someone's threatened area, they may make an attack of opportunity.

If the attacker fails to win the strength check, he bounces 2 meters back.

#### Using Two Weapons

It is difficult to fight with two weapons, though some people can do it effectively. A character trying to use two weapons suffers a penalty of -6 with his main weapon and -10 with his off-hand weapon. He does get to make an additional attack per round (with the off-hand weapon). This attack can be against the same target as the main weapon, or a different one so long as it is within reach or range. A character can fight with a melee weapon in one hand and a firearm in the other, two melee weapons or two firearms provided they are suitable.

The two-weapon penalty can be reduced four ways:

- A light weapon like a handgun, baton, dagger, or Blade can be used in the off-hand, no matter what the main weapon is. If this is the case then the penalty is -4 for the main weapon and -8 for the off-hand one (but see below for firearms in melee).
- A character with the Ambidexterity feat reduces the off-hand penalty by 4.
- A character with the 2-Weapon Fighting feat reduces both penalties by 2.
- A character with the 2-Gun Kid feat can engage a single target with both weapons without penalty (rolling to hit for each weapon separately), or can engage a different target with the off-hand weapon, in which case he suffers a -2 penalty with that weapon only. The 2-Gun Kid feat does not help a character fight with, say, sword and pistol.

#### Using A Firearm In Melee

A handgun can be used to shoot in melee without penalty, and can give the user an attack of opportunity when used against a melee-weapon armed foe. Larger firearms such as shotguns and SMGs suffer a -2 penalty to hit in close combat (other than

when used for an attack opportunity on a foe who is closing). Rifles and light machineguns suffer a -4 penalty. Weapons like grenade launchers cannot be used in melee.

A character whose rifle has a bayonet can make an attack of opportunity with his rifle then use the bayonet for his normal attack. A weapon used as a club suffers no penalty, of course. Handguns count as improvised weapons, larger weapons as cudgels.

#### One-Handed Rifle Use

Rifles, shotguns, and SMGs can be fired one-handed. This usually causes accuracy problems due to recoil and the difficulty of manipulating a long, heavy weapon with one hand. SMGs, including assault pistols firing on full-auto or burst, suffer a -2 penalty, and larger weapons suffer a -3 penalty. Light machineguns and heavier weapons cannot be used one-handed.

A character who wants to use a rifle in each hand, or something similar, can do so. He suffers the usual -3 penalty for one-handed longarm use, AND the penalty for using 2 weapons (see above). Ambidexterity and 2-Weapon Fighting feats will help reduce this penalty.

#### Shooting Into A Melee

Anyone using a projectile weapon against a target fighting in melee runs the risk of hitting the wrong target. The shooter suffers a penalty of -4 to reflect the need for careful aim. This applies to any target involved in a melee, unless the shooting character is directly involved in combat with the target (in which case, technically he is not shooting into a melee but shooting *in* melee!).

Anyone firing a shotgun, an automatic weapon or an area-effect weapon like a flamethrower into melee is treated as making a suppressive fire attack (see below). For this purpose, shotguns are treated as a 3-round burst per shell fired (i.e., an assault shotgun firing a 4-round burst is treated as 12 rounds of automatic fire, which rounds to 10).

#### Burst Fire

Weapons that fire a burst of 2, 3, 4, 10, 20, or 100 rounds may improve the attacker's odds of hitting a target or inflict additional damage. The attacker must decide whether to spray the target, increasing the chances of scoring a hit, or to fire a precise, grouped burst in the hope of inflicting greater damage. Either sort of burst fire is considered a standard action. Characters with more than one attack per round may take this action for each attack. See the Damage rules for more information on applying damage.

**TABLE: Burst Fire Effects**

Burst Size	Attack Bonus	Extra Damage
1 round	+0	+0 damage
3 round burst	+1	+1 die of damage
4 round burst	+2	+2 dice of damage
10 round burst	+3	+3 dice of damage
20 round burst	+5	+5 dice of damage
100 round burst	+10	+10 dice of damage

#### Suppressive Fire

Any personal or support weapon with a rate of fire greater than two may be used to produce covering and suppressive fire in an attempt to get hostiles to keep their heads down. This is considered a full round action. Anything moving or taking an action that is not under 100% cover, is within a 5 block/hex (7.5

meters) arc of fire in front of the character's weapon, and within the first range increment of the weapon using suppressive fire, may be hit. Check only once per available target, up to a number of targets equal to one-half the normal rate of fire for the weapon (round up). Roll to hit normally but with a -4 penalty due to the inaccuracy of this type of fire. If anything is actually hit, use the Suppressive Fire Damage table below. See the Damage rules for more information on applying damage.

When making a suppressive fire attack into a melee, which targets are attacked should be determined at random. Roll 1d20 per melee participant who is eligible to be attacked. The highest score is attacked first, then the second, until no more attacks (or targets) are available.

**Rate of Fire 10 or Greater:** If the rate of fire of the weapon is 10 or greater, targets within the second range increment of the weapon, and an 8 block/hex arc (12 meters) may also be hit. Roll to hit normally but at a -8 penalty. If anything is actually hit, use the Suppressive Fire Damage table below.

Anything beyond these ranges is unlikely to be hit, but if you do want to check, extend the possible area to be hit out to the range of the weapon, along a 8 block/hex wide (12 meters) path from the attacker. The to hit roll at these ranges will be at -10, and of course no more targets may be hit than rounds fired.

This effect lasts until the character's next round action.

**TABLE: Suppressive Fire Effects**

RoF	Extra Damage
3-4 rounds	none
10 rounds	+ 1 die
20 rounds	+2 dice
100 rounds	+4 dice

### Called Shots

As a full action, a shooter may attempt to shoot at a specific item or location on a target such as its head, a weapon in hand, or a radio pack on the target's back. If the attack is successful, and the target is holding the object that was shot, the target must make a Reflex save (DC25) to avoid dropping the item (unless it is on a sling or otherwise rigged to prevent such an event, or, obviously, it is a body part), in addition to any damage inflicted on the target item.

The attack roll is made normally as if shooting at the lifeform in possession of the target, and applying the following modifier based on the size of the target in question:

**TABLE: Called Shot Modifiers**

Item Size	Modifier	Example
Fine	-12	Ring on hand, Button on jacket
Diminutive	-8	Foot, Hand, Eye, Heart, Hand Computer
Tiny	-6	Head, Leg, Arm, Hat on head
Small	-5	Chest, Groin, Small Weapon, Backpack
Medium	-4	Medium Weapon
Large	-2	Large Weapon
Huge	-1	

### Attack To Disarm

Projectile weapon users may declare a called shot to attempt to shoot the weapon out of a foe's hand. Combatants making a melee attack may attempt to disarm in one of two ways. They may grapple and try to wrest the weapon away (see the grappling

rules, below), or may simply attack it and hope to knock it away.

An attack to disarm in melee provokes an attack of opportunity. If the attacker survives, both combatants make an opposed attack roll. If the attacker wins this contest, the defender loses his grip on the weapon. If the defender wins, nothing happens.

The opposed roll to disarm is subject to certain modifiers:

- For every size class larger than the opponent's weapon, +4
- For a 2-handed weapon, +4
- For a weapon designed or well suited for entangling or disarming (examples include sai, nunchaku, certain left-hand fencing daggers, and possibly whips), +4

### Grapple

The d20 Players' Handbook includes a simple system for grappling in melee, which can be used if the Referee wishes. These rules allow a greater range of options in addition to more realistic fights.

See the Grappling and Close Combat rules (below) for details.

### GRAPPLING AND CLOSE COMBAT

The most important thing about grappling and close combat is that unlike melee, where characters may hit each other, miss each other or have one hit and one miss, in close combat opposed checks are used. This means that whichever fighter wins the check each round inflicts a result on the other with no return attack. Grappling is thus rather all-or-nothing. Either you win or you lose; there is little chance of a grapple going on for a while with no result.

Normally, a character initiating a grapple is subject to an attack of opportunity, even if his opponent is unarmed. Certain feats (such as Shoot Attack) prevent an attack of opportunity. Once a grapple is initiated, the fight remains at grappling (or Close Quarters) range until one or both grapplers successfully break away. No further attacks of opportunity are provoked, even if one combatant is armed.

It is difficult to use most weapons at close quarters. Thus, once a grapple has begun, anyone trying to employ a hand weapon (including a firearm) suffers a -4 penalty to hit in addition to any penalty for firearms in melee. Certain weapons are not subject to this penalty. These include fists and weapons that approximate fists (claws, knees, brass knuckles, punch-daggers etc) and small (usually sharp) implements like knives and spikes. Some improvised weapons, for example bottles, rocks, and so on that can be held in a fist, can also be used with no extra penalty.

Characters with the Close Quarters Weapons feat can use all such small weapons, plus light batons, Nunchaku etc, in close combat without penalty. The penalty for using a non-close-quarters weapon is reduced to -2 for characters with this feat, as they are adept at sneaky angulated attacks, clubbing with sword hilts, and other "dirty fighting" tactics.

### Initiating Close Combat

A character wishing to initiate close combat simply declares this as his combat action. If the character is already in melee with his intended target he may do this as a Full Attack and may make multiple attempts to initiate. If he must move, the attempt is considered a normal Attack; the character may rush forward up to his full move to enter close combat but can make only one attempt.

Closing in like this provokes an attack of opportunity.

If the character survives, he may attempt to initiate close combat (normally by grabbing his opponent). The character must succeed in a "touch" attack to initiate close combat, i.e. he rolls to hit but does no damage if he is successful. The defender gets no benefit from his armor against a "touch" attack, but gains all



other defensive modifiers. Note that the defender does not suffer a penalty if he does not possess the Grapple Defense feat – this is a move-in, not a grapple. If the “touch” succeeds, the character has got close and has a chance to do what he wants. From this point on, the combatants are in close combat, and penalties for certain weapons apply.

Note that once close combat has been initiated, characters with multiple attacks can still only make one grappling action against any given foe, but might (under desperate conditions) use their multiple options to grapple several people at once. In this case, he makes an opposed grapple check individually against everyone he is trying to fight, at a penalty of –2 per opponent after the first. Those he beats fail to perform their actions and suffer the consequences of the grappler’s actions unless he is prevented from acting by the actions of someone he fails to beat in the opposed check. In this case, those he beats are still fended off – they cannot do anything to the lone grappler that round.

### Options in Close Combat

Anyone in close combat has certain basic options:

- Grapple
- Defend
- Strike (armed or unarmed)
- Break Off

Once a grapple is underway (i.e. in subsequent rounds), more options become available:

- Bear Down
- Pin or Hold
- Escape

Characters possessing the Grappler feat have additional options available:

- Takedown
- Throw
- Ground & Pound
- Lock
- Choke
- Disarm

Law Enforcers may also attempt to use Control & Restraint in close combat, with no penalty.

**Grapple Checks:** At close quarters, the best that untrained fighters can do is to wrestle and drag one another about, trying to immobilize the opponent or pin him. Strength and size are what matter here, rather than finesse. When using any of the basic options, an opposed grapple check is needed. A character’s grapple check bonus is determined by:

- Base Attack Bonus
- Strength Modifier
- Special Size Modifier

The Special Size Modifier is +4 for every size class larger than the opponent, and –4 for every size class smaller. In most situations (e.g. a Vargr wrestling with an Aslan) it will be zero.

The winner of an opposed grapple check gets to carry out his chosen action. The results of these actions will be:

**Grapple:** The opponent is upright but held, or both combatants are staggering around in a clinch. The loser is not helpless, but cannot get clear of the close combat, and is an easy target for others. Once a character has managed to initiate a grapple in this manner, he may now attempt to do other things. This option is mainly useful to untrained combatants because it allows them to immobilize a foe’s weapon arm while someone else clobbers them. For those with the training, a grapple can lead to interesting places.

**Defend:** A character may elect to just try to keep his opponent from getting a decent hold on him, trying to avoid being restrained, locked or thrown. A fighter who picks this option has a bonus of +3 to his Grapple check, but if he is successful all that happens is that he has fended his opponent off; he has survived this round but is still in close combat. If all participants pick this option, the grapple breaks up and the fight returns to a normal melee.

**Strike:** The character manages to land a few blows, doing normal unarmed combat damage. If he wishes to do Lifeblood damage instead of Stamina damage, he must declare this before making the grapple check, and accept an additional –4 penalty to his grapple check. If the character is using a weapon, he suffers a –4 penalty due to the awkwardness of the circumstances. Certain feats reduce this penalty.

In the case where a character has pinned his opponent on the ground, he may declare that he is striking next round. The defender automatically escapes the pin next round, but can do nothing else. The attacker gains a +4 bonus to hit as he releases the pin and starts punching.

**Break Off:** A character who does not want to be involved in a close combat can try to break off and get back to Melee range. He suffers a –2 penalty to his grapple check, and if successful has managed to fend off the opponent. The characters are now at melee range once more, and any new grapple attempt incurs an attack of opportunity.

**Bear Down:** In any round after a Grapple has been begun (by either combatant), a character can try to use brute force to drag his opponent to the ground. The downside is that both grapplers go to the floor, which can make the attacker vulnerable to any friends his victim may have. An opposed check is made, with the attacker’s Strength bonus used against the defender’s Strength or Dexterity bonus (whichever he chooses). The winner of last round’s grapple check gets an additional +3 to this check. If successful, both combatants go to the floor with the winner on top, in a prime position to do more damage.

**Pin/Hold:** Once the grapplers have gone to the floor, a pin can be attempted. This requires an opposed grapple check. If one of the combatants successfully used a Bear Down maneuver last round, he gains a +2 bonus to pin his opponent. A pinned opponent is not entirely helpless, but is very easy for others to hit, and must escape the pin before being able to do anything else. Thus his only option next round is to try to Escape.

**Escape:** This is only an option if a character is being pinned, choked or locked. If successful, the character is free and can act normally next round. Escaping a pin or hold requires that the character win an opposed grapple check, with a penalty of –2 to his check. (Note: There is an additional penalty if the combatant using the pin has the Grappler feat). If the attacker releases the pin (for example to strike, as above) then the defender automatically escapes, but the attacker gets a bonus to hit him as he does so.

**Takedown:** This option is only available to characters with the Grappler feat. A character can attempt to go straight in for a takedown without having to grapple for a round first. This provokes an attack of opportunity and requires an opposed grapple check, but unless the defender has the Grapple Defense feat, he suffers a penalty of –4 to resist the clinical technique of the expert.

If a takedown is successful, both characters go to the floor, taking no damage, and the attacker gains a +3 bonus to his grapple check next round.

**Throw:** This option is only available to characters with the Grappler feat. A throw is an attempt to get an opponent on the ground, damaging him in the process. Throws can normally only be used once a grapple has been initiated, i.e. the character must have been involved in a grapple the previous round. A throw does not provoke an attack of opportunity since the characters are already in close combat. To throw an opponent, a character must

win an opposed grapple check. Note that a character without the Grapple Defense feat suffers a  $-4$  penalty in this check as he does not know how to prevent himself from being thrown.

If the throw is successful, the defender takes 1d4 Lifeblood damage (a DC15 Reflex save allows the character to take this as Stamina damage instead) and is now on the ground. The character who performed the throw remains upright.

Throws can also be used as an attack of opportunity against an opponent who makes a Charge or Bull Rush attack. To do this, an opposed check is made: the defender's grapple check vs. the attacker's attack. If the defender wins, the bull rush or charge does not reach him. He sidesteps and sends the attacker spinning away. The attacker takes 1d6 Lifeblood damage (A Reflex save at DC 15 allows this to be taken as Stamina instead, as above). Making an attack of opportunity in this way is tricky and dangerous, so the character suffers a  $-4$  penalty to his grapple check.

**Lock:** This option is only available to characters with the Grappler feat. Joint locks can be applied while in a standing grapple or as a more technical version of a pin. To obtain a good armlock etc, the character must win an opposed grapple check. This is more difficult when the grapplers are upright, so the check is subject to a  $-4$  penalty. A character who does not have the Grapple Defense feat suffers no penalty to defend against the initial lock, but has a  $-4$  penalty to escape from it once it is "on."

A character who obtains a good joint lock may choose to control or hurt the victim. If he chooses control, the effects are exactly as if he were pinned; the locked combatant can do nothing in subsequent rounds except try to escape. If he wishes, the character may inflict pain with the lock. The defender is still pinned (or held immobile if upright) and also suffers 1d4 Stamina damage per round. Armor does not protect against this damage. In either case, a defender without the Grapple Defense feat suffers the usual  $-4$  penalty to escape.

**Choke:** This option is only available to characters with the Grappler feat. Anyone can try to squeeze their opponent's windpipe to strangle them, but this kind of untrained choke is treated as a strike to inflict Stamina damage since it is more than a little random and unscientific. Characters with the Grappler feat can attempt to scientifically choke their opponent to death. This is possible whether the character is upright or on the ground, though it is harder to get a choke on an upright victim, so this is subject to an additional  $-2$  penalty.

To get a choke on an opponent, the character must succeed in an opposed grapple roll at a penalty of  $-2$  (plus the above penalty if upright). The defender does not suffer any penalty to fend off the initial choke. In the first and subsequent rounds, the defender suffers 1d4 lifeblood damage from the choke. If this takes him to zero Lifeblood, he falls unconscious but suffers no further damage if the choke is released. If it is kept on, he will die when his Lifeblood reaches  $-10$ .

Once a character is being choked, he has only two options: Escape (at the usual  $-4$  penalty if he does not have the Grapple Defense feat) or to disable the character choking him. The choke automatically remains "on" unless the attacker releases it or the defender escapes. Being choked does not prevent a character from attempting to use his own grappling skills to throw, strike, or use a weapon.

**Ground & Pound:** This option is only available to characters with the Grappler feat. Once an opponent is on the ground (say after a takedown or throw), a character may decide to sit on him and hit him. There is some technique involved, since the opponent must be pinned with body weight leaving at least one limb free to strike with. To initiate a ground & pound, the character must win an opposed grapple check (he may have a bonus as a result of his takedown). In the first and subsequent rounds, he then

delivers his normal unarmed damage automatically, or may make an attack roll without penalties to deliver Lifeblood damage.

Once a character is on the bottom in a ground & pound, he can only strike or try to escape. If he elects to try to punch upwards at his assailant, all attacks (other than with firearms) do half damage. If he elects to escape, he suffers the usual  $-4$  penalty if he does not have the Grapple Defense feat.

**Disarm:** This option is only available to characters with the Grappler feat. A trained grappler can attempt to disarm an opponent in a more scientific manner than just bashing his weapon. A disarm attempt provokes an attack of opportunity. To succeed, the character must win an opposed grapple check at a penalty of  $-4$ . If he does so, he now has the opponent's weapon. Obviously, some things (like an Aslan's dewclaw) cannot be disarmed in this manner.

### Joining a Grapple, or Ganging Up

If a character wishes to grapple someone who is already involved in close combat, his "touch attack" automatically succeeds. He must still win an opposed grapple check to carry out his chosen action. If a character is pinned, choked, or locked, his friends can break the hold (and allow him to escape) if they succeed in an opposed grapple check with the opponent. Such checks are not subject to the usual penalty for lacking the Grapple Defense feat.

A character trying to grapple several people at once can do so if he has sufficient attacks (and can defend against any number of people). It is possible that a character with multiple attacks may be able to pin two opponents while choking another.

A character wishing to escape or break off from multiple grapplers must beat them all with a single grapple check. If he beats some and not others, then he is still in close combat but gets out of whichever chokes, pins, etc. he managed to beat.

### Attacking Grapplers

Characters involved in close combat are vulnerable to outside attack. They lose their Dexterity bonus to AC and in addition, attackers may get bonuses for attacking from behind or hitting a downed opponent. Shooting into close combat is fraught with risk. Treat it like shooting into a melee, but the penalty is  $-8$ , not  $-4$ .

### Other Close-Combat Notes

Characters involved in close combat do not exert a threat zone around them, and thus cannot make an attack of opportunity against enemies passing by. However, characters with the Weapon Proficiency (Grappler) feat are permitted to make attacks of opportunity against enemies moving in to join the grapple.

Note that what a character did last round may give bonuses this round, or make certain options available.

### CLOSE COMBAT SUMMARY

Unlike a normal melee, where characters are free to choose their action each round, some close-quarters options require that the character has already completed a different action the previous round. A skilled grappler can reach a situation in a couple of rounds where his foe's fate is sealed... or get turned to mush trying it. This makes close combat a risky business.

The options available in close combat are:

#### In Melee:

- Initiate close combat
- Takedown (Grappler feat only)
- Disarm (Grappler feat only)

**In Close Combat:**

- Grapple
- Defend
- Strike
- Break Off
- Bear Down
- Lock or Choke (Grappler feat only)
- Throw (Grappler feat only)
- Disarm (Grappler feat only)

**On the Ground:**

- Pin
- Strike
- Lock or Choke (Grappler feat only)
- Ground & Pound
- Disarm (Grappler feat only)

**While Being Choked, Locked or Ground & Pounded:**

- Escape
- Strike

**ATTACKING VEHICLE OCCUPANTS**

It is possible to attempt to attack someone riding within an open-topped vehicle, or riding on the outside of a vehicle (in a saddle mount for example). Operators and passengers within an enclosed vehicle may not be attacked directly (except perhaps with a Called Shot action).

When attacking someone within an open-topped vehicle, the target is assumed to be under partial hard cover (the vehicle). This is usually about 50% cover unless the target is standing in which case the cover would be about 25%.

When riding on the outside of a vehicle, a target does not enjoy any cover and may be attacked normally. The shooter must specify whether he is attempting to hit the vehicle or a rider on the vehicle.

**ATTACKING OBJECTS**

Bashing through doors, shooting holes in walls, and attempting to break stuff with hand weapons are all examples of attacking objects. It is not difficult to hit an object under most circumstances, but in the heat of a fluid combat a character may be required to make a hit roll as if the object had an AC of 10, modified for its size.

**Penetrate:** If any damage remains after applying the effects of the Armor Rating of the material/object, the attack/explosive has penetrated the material/object, breaking any sealed environmental integrity (possibly causing explosive decompression), and the remaining damage is applied against any item(s) beyond/within.

**Breach:** To breach a material/object, a cumulative total of 35 points of SI damage per Armor Rating must be inflicted. A breach creates a hole about 1 meter in diameter and breaks any sealed environmental integrity (possibly causing explosive decompression). If any damage remains, it is applied against anything beyond/within the breached area. Moving through a breach hole is treated as if moving through an open hatchway (a move action).

**Destroying an Item:** The penetration and breach rules are used when attempting to inflict damage on an object encased within (such as in a metal box) or just beyond a covering object (perhaps behind a starship bulkhead) made of the given material. If the attack is intended to simply destroy an object made of a given material, for example crushing a metal box, it must inflict an amount of damage equal to the Structural Integrity rating of the object itself (usually based on size if not otherwise specified).

**TABLE: Substance Armor Rating and Thickness**

Substance	Base		Max		Thickness
	TL	AR	AR	AR	
Paper	1	0	3		up to 40mm +1 AR per +20mm thickness (22cm)
Rope	0	1	5		up to 60mm +1 AR per +30mm thickness (33cm)
Synthetic Fibers	7	1	10		up to 15mm +1 AR per +15mm thickness (15cm)
Glass	1	0	8		up to 5mm +1 AR per +5mm thickness (5cm)
Ice	0	1	2		up to 80mm +1 AR per +40mm thickness (44cm)
Wood	0	2	6		up to 150mm +1 AR per +150mm thickness (150cm or 5')
Brick, Rock, Concrete	0	4	25		up to 120mm +1 AR per +120mm thickness (120cm or 4')
Reinforced Concrete	5	5	25		up to 90mm +1 AR per +90mm thickness (90cm or 3')
Iron	1	4	10		up to 60mm +1 AR per +60mm thickness (60cm or 2')
Steel	5	6	15		up to 30mm +1 AR per +30mm thickness (30cm or 1')
Aluminum	6	3	15		up to 45mm +1 AR per +45mm thickness (45cm or 1.5')
Hard Steel	6	7	20		up to 15mm +1 AR per +30mm thickness (15cm or 6")
Composites	8	8	25		up to 10mm +1 AR per +20mm thickness (10cm or 4")
Industrial Ceramics	9	8	25		up to 5mm +1 AR per +10mm thickness (5cm or 2")

**TL:** The technological level at which this substance first becomes generally available.

**Base AR:** The base AR of an object up to the given thickness.

**Maximum AR:** The maximum possible AR of an object regardless of its thickness. Materials capable of ARs of 11+ are suitable for use as chassis and armor for vehicles. Materials capable of ARs of 15+ are suitable for use as small craft and starship hull and armor.

**Thickness:** The AR rating of an object that is not technically "armored" is based on the type of substance it is made of and how thick the substance is. The thicker a substance is the higher its overall AR will be. Obviously it takes a much greater thickness of timber than steel to stop a bullet.

**Vehicles:** For Vehicle Armor, figure thickness in centimeters rather than millimeters; maximum AR is equal to the vehicle TL.

**Ships:** For Smallcraft and Starship Armor, figure thickness in 10s of centimeters rather than centimeters; maximum AR is equal to the TL of the vessel.





**TABLE: Object Armor Rating and Structural Integrity**

Item	AR	SI
Rope	0	1
Synthetic Rope	0	1
Light Fixture	0	2
Simple Wooden Door	0	2
Small Wood Crate	0	4
Metal Storage Barrel	1	6
Heavy Wooden Door	2	7
Fireproof Box	2	4
Metal Door	5	10
Brick, Rock, or Concrete Wall (30cm thick)	3	17
Reinforced Concrete Wall (1 meter thick)	9	50
Steel Chain	5	2
Handcuffs	5	1
Interior Wooden Wall	0	2
Interior Metal (Hard Steel) Wall	5	8
Bulkhead	10	50

## MUNITIONS

The use of special munitions can have considerable effects in combat.

### High Explosive Rounds

Due to their nature, high explosive rounds do one (or more) extra die of damage in addition to the weapon's normally listed damage. HE rounds are available for most rifle weapons, but not gauss weapons.

### Armor Piercing Rounds

Armor piercing rounds are valuable when attacking armored targets. For each Armor Piercing (AP) bonus of the round, subtract -1 from the Armor Rating (AR) of the target. At no time, however, may the total AR penalty exceed the actual armor rating of the target. Any weapon capable of firing projectiles may use Armor Piercing ammunition. The Armor Piercing bonus of a round may never exceed half the technological level of its manufacture, rounded down. For example, an armor piercing round manufactured on a TL9 world could have a maximum AP bonus of +4.

Multiply the cost of a normal round by x10 to determine the cost of a version of the round with an AP rating of +1. For higher AP bonus, multiply the base cost of a +1 AP round by the total bonus of the round. For example a round that would normal cost Cr1 with no AP bonus would increase to Cr10 per round for a +1 AP bonus round, and to Cr70 for a +7 AP bonus round.

The availability of AP rounds in general will vary from world to world, depending on the local law level. The more powerful AP rounds will usually not be available to the public at all, instead being reserved for use by the local military. Exactly what sort of AP ammunition is publicly available depends upon the local Law Level.

AP rounds are available for all projectile weapons except accelerator rifles. They are useless in snub weapons so HEAP is used instead to give a similar result. The maximum AP value possible for a given round is determined by the ammunition's TL.

### Flame Weapons

Flame weapons are deadly but not very accurate. They are primarily useful for hosing an area and attacking anyone within it. A single shot from a flame weapon of any type is in fact a fiery

burst of 1-3 seconds duration. Attacks with flame weapons are conducted as discussed in the Weapons chapter. Combat armor and similarly sealed armor is the only kind that is effective against flame weaponry. A character struck by a flame weapon will burn for several rounds, taking gradually less damage, and may cause secondary fires. Immersion in water does not extinguish flamer fuel.

### Area Effect Weapons

Mortars, artillery, grenades, and similar weapons are area effect weapons. They each have a listed area of effect (AoE). Anything within this radius when the weapon hits may make a Reflex or Agility save (DC15) to take only 1/2 the rolled damage. Anyone or anything failing its save will take the full damage from the weapon (unless reduced by armor).

Anything within twice the listed area of effect for the weapon, but outside the listed area of effect, may make a Reflex or Agility save (DC 15) to avoid taking any damage at all. Anyone or anything failing its save will take 1/2 damage from the weapon (unless reduced by armor).

The saving throws need only be made once for a given attack; apply the result to both Stamina damage and Lifeblood or Structural Integrity damage.

**Ship's Weapons:** The weapon systems installed on small craft and starships are much more powerful than their vehicle and personal counterparts. When a ship's weapon is used in combat against anything other than another starship or small craft, the weapon has an area effect based on the type of weapon it is:

**TABLE: Ship's Weapons Area Effect**

Weapon System	Area of Effect (AoE)
Lasers	5 meters per USP rating
Missiles and Energy Weapons	10 meters per USP rating
Meson Guns	10 meters per USP rating
Nuclear Missiles	100 meters per USP rating
Particle Accelerators	1 meter per USP rating

USP Ratings are explained in the Starships section of these rules.

### Poisoned weapons

The use of poisons, whether as gas or on a weapon, is forbidden in most areas and carries severe penalties. However, some individuals such as assassins make use of poisoned bullets or blades from time to time. A poison suitable for coating a blade weapon (i.e. viscous enough to stay on the weapon in combat) is quite difficult to make and therefore expensive. The people who deal in such weapons can name their price; a minimum would be Cr250 for a dose sufficient to coat a blade weapon and Cr100 per bullet for a moderate venom type poison. Nerve poisons command at least twice the price.

Such a poison must be applied shortly before use. Bullets or needles containing nerve poisons or venom could conceivably be constructed. Poisoned blades or projectiles would introduce the toxin directly into the target's bloodstream upon inflicting any Lifeblood damage.

The effects of such a poisoned weapon would depend upon the characteristics of the poison; see the Poisons and Toxins section under Other Hazards in chapter 8: Adventuring.

Note that anyone caught with a poisoned weapon is likely to be shot out of hand by his opponents, whatever the legal situation may be.



## INDIRECT FIRE

Indirect fire is a method of attacking a ranged target that cannot be seen by the firing weapon. It requires someone with the Forward Observer skill be in a position to observe the target and in direct communication with the gunner firing the weapon. The basic DC for a gunner to hit a target through indirect fire is 40 minus the skill rank of the forward observer. Subtract -2 from the DC for each subsequent round spent acquiring the target, to a maximum of -10DC modifier prior to firing the first shell. Thereafter, the DC can be reduced by -2 for each shell observed by the forward observer.

Calling in an attack or adjusting fire are full round actions. The attack will commence the turn after the call is made, and arrive the turn after that. Thus an indirect fire attack requires 3 rounds to complete.

**To Hit Modifiers:** Range and Relative speed modifiers apply to indirect fire attacks.

**Missed Shots:** Shots that miss have to land somewhere. If using squares for maps, roll 1d8 to determine which direction the round lands away from the target, counting round clockwise from 1 (directly over). Roll 1d6 if using hexes. The distance the round lands from the target is 1d4 squares/hexes + the number of range bands distance to the target.

**Fire for Effect:** Once the target is hit, the gunner may begin firing for effect. Since the target location has been locked into the weapon there is no need to see if a hit occurs on each subsequent round, it is automatic. When firing for effect, the gunner may launch an attack each round rather than every 3<sup>rd</sup> round as when adjusting fire.

## DEMOLITIONS

Using explosives to damage, penetrate or breach an object requires using a charge of the proper size, and properly placing the charge for maximum effect.

**Penetration Charge:** A penetration charge of the proper size provides just enough power to penetrate the given structural material and armor, breaking any sealed environmental integrity (possibly causing explosive decompression), and causing damage.

**Breaching Charge:** A breaching charge of the proper size penetrates the given structural material and armor, breaking any sealed environmental integrity (possibly causing explosive decompression), causing x10 damage, and leaving a hole approximately 1 meter in diameter. Moving through a breach hole is treated as if moving through an open hatchway (a move action).

Structural Material	Type of Charge		
	Penetration	Breach	Damage
Wood	250 grams	4kg	1d6
Rock/Stone	500 grams	7.5kg	1d8
Interior Starship wall	600 grams	9kg	1d10
Concrete	750 grams	11kg	1d12
Reinforced Concrete	1kg	15kg	2d8
Vehicle Hull	1kg	15kg	2d8
Vehicle Armor	+1kg per armor rating	+15kg per armor rating	-
Interior Starship Bulkhead	5kg	750kg	4d20
Starship Hull	8kg	120kg	6d20
Starship Armor	+10kg per armor rating	+150kg per armor rating	-

**Placing a Charge:** 2 full round actions, DC15. A character may place a single, non-tamped charge of 10kg or less (basically a satchel charge).

**Carefully Placing a Charge:** 3 minutes, DC10. A character may place a single, non-tamped charge of any size.

**Tamping a Charge:** 6 minutes, DC20. A character may place a single, tamped charge of any size. A properly tamped charge will do twice the normal damage.

**Failing a Placement or Tamping Check:** There will not usually be any indication that the charge has been incorrectly placed until it is detonated. When an incorrectly-placed charge is detonated, the person who placed the charge must make another Demolition skill check (DC15). If the check is successful, the charge detonates but fails to penetrate or cause a breach, and does only one-half its normal damage. If the check is failed, the charge does not detonate correctly. It will not cause any damage to the intended target, though it may pose a hazard to anyone coming back to try to re-use it.

**Damage to a Demolition Charge:** If a prepared demolition charge is hit by an attack, roll 1d20. If the roll is less than the damage inflicted on the charge then it goes off prematurely. Nuclear explosives are very unlikely to be set off in this manner due to their design, but a casing breach will create a radiation hazard.

## OPTIONAL COMBAT RULE: HIT LOCATION

It may sometimes be important to determine where a character is struck by an attack, for example where a character has very heavy armor on his torso and none on his head. Most shots are aimed at the center of body mass (the chest and torso). A called shot may be used to target the head or limbs (-6 to target these locations) or even a very precise location such as an eye, hand or the heart (-8). For most purposes, **T20** assumes that an attack strikes the character's center of body mass and is affected by armor on the torso only. However, at the Referee's discretion, these optional hit location charts can be used.

Swung melee attacks are more likely to fall on the head and shoulders (considered to be part of the Arm location in this case) or strike the arms, rather than hitting the torso. Projectile and impaling weapons are more likely to strike the torso than a limb. These tables reflect that reality.

**Table: Optional Hit Location Chart**

2d6 Roll	Projectile/Impaling Weapons	Melee Weapons
2	Foot	Foot
3	Lower Leg	Lower Leg
4	Upper Leg	Upper Leg
5	Torso	Upper Leg
6	Torso	Torso
7	Torso	Torso
8	Torso	Torso
9	Torso	Upper Arm
10	Upper Arm (and shoulder)	Lower Arm
11	Lower Arm	Head
12	Head	Head

The area hit not only affects what armor may apply, but also affects the damage taken by the victim. These damage multipliers are in addition to any from critical hits.

**Table: Hit Effects**

<i>Location</i>	<i>Damage</i>
Leg or Foot	Half
Arm, Hand or Shoulder	Half
Torso	Normal
Head	Double
Eye, Heart	Triple*

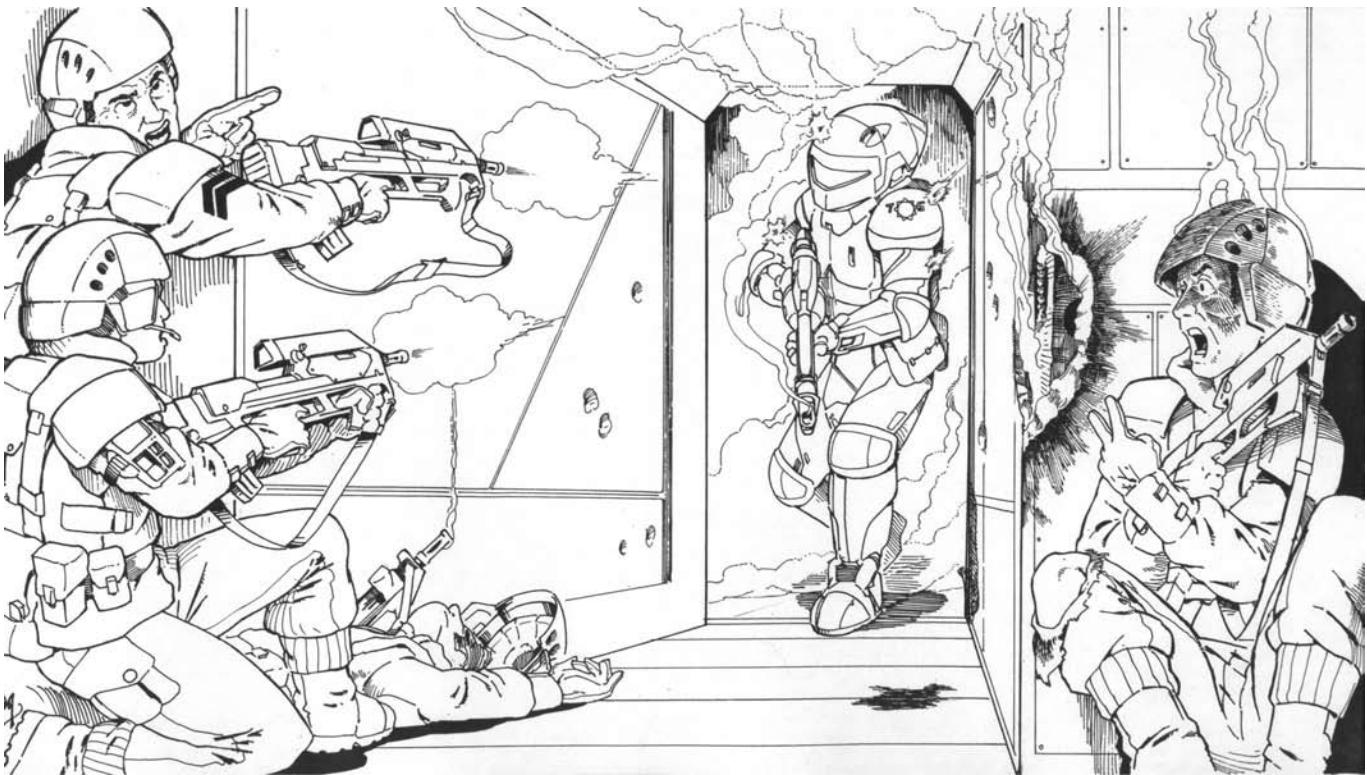
\*Hits to eyes, heart etc are only possible on a called shot, though on a critical it can be assumed that such a location has been struck.

### OPTIONAL RULE: PENALTIES FOR LIFEBLOOD DAMAGE

Characters who have taken several wounds may be less capable than those who are still intact. If the Referee wishes, the following penalties can be applied to characters who have taken Lifeblood damage:

<i>Lifeblood Remaining</i>	<i>Penalty</i>
Full	None
$\frac{3}{4}$ -full	-1
$\frac{1}{2}$ - $\frac{3}{4}$	-2
$\frac{1}{4}$ - $\frac{1}{2}$	-4
0 - $\frac{1}{4}$	-6

The penalty is a blanket modifier that applies to all skill checks, attacks, and saves.





## VEHICLE AND STARSHIP COMBAT

These basic rules for vehicle and starship combat presented here are designed to allow for more roleplaying and involvement of the characters, rather than a map and miniature approach (which uses the Advanced Rules found in the Traveller's Handbook). Movement and maneuvering are abstracted to allow for cinematic battles as vessels attempt to maneuver into a position of pursuit and advantage against their opponents, or frantically try to shake pursuit.

Range is similarly abstracted, needing only to note whether the range for all vessels involved for each round is Close, Short, Medium, Long, Very Long, or Extreme.

The term vessel is used to refer to starships, small craft, or vehicles as a general inclusive group. If the term starship, small craft, or vehicle is specifically used, it refers to those types of craft only.

### ACTIONS IN VESSEL COMBAT

Most personal actions detailed earlier are not appropriate while a character is a passenger or crewmember on board a vessel (unless approved by the Referee). Specific exceptions to this are personal attack actions, which are possible if a character is able to fire a weapon out of an open window, hatch or other opening in the vessel.

In these cases, the attack by the character is handled normally, except the attack is also considered to be a Burst Fire attack of 10 rounds (ignore the action requirements in this case). This reflects the additional time involved during vehicle combat rounds. Note that it is still possible for a character to take the Burst Fire action. In such a case, multiply the number of rounds fired by the character by 10 to determine the effects of the Burst Fire.

### THE COMBAT ROUND

When individual personnel are not involved, and a combat is between only vehicles or vehicles and starships (including small craft) operating within the atmosphere of a planet, each combat round is 1 minute long under these basic rules. When combat involves only starships and small craft, the length of each combat round is 20 minutes under these basic rules.

### NEW ACTIONS

In addition to personal attack actions, the following new actions are available to crewmembers aboard a vessel, small craft, etc. These are broken down by the crew position that would usually handle the action, and ideally a separate character will handle each position. This usually gives each character an opportunity to do something and contribute to the combat based on their diverse skills, but a character may freely take action from any crew position if they are qualified and have enough time to complete the action this round.

#### Captain/Commander Actions

**Command:** The vessel's commander may use his or her Leader skill to rally the crew and improve morale and performance. Make a leadership skill check (DC15). If successful all crewmembers may enjoy a bonus to all skill checks, saving throws, and attack rolls this round, equal to the commander's Leader skill rank divided by 3 (round down). This is a standard action.

**Tactics:** The vessel's captain/commander may use his or her knowledge of Tactics (for vehicles) or Ship's Tactics (for small craft

and starships) to help position the vessel into a better defensive and offensive posture. The use of this feat is a full round action for the captain/commander, but will impart a bonus to all attacks and defenses equal to the captain's Wisdom or Intelligence ability bonus, whichever is higher. Treat any penalty as +0.

#### Pilot/Driver Actions

*All Vessels*

**Adjust Speed:** Increase or decrease the vehicle speed up to an amount equal to its maximum acceleration. This is a move action and requires no skill check.

**Adjust Range:** A pilot may attempt to adjust the range between their craft and another. An opposed Pilot skill check must be made between both pilots, applying the modifiers found below. The pilot with the higher skill check result may elect to increase, decrease, or maintain the distance between the vehicles. This action applies to vehicles only, and is a move action for both pilots. If the other pilot has already taken a move or full action this round, the check goes unopposed. If the other pilot has not taken a move or full action this round, opposing a range adjustment will count as their move action for the round.

**TABLE: Adjust Range Modifiers**

<i>Circumstance</i>	<i>Modifier</i>
Higher Current Speed	+1 per 10kph difference in speed
Higher Acceleration	+1 per difference in maximum acceleration
Vehicle Agility	+0-6

**Avoid Collision:** When a vessel is moving at short or close range through a debris field, traffic, an asteroid belt, a planetary ring, or similar situation where there is a reasonable chance of collision with another object, the pilot must make an Avoid Collision check each round. This is a full action.

**TABLE: Collision Avoidance**

<i>Situation</i>	<i>DC</i>
Base	5
Traffic (5 or more vessels within short range)	+5
Heavy brush	+10
Small debris field, heavy traffic, light woods	+15
Asteroid field, light density	+20
Asteroid field, average density	+25
Asteroid field, heavy density	+30
Every 6 points of speed (starships and small craft)	+5
Very Slow (vehicles only)	+0
Slow or Offroad speed (vehicles only)	+5
Cruising speed (vehicles only)	+10
Fast (vehicles only)	+15

**Break Pursuit:** If a vessel is being pursued (see Pursuit below) the pilot or driver may break the pursuit with a successful opposed Pilot or Driver skill check against his opponent. Once the pursuit has broken and the pursuing vessel loses all accumulated attack bonuses against that target. This is a full round action.

**Evade Attack:** The pilot/driver operates the vessel in an erratic manner in an attempt to avoid being hit by opposing weapons fire. This is a full round action and allows the pilot/driver to make a Pilot/Drive skill on the Evasive Maneuvers table below to determine the defensive AC bonus imparted to the vessel this round.

**TABLE: Evasive Maneuvers**

Result	AC Bonus
1-10	+0
11-20	+1
21-28	+2
29-33	+4
34-38	+6
39+	+8

**Move:** The pilot/driver keeps the vessel on its current course and heading, remaining at the current speed. This is a move action and requires no skill check.

**Pursuit:** If a pilot/driver makes a successful opposed Pilot/Driver skill check against another vessel, the successful pilot/driver has placed his vessel in pursuit of his target maintaining the current range and matching the target ship move for move. Once a pursuit has been established, it must be maintained each round to take advantage of the position. No skill check is required to maintain a pursuit. It is automatically maintained unless the target attempts to Break Pursuit action, manages to extend the range to Medium or greater, or succeeds in outpacing the speed of the pursuing vessel by 7+ points (for starships and small craft) or by 50kph (for vehicles). Establishing the initial pursuit is a full round action, as is maintaining a pursuit.

For each round (after the first) that a vessel maintains pursuit of another vessel, it may add a cumulative +1 bonus to hit when attacking the vessel being pursued, up to a maximum of +4. While in pursuit of a target, a vessel loses its agility bonus to its AC if it comes under attack itself. This is a full round action and may only be attempted at Short range or closer and both vessels must be at the same speed when the pursuit is begun.

**Ram:** Ramming is a potentially suicidal maneuver in which a pilot intentionally crashes his vessel into the hull or chassis of another vessel. This action may only be attempted at close range, and if the ramming vessel is moving faster than the target. See Vessel Collisions (below) for more information.

To successfully ram another vessel requires an opposed Pilot/Drive skill check between both vessels. This is a full round action.

## Pilot Actions

*Starships and Small Craft Only*

**Atmospheric Entry:** The pilot may attempt to transition the ship out of orbit and into the atmosphere of a planet. Once a ship has successfully entered an atmosphere, all movement is handled as if it were any other aircraft in flight and now uses the Vehicle Maneuver Actions instead. This is a full action with a base DC equal to the World Atmosphere UWP rating + the World Size UWP rating. Exotic, Corrosive, or Insidious atmospheres should be treated as Standard unless specified otherwise. Attempting this action may provoke an Attack of Opportunity.

**Dock Ships:** The pilot may attempt to dock one ship with another allowing passage between both ships for cargo and crew. This is usually a small craft docking with a starship, but it is possible to dock some starships together. Both ships must be moving at the same speed, and there must be no opposition to the attempt. If this is a hostile docking attempt, the target ship must have been rendered incapable of maneuvering. This is a full action with a DC of 20, and may provoke an Attack of Opportunity.

**Orbital Insertion:** The pilot may attempt to insert the ship into orbit around a planet. In an orbital insertion fails, the ship fails to enter the proper orbit, and the orbit will steadily begin to

decay drawing the ship towards the planet's atmosphere in an uncontrolled reentry (see Atmospheric Reentry below). This is a full action with a base DC of 15, and may provoke an Attack of Opportunity.

## Astrogator Actions

*Starships and Small Craft Only*

**Range Check:** At the beginning of each round, each ship must make a T/Astrogation skill check. The ship with the highest result may elect to increase, decrease, or maintain the range for the round. This is a standard action.

## Communications Operator Actions

*All Vessels with communications equipment*

**Tactical Communication:** The Comms Officer can establish and maintain communications between allied vessels using the normal rules for communication (see T/Communications skill). If there is significant interference or a lot of communications going on (e.g. due to bad comm. discipline among a fleet), the DC is increased; treat as Considerable Noise (+10). Deliberate comms jamming will increase DC as described under the T/Communications skill. These modifiers do stack. If reliable communications are not established, vessels cannot act in concert, and Fleet Tactics skill cannot be applied. Maintaining communications is a full round action.

**Comms Jamming:** The Comms Officer can attempt to jam local communication as a full round action. See the T/Communications skill for details.

**Intercept Enemy Communications:** The Comms Officer may attempt to intercept enemy communications as a full round action. This requires a T/Communications skill check at a DC of (20 + enemy comm. system number). Encryption (if any) must also be broken. Knowledge of enemy intentions can be valuable to a commander, if she knows how to use it. A vessel commander may make a Ships Tactics or Tactics check at a DC of 15 to gain an advantage from intercepted comms. If successful, the commander gains knowledge of the enemy's dispositions or intentions. This translates to a one-time +10 bonus to any skill check affecting the enemy (e.g. a pilot's attempt to evade a sudden attack, or a gunner's precise shot just as the enemy vessel turns to present a better target.) Of course, the enemy must have communications for them to be intercepted.

## Computer Operator Actions

**Computer Fire Control:** Rather than having individual gunners handle the vessel's weaponry, the computer is handling both targeting and fire control this round. Attacks are handled normally, but the Main Computer Model Number is used in place of Gunnery skill rank and no sensor bonuses are allowed. This is a free action, but the computer may not be used to handle targeting for gunners this round. The computer operator should make the attack rolls for the computer this round.

$1d20 + \text{Computer model number} + \text{size modifier} + \text{targeting bonus} + \text{range penalty} = \text{AC hit}.$

**Computer Targeting:** The vessel's computer is handling targeting for all weapons this round, leaving the sensor operator to handle other tasks instead. This is a free action, but the computer may not be used to handle fire control for the vessel this round. The computer operator should roll 1d20 + the Main Computer Model Number to check for success for each vessel that is to be targeted. The DC for this task is 15 or the current Sensor Jamming rating of the target. If successful, all gunners on the vessel may add a bonus equal to the Main Computer Model Number / 3 to their attack rolls this round.

## Sensor Operator Actions

**Sensor Jamming:** The sensor operator may attempt to spend the round providing defensive sensor jamming against incoming targeting lock attempts by enemy vessels, hopefully decreasing their chance of getting hit. The operator rolls  $1d20 + \text{his T/Sensor skill} + \text{the Sensor Model Number of the vessel}$  to set the vessel's Sensor Jamming rating for this round. This rating is the DC that any opposing vessel will have to beat in order to obtain a target lock or other sensor scan on the sensor operator's vessel. This is a full round action.

**Sensor Targeting:** The sensor operator may attempt to spend the round providing improved fire control and targeting data to the gunners, hopefully increasing their chances of hitting their targets. The sensor operator should roll  $1d20 + \text{his T/Sensors skill} + \text{the Sensor Model Number}$  to check for success for each vessel that is to be targeted. The DC for this task is 15 or the current Sensor Jamming rating of the target. If successful, all gunners on the vessel may add a bonus equal to the Main Computer Model Number to their attack rolls this round. This is a full round action.

## Gunner Actions

**Attack:** A gunner may attack any target within the range of the weapon system they are manning. The gunner attacks by making a Gunnery skill check roll adding the USP rating of the weapon system, along with any Range, Computer Targeting, Sensor Targeting, or other modifiers in effect this round for his vessel. This is a full round action.

$1d20 + \text{Gunnery skill} + \text{size modifier} + \text{targeting bonus} + \text{range penalty} = \text{AC hit.}$

**Point Defense Sandcasters:** A target defending against a missile, laser, plasma, or fusion attack may fire defensive sand if the vessel has any sandcaster mounts/turrets/batteries and gunners that have not already acted this round. Gunners and mounts/turrets/batteries used in point defense may not be used to attack later in the same round. Defensive sand adds the sandcaster USP/UVF rating to the target's defense score for this attack. As many point defense sandcasters may be fired as are available, each adding their USP/UVF rating to the target's defense total.

**Point Defense Lasers:** A target defending against a missile attack may fire defensive lasers if the vessel has any laser mounts/turrets/batteries and gunners that have not already acted this round. Gunners and mounts/turrets/batteries used in point defense may not be used to attack later in the same round. The defending gunner makes an attack roll against a DC of  $16 + \text{the owning vessel's computer USP/UVF}$ . If the defending gunner hits, the missile attack fails. The defender may attempt to shoot down an incoming missile attack with as many point defense laser mounts/turrets/batteries as they have available.

*Point Defense Laser:  $1d20 + \text{Gunnery skill} + (\text{Computer USP/UVF}) + \text{Weapon USP/UVF}$*

*Missile's Defense:  $16 + \text{Missile USP/UVF}$*

**Point Defense Repulsors:** A target defending against a missile attack may fire repulsors if the vessel has any repulsor mounts/turrets/batteries and gunners that have not already acted this round. Gunners and mounts/turrets/batteries used in point defense may not be used to attack later in the same round.

*Point Defense Repulsor:  $1d20 + \text{Gunnery skill} + (\text{Computer USP/UVF}) + \text{Weapon USP/UVF}$*

*Missile's Defense:  $10 + \text{Missile USP/UVF}$*

**Reload Vessel or Vessel's Weapon:** A crewmember (usually the gunner) may spend the round reloading one (1) spent missile rack, one (1) spent sandcaster or other individual weapon system. This is a full round action.

**Called Shot:** Called shots are not normally possible in starship combat, but are made possible by certain computer software. Called shots are always possible in vehicle combat. In vehicle combat, a called shot to hit a specific vehicle component suffers a  $-6$  penalty for large subsystems like a turret or wheel, and  $-12$  for a small subsystem such as a communications antenna.

In starship combat, the immense distances and difficulty of refining sensor data sufficiently to hit a specific location make this a severe test of gunnery ability. A called shot to hit a specific region of the ship (e.g. engineering, gunnery) is taken at  $-8$ . Attempts to hit a specific subsystem (e.g. "C" turret, Meson Communicator Antenna) are at  $-15$ . It is never possible to target "crew" with a called shot, though the crew in a given section of the ship might be hit by a called shot on their region of the vessel.

## Engineer/Mechanic Actions

**Damage Control:** An engineer may attempt to effect temporary and jury-rigged repairs to damaged systems on a vessel in an attempt to bring them back online and/or improve degraded performance due to inflicted damage. This is a full round action. See Repairing Damage for more information.

**Power Routing:** If the power plant of a ship or vessel takes damage and its power output is reduced, there may not be enough power available each round to power all the vessel's drives, weapons and other systems at the same time. In this case, the engineer must reallocate power to the various systems as she deems necessary and appropriate. Drives, weapons, or other systems without power in a round may not be used. This is a full round action.

**Excess Power Routing:** If a vessel can produce excess power (in the form of Energy Points or EP) beyond what is needed for its drives, subsystems, and agility rating, it may apply this extra power as emergency agility or to overpower weapons.

**Emergency Agility:** An engineer/mechanic may attempt to temporarily improve the performance of a vessel's drive system, thereby increasing the defensive agility of the vessel making it harder to hit. The engineer/mechanic must make a T/Engineering or T/Mechanical skill check as appropriate (DC15). If successful, the vessel's agility is improved to a rating equal to the vessel's maximum agility rating based on the installed drive train or maneuver drive. While using emergency agility, all weapon systems and screens are temporarily offline. This is a full round action.

For each round this is kept up, another appropriate skill check must be made, but at  $-1$  per subsequent round. If the attempt fails, there is a chance that the drive system has been damaged. Make another skill check (DC20), to avoid permanently reducing the vessel's drive rating by a factor of one until the vessel can be brought into port and the system overhauled and/or repaired properly.

**Overpower Weapons:** An engineer/mechanic may attempt to temporarily improve the weapon factor of a vessel's weapon system, thereby increasing the damage they inflict if they hit a target. The engineer/mechanic must make a T/Engineering or T/Mechanical skill check as appropriate (DC15). Add  $+1$  to the DC for each factor of overpowering attempted up to a maximum factor of 9. If successful add  $+1$  die of damage for every factor of overpowering. While using overpowered weapons, the vessel or vessel may not accelerate, decelerate, or maneuver, and the agility rating is temporally reduced to 0. This is a full round action.



For each round this is kept up, another appropriate skill check must be made, but at -1 per subsequent round. If the attempt fails, there is a chance that the weapon system has been damaged. Make another T/Engineering skill check (DC20), to avoid permanently reducing the weapon rating by a factor of one until the vessel can be brought into port and the system overhauled and/or repaired properly.

## DAMAGE

Vessels can be damaged in various ways – impacts, explosions, and direct energy being the most common ways. Damage of all types is resisted by armor and applied to structural integrity (SI).

## COLLISIONS

If two vessels collide, both will inflict an amount of damage on the other based on their current Structural Integrity rating and their current speed. In most cases, this will result in the destruction of vessels of the same size or of smaller vessels colliding with larger vessels. Starships and small craft colliding with large asteroids, moons, or other natural celestial objects are destroyed upon impact.

Vehicle Speed	Damage on Target
Not Moving	-
Very Slow	Vehicle SI x 0.1
Slow	Vehicle SI x 0.25
Cruising Speed	Vehicle SI x 0.5
Fast	Vehicle SI
Max Speed	Vehicle SI x 2

Target	Damage on Vehicle
Lifeform	CON Score + Armor Rating
Another Vehicle	Its Damage on Target
Stone/Concrete/Steel	SI x 3
Large Tree	SI x 2
Wooden Structure	SI x 1.5
Small Tree	SI x 1.25
Plant (shrub or bush)	SI x 1.1
Another Vehicle	See Vehicle Speed below

## VEHICLE INTERNAL DAMAGE

In addition to Structural Integrity damage, vehicles may also take internal damage to their subsystems and components.

**Critical Hits:** A vehicle will suffer internal damage on a critical hit. In this circumstance, the attacker ignores the armor rating (AR) of the vehicle and inflicts the full amount of damage rolled against its chassis SI rating. For most weapons, this damage is doubled on a critical hit (though some weapons may have a greater multiplier).

In addition, the attack also scores an Internal Hit on one of the subsystems, components, occupants, or other item with the vehicle itself. To determine where the remainder of the damage is applied, the attacker rolls once on the Vehicle Internal Hit Location table below.

**Affected Area:** If a vehicle is hit with a weapon that has an area of effect (this includes all starship and small craft weaponry), all systems listed under the Affected Area take full damage. If there are sub-areas listed, the damage is applied only to those systems listed under the sub-area. For example, a hit to a vehicle's

engine compartment would affect the fuel tanks, drive train, power plant, and control system. If the hit were in the Chassis, specifically in the External Electronics sub-area, the only systems affected would be miscellaneous, visual, comm., and sensors. Appendages, weapon mounts, and control systems would not be affected even though they are part of the chassis because they are listed as part of a separate sub-area instead.

**TABLE: Vehicle Internal Hit Location**

Affected Area	Internal Hit Location
d100	
<b>Chassis</b>	
01-02	<b>Miscellaneous Systems:</b> Treat as a Visual system hit if no miscellaneous systems installed or intact.
03-04	<b>Visual Systems:</b> Treat as a Communication systems hit if no visual systems installed or intact.
05-07	<b>Communication Systems:</b> Treat as a Sensor system hit if no comm systems installed or intact.
08-10	<b>Sensor Systems:</b> Treat as an Appendage hit if no sensor system installed or intact.
11-14	<b>Appendages:</b> Treat as a Weapon mount hit if no appendages installed. Treat as a Chassis hit if no weapon mounts installed or intact.
15-18	<b>Weapon Mounts:</b> Treat as an Appendage hit if no weapon mounts installed. Treat as a Chassis hit if no appendages installed or intact.
19-25	<b>Drive Train:</b> Treat as a Power plant hit if no drive trains installed or remaining intact.
26-30	<b>Control Systems:</b> Treat as additional Chassis SI damage if no control systems installed or intact.

### Engine Compartment

31-35	<b>Fuel Tanks:</b> Treat as a Drive train hit if no fuel tanks installed or intact.
36-40	<b>Drive Train:</b> Treat as a Power plant hit if no drive trains installed or remaining intact.
41-45	<b>Power Plant:</b> Treat as a Control system hit if no power plant installed or intact.
46-50	<b>Control System:</b> Treat as additional Chassis SI damage if no remaining control systems intact.

### Passenger/Cargo Compartment

51-64	<b>Cargo Area:</b> Treat as an Unoccupied Facility hit if no cargo is aboard or remains intact.
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### Internal Electronics

65-66	<b>Onboard Computers:</b> Treat as a Miscellaneous system hit if no onboard computers installed or intact.
67	<b>Miscellaneous Systems:</b> Treat as a Visual system hit if no miscellaneous systems installed or intact.
68	<b>Visual Systems:</b> Treat as a Communication systems hit if no visual systems installed or intact.
69	<b>Communication Systems:</b> Treat as a Sensor system hit if no comm. systems installed or intact.
70	<b>Sensor Systems:</b> Treat as an Operational Control-Control system hit if no sensor system installed or intact.

**Passenger and Crew Facilities**

- 71-78 **Unoccupied Facility:** Treat as an Occupied facility hit if no unoccupied facilities available or intact.
- 79-80 **Weapon Mounts:** Treat as an Appendage hit if no weapon mounts installed. Treat as a Passenger hit (the Gunner) if no occupied facilities available or intact. If no gunner, then treat as additional Chassis SI damage if no (living) driver operating the vehicle.
- 81-86 **Occupied Facility:** Treat as a Passenger hit if no occupied facilities available or intact.
- 87-90 **Passenger:** Treat as an Operational Control-Control system hit if no (living) passenger in the facility.

**Operational Control**

- 91-95 **Control System:** Treat as a Robotic brain hit if no remaining control systems intact.
- 96-97 **Robotic Brain:** Treat as a Driver hit if no robotic brain installed or intact.
- 98-100 **Driver:** Treat as additional Chassis SI damage if no (living) driver operating the vehicle.

**Damage Explanations**

Unless specified otherwise, the owner/pilot/driver of the vehicle may decide which specific systems are hit if more than one target is possible.

**Miscellaneous System:** One or more miscellaneous electronic systems are hit and disabled.

**Visual System:** One or more visual electronic systems are hit and disabled.

**Communications System:** One or more communications systems are hit and disabled.

**Sensor System:** One or more sensor systems are hit and disabled.

**Appendage:** One or more appendages are hit and disabled.

**Weapon Mount:** One or more weapon mounts are hit and disabled.

**Drive Train:** One or more of independent drive trains are hit and disabled.

**Control System:** The vehicle immediately goes out of control, with no chance of recovery. The vehicle will slow at its standard deceleration rate and/or begin to fall out of the sky unable to keep itself aloft. Unless otherwise damaged and inoperable, all other systems onboard remain functional.

**Fuel Tank:** The fuel tank is hit and ruptured, losing all fuel within.

**Power Plant:** One or more power plants are hit and disabled reducing the available power to the vehicle.

**Cargo Area:** One or more items of cargo aboard are hit and destroyed.

**Onboard Computer:** One or more onboard computers are hit and disabled.

**Unoccupied Facility:** An unoccupied passenger or crew facility is hit and rendered unusable.

**Occupied Facility:** An occupied passenger or crew facility is hit and rendered unusable. Apply damage (randomly if more than one occupant) equal to one-half the total SI damage inflicted with this hit until all damage has been applied or no occupants remain standing. Any personal armor worn by the victim(s) applies.

**Passenger:** A specific passenger is hit. Apply damage equal to one-half the total SI damage inflicted with this hit. Any personal armor worn by the victim applies.

**Robotic Brain:** The robotic brain operating the vehicle is hit and disabled. The vehicle immediately becomes out of control, with no chance of recovery. The vehicle will slow at its standard deceleration rate and/or begin to fall out of the sky unable to keep itself aloft. Unless otherwise damaged and inoperable, all other systems aboard remain functional.

**Driver/Pilot:** The operator of the vehicle is hit. Apply damage equal to the total SI damage inflicted with this hit. Any personal armor worn by the victim applies. If the operator falls unconscious or dies, the vehicle immediately becomes out of control, with no chance of recovery until the driver/pilot is moved so another may attempt to regain control. The vehicle will slow at its standard deceleration rate and/or begin to fall out of the sky unable to keep itself aloft. Unless otherwise damaged and inoperable, all other systems aboard remain functional.

**SMALL CRAFT AND STARSHIP INTERNAL DAMAGE LOCATIONS**

If a small craft or starship takes any SI damage after any armor has reduced the total, roll once on the appropriate Internal Damage Location table. If a component rolled does not exist, move one row down on the table until a result occurs with a component that does exist. If the end of the table is reached and no installed component has been found, the shot passes through the vessel without causing further damage.

Use this section for determining hit locations on small craft and starships, and tracking damage to the vessel. All tables use 1d100.

**Miscellaneous Subtable**

1d100 *Specific Location*

01-40	Cargo Hold
41-60	Staterooms
61-70	Small Craft
71-75	Ship's Vehicle
76-80	Engineering/Vehicle Shop
81-85	Sickbay/Lab
86-90	Low Berths
91-92	Ship's Locker
93-94	Magazine
95-96	Fuel Purification
97-98	Gravitics
99-00	Life Support

**Fuel Subtable**

1d100 *Specific Location*

01-20	Purification Plant or Fuel Feed Equipment
21-100	Fuel Tanks

**Fire Control Subtable**

1d100 *Specific Location*

01-70	Battery
71-85	100-ton Weapon Bay
86-95	50-ton Weapon Bay
96-100	Spinal Mount

All Weapons		Radiation Weapons (Particle Accelerators, Nuclear Missiles, and Meson Guns)	
1d100	Subtable	1d100	Subtable
01-23	Miscellaneous	01-45	Fire Control
24-50	Fuel	46-88	Electronics
51-72	Fire Control	89-97	Crew
73-89	Engineering	98+	Special
90-92	Screens		
93-94	Electronics	Weapon Platform	Modifier
95	Crew	Pulse Laser	+5 (does not apply to the radiation table)
96+	Special	Nuclear Missile	+20 (does not apply to the radiation table)
		Spinal Mount	+40 (applies to both tables)

#### Engineering Subtable

1d100	Specific Location
01-29	Maneuver Drive
30-65	Jump Drive
66-100	Power Plant

#### Screens Subtable

1d100	Specific Location
01-34	Repulsors
35-67	Nuclear Damper
68-100	Meson Screen

#### Electronics Subtable

1d100	Specific Location
01-40	Sensors
41-80	Communications
81-100	Computer

#### Crew Subtable

1d100	Specific Location
01-20	Flight/Command Crew
21-40	Gunnery Crew
41-60	Engineering Crew
61-100	Other Crew

#### Special Subtable

1d100	Specific Location
01-02	Frozen Watch/Ship's Troops/Low Passengers Dead
03-05	Fire Control Out
06-10	Roll on the Crew subtable
11-20	Power Plant Disabled
21-35	One Hanger/Boat Deck/Vehicle Storage
36-65	Jump Drive Disabled
66-80	One Screen Disabled
81-90	Maneuver Drive Destroyed
91-95	Computer Destroyed
96-98	Bridge Destroyed
99-00	Vessel Vaporized

#### Crewmember Attack Subtable (Optional)

1d100	Equivalent Effect
01-25	1 attack for 1d4 damage
26-50	1 attack for 1d6 damage
51-60	1 attack for 1d8 damage
61-70	1 attack for 1d10 damage
71-80	1 attack for 3d6 damage
81-90	1 attack for 3d10 damage
91-95	1d3 attacks for 3d6 damage each (apply armor separately against each)
98-98	1d3 attacks for 3d10 damage each (apply armor separately against each)
99	1d3 attacks for 6d6 each (apply armor separately against each)
00	

All damage is lethal, i.e. inflicts Lifeblood damage.

#### Tracking Internal Damage

Mark damaged systems with an X for each hit they take. Mark each repair with a / (slash) to show that a system has only been temporarily repaired. Erase all marks when damage has been permanently repaired.

Any subsequent hit to a previously damaged system will destroy all battlefield repairs that have been completed. All battlefield repairs are temporary at best. If a system is completely damaged, it is disabled and no longer functions at all until repaired.

#### Damage Explanations

How damage affects individual systems is detailed below in alphabetical order by system.

**Appendage:** The duty rating of the appendage is reduced by one level. Heavy would become Medium, a Medium appendage reduced to a Light appendage, and a Light appendage would be rendered inoperable.

**Cabin/Small Stateroom/Bunks:** 1d3 of the crew and passenger quarters has been damaged or rendered unusable, reducing the available living space for the crew and passengers.

**Cargo Hold:** 10% (round down) of the cargo hold space, and any cargo within, are damaged or destroyed.

**Computer:** The model number of a specific computer system (targeting, autopilot etc) is reduced by 1 for every hit taken. If model number reaches zero, the system is inoperable.

**Crew:** 10% of the crew within the affected area (a minimum of one person aboard small ship, probably several crewmembers



aboard a larger vessel) is seriously injured by secondary effects of the weapon. The Referee may simply assume the character is "down" and out for the duration of the fight, or may use the optional Crewmember Attack Table. Each affected person is automatically hit by the equivalent of the weapon attack listed, representing hull spallation, electrocution, fire, etc.

**Engineering Shop:** One of the engineering shops aboard the vessel has been damaged or rendered inoperable, reducing the available machining and workshop support for the engineering staff.

**Frozen Watch:** Some vessels carry excess crewmembers in low berths, to be awakened in the event of crew casualties. Damage to the low berth area will kill these personnel.

**Fuel:** 10% of the available fuel stores on board have been lost. If the vessel runs out of fuel, the power plant will shut down.

**Fuel Feed:** Fuel feed becomes erratic. The ship can maneuver, fire etc, but any attempt to Jump will result in a catastrophic Misjump 25% of the time and a minor Misjump 50% of the time.

**Fuel Purification:** The efficiency of the ship's fuel purification system is reduced by 10%, increasing the time it takes to refine fuel for the tanks.

**Gravitics:** Gravity aboard the vessel is reduced by 10% each time this system is hit. If gravity is reduced to less than 80% the ship is considered to be a low gravity environment. If gravity is reduced to 30% or less, consider the ship to be a trace gravity environment. If gravity is reduced to 0%, the ship and its inhabitants are left in a zero-g environment. Apply any gravity modifiers as appropriate.

**Jump Drives:** A jump drive can take up to its Jump rating (1-6) in hits before failing to work at all. Each hit will reduce its effective Jump range by 1 parsec.

**Laboratory:** One of the undamaged labs aboard the vessel has been damaged or rendered inoperable, reducing the available lab and research support for the science staff.

**Low Berth:** 1d4 of the Low Berths aboard have failed or been damaged, killing the occupants inside (if any).

**Maneuver Drives:** A maneuver drive can take up to its acceleration rate (1-6 Gs) in hits before failing to work at all. Each hit will reduce its effective acceleration rate by 1-G.

**Passengers:** 5% of the passengers or crew have been either injured or killed, with a minimum of 1.

**Power Plants:** A power plant can take up to its power rating (1+) in hits before failing to work at all. Each hit will reduce its power rating, and thus its output (possibly limiting the number of subsystems that may be operated during each round).

**Sensors:** Reduce the model number of the sensor system by 1 for each hit taken. This will reduce the effective range of the system. If the model number is reduced to zero or less, the system is disabled completely (but not destroyed).

**Ship's Locker:** The ship's locker has been hit destroying 10% of the contents within. If the locker's displacement is one ton or less, it is destroyed.

**Ship's Vehicle:** 1d3 vehicles have been hit. Treat as if an attack had hit each vessel and apply the damage from this attack against each normally.

**Sickbay:** One of the undamaged sickbays have been damaged or rendered inoperable, reducing the available lab and surgical support for the medical staff.

**Small Craft:** 1d2 small craft (1-99 tons) have been hit. Treat as if an attack had hit each vessel and apply the damage from this attack against each normally.

**Staterooms:** 1d20 staterooms have been damaged or rendered unusable, reducing the available living space for the crew and passengers.

**Vehicle Shop:** One of the vehicle shops aboard the vessel

has been damaged or rendered inoperable, reducing the available machining and workshop support for the vehicle and mechanical staff.

## Ship's Weaponry Damage Explanations

**50-ton Weapon Bay:** Reduce the bay's attack rating by 1. If the attack rating is ever reduced to zero or less, the bay is rendered inoperable.

**100-ton Weapon Bay:** Reduce the bay's attack rating by 1. If the attack rating is ever reduced to zero or less, the bay is rendered inoperable.

**Battery:** A battery, whether it consists of 1 turret or 10 or more, has been struck and damaged. Reduce the battery's attack rating by 1. If the attack rating is ever reduced to zero or less, the battery is rendered inoperable.

**Magazine:** 10% of the ammo stored in the ship's magazines has been destroyed (causing no additional damage).

**Meson Screen:** Reduce the defense rating of the system by 1. If reduced to zero or less, the system is rendered inoperable.

**Nuclear Dampers:** Reduce the defense rating of the system by 1. If reduced to zero or less, the system is rendered inoperable.

**Repulsors:** Reduce the defense rating of the system by 1. If reduced to zero or less, the system is rendered inoperable.

**Spinal Mount:** Reduce the weapon's attack rating by 1. If the attack rating is ever reduced to zero or less, the weapon is rendered inoperable.

## FORCE FIELDS (BLACK GLOBE GENERATORS)

Force fields or black globe generators absorb any and all energy, of whatever form, that contacts the field. They are the most effective form of defense available for any ship, but unfortunately they are not commercially available, found only as recovered alien artifacts of immense value or at TL F+. Energy is absorbed and diverted to special capacitors, doing no damage to the ship.

The drawback to force fields is that while any incoming energy is absorbed, any outgoing energy is also absorbed. A ship operating a black globe force field cannot maneuver, use its sensors or communications systems, fire its own weapons, or even see outside the ship while within an active force field.

The black globe generator might seem to be somewhat less than useful given the limitations, were it not for that fact that it can be "flickered." Each round, the screens operator decides at what rate to flicker the force field at from 0 up to the USP rating of the black globe generator itself. Each rate represents a 10% block of time, thus a flicker rate of 4 would mean the force field is flicked "on" 40% of the time during this combat round. The force field will absorb a percentage of the damage equal to the flicker rate x 10% (round up) from any incoming AND outgoing attack this round. If a ship operating a black globe at a flicker rate of 4 would normally take 20 points of damage from an attack, the force field would absorb 8 points. If the same ship operating the black globe attacks another ship and hits for 12 points of damage, would actually only inflict 7 points on the other ship, after its own force field absorbed 5 points of the outgoing energy.

Capacitors used for the black globe generator are able to store up to 36 points of damage as EPs (Energy Points) for every ton of them available. The primary drawback to this defense system is if the available capacitor storage is exceeded because of damage absorbed by the force field the capacitors will explosively discharge, inflicting the stored EP as damage to the ship. Fortunately however, this stored energy may be diverted from the capacitors to power the ship's other systems as needed, but only when the generator is flicked "off." Because of this there is a limit to the maximum amount of power than can actually be

drawn from the capacitors during a combat round, based on the flicker rate and the maximum output rate of the ship's power plant. A ship can draw down from the capacitors a maximum of 100% of its maximum power plant output per round, -10% for every point of the globe flicker rate that round. For example, a ship operating a black globe with a flicker rate of 4 and a power plant with a maximum output per round of 1,000EPs, could draw up to 400EPs from the capacitors each round (if the power is available). This energy can be used for any necessary ship's function. Using Capacitor energy to power a Jump drive has unpredictable and often disastrous effects.

Any black globe can be set to a flicker rate of 10, regardless of the actual USP rating of the generator. A flicker rate of 10 is not really flickering at all but rather the force field is in operation 100% of the time during the round and ALL incoming and outgoing damage is absorbed.

Some types of weapons are more effective at "overloading" a force field due to the nature of their attack and the power behind them. While this effect does not increase the amount of damage done, it does increase the amount of actual energy that has to be absorbed by the field.

**TABLE: Weapon Efficiency vs. Black Globe Force Fields**

<i>Weapon Type</i>	<i>Extra Energy Absorbed</i>
Lasers, Plasma Gun	None
Fusion Gun, Non-Nuclear Missile	Absorbed Damage x 2
Particle Accelerator	Absorbed Damage x 5
Meson Gun	Absorbed Damage x 20
Nuclear Missile	Absorbed Damage x 100

**Invisibility:** Because a black globe generator absorbs all incoming energy, this has the effect of rendering a ship effectively invisible. This won't help much when already in combat if a ship suddenly turns on its force field to hide, its enemies will easily be able to plot the future position of the ship based on its previous trajectory; the now "invisible" ship cannot alter its current course and speed while under the protection of the field. The enemy's plot predictions will always be correct.

This trick does come in handy when jumping into an enemy system on a pre-plotted course with the black globe generators running at a flicker rate of 10. It will be impossible for the enemy to detect the presence of the ship until it decides to turn off the generator and reveal itself to bombard a planet or engage an enemy fleet with complete tactical surprise. Of course, there are risks...

## MESON ATTACKS

Attacks by meson weapons do not use the vehicle or ship's Armor rating when calculating the vessel's AC. Instead the rating of any Meson Screens installed are used in place of the Armor rating. This is because meson weapons pass straight through armor. The only effective defense against a meson attack is a meson screen. Certain hull configurations are less susceptible to meson attacks due to targeting difficulty while others are particularly susceptible to the fire of a meson weapon.

Meson attacks also inflict radiation damage (see below).

**Vehicle or Starship Armor Class vs. Meson Attacks:** 10 + Meson Screen rating + Hull Configuration Modifier (see below) + Agility modifier + size modifier

<i>Ship Hull Configuration</i>	<i>AC Modifier</i>
Needle/Wedge	+2
Cone	+1
Cylinder	+0
Closed Structure	-3
Sphere	-4
Flattened Sphere	-2
Dispersed Structure	+5
Planetoid	-6
Buffered Planetoid	+4

## RADIATION ATTACKS

Some weapons inflict radiation damage in addition to their normal damage. When determining radiation damage from nuclear missiles, and particle accelerators (but not meson guns), use the rating of any installed Nuclear Dampers (if any) in addition to the Armor rating when determine the AC of the targeted ship. Against the type of radiation produced by meson guns, armor is ineffective and only nuclear dampers will have any effect.

Meson guns mounted on vehicles inflict radiation damage in the same manner as starship-mounted ones. Their damage is scaled when attacking starships even though they ignore armor, since vehicular meson guns are lighter than shipboard ones.

## CRASHES

If a vehicle crashes on its own (i.e. it was not involved in a collision with another vehicle, a building, etc.) the amount of damage it suffers will depend on how big the vehicle is and what speed it was travelling. Roll the base damage listed for the speed of the vehicle, and multiply this by the size damage multiplier as determined below. The damage is expressed as a percentage of the total original SI value of the vessel.

<i>Speed</i>	<i>Base Damage</i>	<i>Penetrating Damage</i>
Very Slow	1d3-1	1d4-2 rolls on the Internal Damage Table
Slow	1d4	1d6-2 rolls on the Internal Damage Table
Cruising Speed	1d6	1d6 rolls on the Internal Damage Table
Fast	1d8	1d8 rolls on the Internal Damage Table
Max Speed	1d10	1d10 rolls on the Internal Damage Table

<i>Vehicle or Item Size</i>	<i>Damage Multiplier</i>	<i>Ship Size</i>
up to 49g	0.1	-
50-499g	0.2	-
500g-4.9kg	0.5	-
5-49kg	1	-
50-499kg	2.5	-
500-999kg	5	-
1,000-9,999kg	7.5	1-9 tons
10,000-99,999kg	10	10-99 tons
100,000-999,999kg	25	100-999 tons
1,000,000+kg	50	1,000-9999 tons
-	75	10,000-99,999 tons
-	100	100,000+ tons

## Battlefield Repairs

Field repairs are no substitute for a complete repair job, but when time is of the essence, these “patches” may mean the difference between survival and extinction. A damaged system can be temporarily repaired up to an effective factor equal to its original undamaged factor –1.

When such repairs are complete the system will begin functioning at its repaired level. When not in combat, an appropriate skill check (DC15) should be made by the chief engineer/mechanic every 1d6 days to be sure that nothing goes amiss with the patches until a proper repair job can be carried out.

### DAMAGE CONTROL OFFICER

One character should be designated damage control officer (DCO). This person is responsible for overseeing all in-battle repairs, and thus will make all dice rolls for that position. It is best if this person has appropriate skills (Leader, plus T/Engineering, T/Mechanical, T/Electronics, or T/Gravitics) and feats such as Damage Control, Jury Rig, and/or Miracle Worker. On smaller ships the DCO is most likely the Chief Engineer. If there is no Chief Engineer and no one has any appropriate feats and skills, select any character not otherwise occupied to make all DCO rolls.

**Damage Control:** This feat allows the chief engineer or DCO to more quickly and accurately assess the damage and implement a plan of repair. Reduce the repair DC by 5.

**Jury Rig:** Unorthodox but usually effective solutions are the hallmark of this feat, giving a +2 bonus to all repair checks.

**Miracle Worker:** When attempting to repair a system, the chief engineer may attempt to use this feat, but it must be declared before the repair check roll is made. If the skill check is successful, the system is automatically repaired to its original rating less one factor. This feat can only be used once per damaged system until fully repaired.

**Skill Synergy:** For every 5 ranks, or portion thereof the DCO possesses in the appropriate skill (e.g. Gravitics for a maneuver drive) for the repair add +1 to all repair checks.

### THE ENGINEERING CREW

For the Engineering crew to be most effective, it must be fully staffed. If the vessel has taken crew losses in the battle, these will affect the performance of the engineering crew by an equivalent factor.

Each round the DCO must specify the percentage of the engineering crew she needs for damage control, in 5% increments, up to the remaining percentage of the crew. For example, if a ship has suffered 45% crew losses so far, the DCO can request up to 55% of the crew, in 5% increments (100% - 45% losses = 55% remaining). These crewmembers are not available for any other task this round.

Every 10% (or less) shortage in available engineering crew incurs a –1 penalty to all repair checks this round. So if the DCO allocated only 75% of the total crew to damage control, she would suffer a –3 penalty.

### REPAIR RANK

The repair rank of the engineering crew is equal to the average appropriate skill rank of each member of the engineering crew (round down). This will be used when making any repair checks.

### ENGINEERING SHOPS

A sufficient number of available engineering shops to support the engineering crew (1 shop per 20 engineers) will greatly

improve the chances of expedient repairs by adding a +2 bonus to all repair checks.

### MAKING A BATTLEFIELD REPAIR

Using the table below, find the skill and DC required for the repair. If the chief engineer or DCO has the Damage Control feat, reduce the DC by –5.

The chief engineer or DCO now rolls 1d20, adding the Repair Rank of the engineering crew for the appropriate skill and any shop bonus, crew loss penalties, or other bonuses the chief engineer/DCO provides. If the roll total is greater than the required DC, remove one recorded hit from the system. For example a maneuver drive that had taken 3 previous hits would now be marked as having taken only 2 hits, improving its effective factor by 1.

A critical success (a natural 20 on the skill check die roll) will result in one extra hit being repaired on the system this round. If the extra repair was not needed, it is wasted and may not be applied to another system.

These DCs assume 6-second personal combat rounds. A repair check is a full round action for both the chief engineer/DCO and the members of the engineering crew applied to the task.

**Take10:** Increase time required to 1 minute (1 vehicle combat round, 10 personal combat rounds), reduce DC by 10.

**Take20:** Increase time required to 1 hour (1 ship combat round, 60 vehicle combat rounds, 600 personal combat rounds), reduce DC by 20

<i>System to be Repaired</i>	<i>Skill Required</i>	<i>DC</i>
Engineering	-	-
Jump Drive	T/Engineering	40
Maneuver Drive	T/Engineering	36
Power Plant	T/Engineering	26
Screens	T/Electronics	38
Fire Control or Vehicle Weapons	T/Electronics or T/Mechanical	36 or 34
Low Berths	T/Medical or T/Electronics	36 or 34
Electronics	T/Electronics	24
Mechanical	T/Mechanical	22
Other Miscellaneous	T/Mechanical or T/Electronics	20 or 20
Grav Units	T/Gravitics	20
Personal Equipment	T/Electronics or T/Mechanical	20 or 20

## Permanent Repairs

Battlefield repairs will get a vessel by temporarily, but sooner or later (usually sooner), the damage will need to be completely repaired at a proper shipyard or maintenance facility. A class C starport will typically have sufficient facilities to handle repairs to any vessel under 1,000 tons, but will be unable to handle repairs to Jump drives. Repairs can be completed at a rate of 1 SI damage per day of repair work, and 1 system can be repaired completely (regardless of the amount of damage) per week.

Material costs for repairing SI damage are Cr100 per point of damage repaired or (if necessary) the total cost of replacement. For systems the material cost is 10% of the original value of the system per hit it has taken. If someone other than the engineering crew is hired to handle the repairs, the cost will be Cr1000 per day plus material expenses.

For class B starports, any vessel up to 10,000 tons may be accommodated and Jump drives can be repaired, but the costs



will increase to Cr120 per point of SI repaired. Up to 2 SI can be repaired per day, and up to 2 systems repaired per week.

Class A starports can accommodate any size vessel and also repair Jump drives. Costs at these starports rise to Cr150 per SI repaired, but up to 5 SI can be repaired per day, and up to 3 systems per week.



Travellers face a multitude of challenges in the course of their adventures. Just ensuring that they can get enough to eat every day can be a problem, especially if money is tight. Out in the field, the hazards multiply. The local environment can be lethal to those without proper survival equipment, and the most serene location can hide deadly danger in a multitude of forms.

## LIVING EXPENSES

Characters need to feed themselves and have a place to live while not involved in adventures. It is not possible to live forever off ration bars and glop from a fusion still. Barbarians in their home environment can be considered to live "for free" from farming, gathering, hunting and trapping what they need, but everyone else needs to pay for long-term subsistence.

### BASIC CUISINE ON A DAILY BASIS

Food is available in a variety of forms and qualities. Prices indicated are per person.

Restaurant meals of ordinary quality cost Cr10 per day. Excellent quality meals range in price from Cr20 to Cr50 per person. Travellers' Aid Society facilities provide excellent quality meals to members and guests for Cr20.

Food purchased from vendors for preparation at home costs about Cr5 per day, and weighs about 1 kg.

Preserved foods for rations on expeditions may be canned or packaged (Cr20 per day, weighs .5 kg) or dehydrated (Cr25 per day, weighs .2 kg, dependent on locally supplied water).

### SUBSISTENCE ON A LONG TERM BASIS

In situations where time passes quickly, personal survival or subsistence costs can be assumed to be the values given below:

**Starvation Level:** A person must consume at least 1kg of food per day or they will begin starving. A day's ration of canned, packaged, or dehydrated food is equal to the 1kg of standard fare, regardless of actual weight. A character can survive for a number of days equal to their Constitution before starting to suffer the effects of starvation, but they will not heal from any injuries during this period. For each extra day spent beyond this period with insufficient food supplies, a character will lose 1 point of Lifeblood.

**Subsistence Level:** A character spending less than required by their Social Standing on food and lodging are considered to be existing at subsistence level. While at this level, their Social Standing will be temporarily lowered to a value equal to the level of support the character can afford plus their original Social Standing bonus. For example a character with a normal Social Standing of 12 can currently only afford to spend Cr600 per month on food and lodging. This amount is enough to support a normal Social Status of 6. Adding his original Social Status bonus of +1, the character has a temporary Social Status of 7 until they can afford to once again spend enough to support their true status.

**Ordinary Level:** A character must spend Cr100 per point of Social Standing each month on food and lodging to support the lifestyle that comes with their status.

**High Living:** A character that spends Cr250 per point of Social Standing a month or more is considered to be living the high life, the best of foods, high quality lodging, etc. Of course, what is high living to someone with a Social Standing of 3 is quite different than someone with a Social Standing of 15... Any

character trying for an increase in social standing must be living at this level on a constant basis.

**Starships:** Passengers and crewmembers have their food and lodging provided.

## MEDICAL CARE

Adventuring is not the safest of occupations, and sooner or later characters are going to need medical care. Where hospitals and other medical services are available, it can be assumed that characters will receive whatever treatment they need and be covered by medical insurance included in their general expenses. At times, the Referee may rule that characters have to pay for care or that proper care is not available quickly enough. At these times, and in the field, characters may decide to use their own resources.

T/Medical skill rank 4 is sufficient to qualify a character for the position of medic on a starship crew. A character with a Medical (Doctorate) degree and a T/Medical skill rank of 4 or higher can use the title Doctor. This assumes a license to practice medicine which includes writing prescriptions, handling most ailments, and dealing with other doctors on a professional level. Characters who fit this description and also have the Surgery feat can title themselves "Surgeon".

If the patient is being treated for a life-threatening condition and the T/Medical check fails, the patient must make a Fortitude save (DC15) or they will die immediately. Note that checks to treat diseases and chronic conditions do not instantly cure the ailment. They represent the provision of care such that the patient does not get any worse, or perhaps part of a long-term therapy that might result in recovery.

### MEDICAL TREATMENT 'IN THE FIELD'

Damage to lifeforms must be healed, either naturally, through the intervention of a medical practitioner, or via a technological device.

**Natural Lifeblood Healing:** Lifeblood heals naturally at a rate of 1 point per week of rest. For longer-term healing, the total recovery period from a given set of wounds is equal to one week per point of Lifeblood lost, minus the character's constitution modifier, with a minimum of 1 week total recovery. Thus a character resting up after taking 7 points of Lifeblood damage would be completely healed after 5 weeks if his constitution modifier was +2 (7 minus +2 = 5), and 8 weeks if it were -1 (7 minus -1 = 8).

**Natural Stamina Healing:** Stamina is automatically recovered at a rate of (1 point + Constitution modifier per character level) per hour of rest. If the character has a negative Constitution modifier, the character will require a number of hours equal to (numeric value of Con modifier +1) to heal 1 point of Stamina. For example a character with a 16 Con (+3 modifier) would recover stamina at a rate of 4 points per hour of rest, while a character with a 6 Con (-2 Modifier) would heal at a rate of 1 point per 3 hours of rest. It requires a minimum of 1 hour to regain a Stamina point.

**Healing Attribute Damage:** Many injuries that reduce damage on a short-term basis result in the attribute returning to normal after the situation has passed. However, conditions such as disease and poisoning that reduce an attribute can take a long time to heal. Every week of rest and reasonable medical treatment, the character may make a DC 15 Fortitude check for every attribute that has been reduced. If successful, the character

**Table: Medical Procedures**

Medical Procedure	DC
Aid a choking victim	5
Staunch bleeding/apply tourniquet	5
Administer injection/IV	5
Cardio/Pulmonary Resuscitation	5
Set broken limb/rib	5
Venomous bite/sting treatment (Slows the spread of a poison)	10
Apply/remove stitches	10
Tracheotomy	15
Treat non-terminal virus	10
Treat wound infection	10
Treat terminal virus	15
Treat non-terminal disease	20
Treat poisoning	20
Treat terminal disease	25
Treat non-terminal cancer	30
Treat terminal cancer	35
Routine surgery (remove bullet, appendicitis) Requires the Surgery feat	25
Serious surgery (amputation, heart surgery) Requires the Surgery feat	30
Major surgery (brain surgery) Requires the Surgery feat	35
<b>Modifiers</b>	<b>DC</b>
Under fire	+15
Rushed	+10
Anti-toxin Available	-10
Hi-Tech Hospital	-15
Mid-Tech Hospital	-10
Lo-Tech Hospital	-5
Hi-Tech Field Hospital	-10
Mid-Tech Field Hospital	-5
Hi-Tech Surgical Field Kit	-5
Lo-Tech Surgical Field Kit	+5
No Surgical tools	+10
Chronic Condition	+5

regains one point. If medical treatment is available, the DC is modified as per the Medical Procedures table, above.

**Treating Disease:** Various kinds of disease and infection are detailed later in this chapter. The DC associated with treating a disease depends upon the severity and type of the ailment as listed in the table above. Contracting diseases is detailed under 'disease and infection', later in this chapter.

**Treating Poisoning:** Characters with T/Medical or First Aid skill may attempt to treat a poisoned character. If they act quickly enough (within 1 round) they may be in time to slow the spread of the poison and gain time for proper treatment to prevent the poison from having any effect at all. Slowing the poison in this way is DC10. If successful, the character gains 1 minute to perform a proper treatment before the poison's initial effect is felt.

Treating poison properly is difficult, and is normally in time only to prevent the poison's secondary (usually more serious) effect. DC to treat a poison victim is 20, subject to the modifiers above; it can be seen that anti-toxin of some kind is of great benefit. If no actual anti-toxin is available, the medic may be able to improvise something that will help somewhat. For example, giving the character a fatty drink like milk might slow the absorption of an ingested poison. Improvised measures like this give a -2 modifier to the treatment DC. A character who makes a K/Toxicology check at DC15 receives a +5 bonus to his roll when treating a poisoned character.

**First Aid:** A character that has the T/Medical skill may attempt to treat unconscious (0 or fewer Stamina points) and dying (0 or fewer Lifeblood points) victims. A successful T/Medical skill check (DC15) will revive unconscious victims (raising their Stamina to 1), and stabilize dying characters (raising their Lifeblood to 1). Applying first aid is a full round action. If the character treating the victim has a medical kit to hand, they may add the kit's bonus to these medical skill checks.

**Medical Drug:** Heals 3d6 Stamina, 1d4 Lifeblood. If the Medical Drug is taken more than once in a 24-hour period there is a high risk of overdose. The user must make a Fortitude saving throw (DC20) or immediately fall unconscious (reduce Stamina to 0) and suffer 3d6 Lifeblood damage.

Medical Drug TL8 Cr100 per dose

## TREATING DISEASE AND INFECTION

Once a character has contracted a disease, infection or parasitic infestation, his body will do its best to fight the condition, which may or may not be enough. Some medical treatments are designed to cure the disease, while others simply support the body and reduce secondary infections until the body can cure itself. Some diseases, such as cancers, may require surgery as well as other treatments. The Referee will need to determine the broad characteristics of a disease that a character is exposed to – viral, bacterial etc, severity and whether or not the condition is chronic. Chronic conditions are difficult to treat as they keep coming back time and again.

A character who is suffering from disease or infection heals Lifeblood and Stamina at half the normal rate.

Diseases can be subdivided as: Mild, Serious and Life-Threatening.

A character who is suffering from a Mild disease is treated as if his Stamina was  $\frac{3}{4}$  its normal maximum and suffers a blanket -2 penalty on all his actions.

A character with a Serious disease should not be out of bed. Stamina and Lifeblood are halved, and in addition to a blanket -4 penalty on all actions he is treated as if his attributes were at  $\frac{3}{4}$  of their normal value.

A character with a Life-threatening illness is treated as if Stamina and Lifeblood are at  $\frac{1}{4}$  their normal value and all his attributes are halved. He also suffers a -8 penalty on all actions.

Terminal diseases are a special case. A character with a Terminal disease may actually have few symptoms may actually have few ill-effects at first; the fact that a disease will eventually kill a character may not prevent him from acting normally. The severity of symptoms depends upon the phase of the disease: Mild, Serious, Life-threatening and finally Terminal. A character in the terminal phase (as distinct from having a terminal disease) of a disease is bedridden and incapable of doing much for himself.

Infected wounds are normally Mild to begin with, but can become very serious.

Attempts to treat any given disease, infestation or infection can be made every week. The DC of treating any given condition is listed in the table above. If the T/Medical check is made and the condition is successfully treated, it will not deteriorate any further.



and there is a chance that the patient will start to recover. If the check is failed, the patient may become worse.

Each week, a diseased or infected character must make a Fortitude check at the DC listed below. If the check is made (and/or the T/Medical check is successful), the character does not get any worse. If the Fortitude check is made by it is made by 10 or more, the character improves one condition; Life-Threatening to serious, serious to mild, mild to healthy. Terminal illnesses never get any better unless special measures are available such as a specific cure. Finding such a cure might be an adventure opportunity.

**Table: Disease and Infection Recovery DCs**

Condition	DC
Mild	5
Serious	10
Life-Threatening	15

*Modifiers to DC*

Total Neglect	+10
Basic self-care only	+5
Medical Care Available	+0
T/Medical Treatment Check Successful	+5
Specific Treatments Available	+10

## MOVEMENT

There are three movement scales in the game:

**Personal or Tactical:** for combat between people and/or creatures, measured in meters per round.

**Vehicle or Local:** for combat between vehicles or exploring an area, measured in meters per minute.

**Ship or Overland:** for ship-to-ship combat (measured in 32,000km hexes per hour) or getting from place to place on a planet (measured in kilometers per hour or day).

### MODES OF CREATURE MOVEMENT

While moving at the different movement scales, creatures generally walk, hustle, or run. These rates assume normal gravity and similar conditions. Low or high gravity (outside a range of 10% above or 20% below standard) will reduce the movement rate.

**Walk:** A walk represents unhurried but purposeful movement at 5.4 kilometers per hour for an unencumbered human.

**Hustle:** A hustle is a jog or similar quick but not excessively hard movement; this is about 10 kilometers per hour for an unencumbered human. The double move action represents a hustle.

**Run (x3):** Moving three times your character's standard speed is a running pace for a character in heavy armor.

**Run (x4):** Moving four times your character's standard speed is a running pace for a character in light, medium, or no armor.

### TACTICAL MOVEMENT

Use tactical speed for combat between people and/or creatures, measured in six-second rounds. Tactical movement is also used when handling combats involving people and/or creatures, along with vehicles and/or ships.

### VEHICLE/LOCAL MOVEMENT

Characters exploring an area use local movement, measured

**TABLE: Movement and Distance**

	Base Speed		
	6m	9m	12m
<b>One Personal Round/Tactical Movement – 6 seconds</b>			
Walk	6m	9m	12m
Hustle	12m	18m	24m
Run (x3)	18m	27m	36m
Run (x4)	24m	36m	48m
<b>One Vehicle Round/Local Movement – 1 minute</b>			
Walk	60m	90m	120m
Hustle	120m	180m	240m
Run (x3)	180m	270m	360m
Run (x4)	240m	360m	480m
<b>One Ship Round/Overland Movement – 1 hour</b>			
Walk	3.6km	5.4km	7.2km
Hustle	7.2km	10.8km	14.4km
Run (x3)	10.8km	15.4km	21.6km
<b>Overland Movement - 1 day</b>			
Walk	28.8km	43.2km	57.6km
Hustle	57.6km	86.4km	115.2km

(Assumes 8 hours spent actually traveling)

**Hampered Movement:** Obstructions, bad surface conditions, or poor visibility can hamper movement. The Referee determines the category that a specific condition falls into (see the Hampered Movement table, below). When movement is hampered, multiply the standard distance by the movement penalty (a fraction) to determine the distance covered.

If more than one condition applies, multiply the normal distance covered by all movement penalty fractions that apply.

**TABLE: Hampered Movement**

Condition	Example	Movement Penalty
<b>Gravity</b>		
Moderately Low	0.75g	x4/5
Low	0.5g	x3/5
Very Low	0.25g	x1/2
Moderately High	1.25g	x3/4
High	1.5-2g	x1/3
Very High	2+g	x1/5
<b>Obstruction</b>		
Moderate	Undergrowth	x3/4
Heavy	Thick undergrowth	x1/2
<b>Surface</b>		
Bad	Steep slope or mud	x1/2
Very bad	Deep snow	x1/4
<b>Poor visibility</b>		
	Darkness or fog*	x1/2

\*Includes any effects that create a "fog".

in minutes. Vehicles in combat with other vehicles, or vehicles and ships in combat together use this scale of movement.

**Walk:** A character can walk without a problem on the local scale.

**Hustle:** A character can hustle without a problem on the local scale. See Overland Movement, below, for movement measured in hours.

**Run:** A character with a Constitution score of 9 or higher can run for a minute without a problem. Generally, such characters can run for about a minute or two before having to rest for a minute.

## OVERLAND MOVEMENT

Characters covering long distances cross-country use overland movement. Overland movement is measured in hours or days. A day represents 8 hours of actual travel time. For rowed watercraft, a day represents 10 hours of rowing. For a sailing ship, it represents 24 hours. A day spent driving or piloting a vehicle represents 8 hours, distance traveled is based on the cruising speed of the vehicle.

**Walk:** A character can walk 8 hours in a day of travel without a problem.

**Hustle:** A character can hustle for 1 hour without a problem. Hustling for a second hour in between sleep cycles causes 1 point of Stamina damage, and each additional hour causes twice the damage taken during the previous hour.

**Run:** A character can't run for an extended period of time. Attempts to run and rest in cycles effectively work out to a hustle.

**Terrain:** The terrain through which a character travels affects how much distance she can cover in an hour or a day.

**Forced March:** In a day of normal walking, a character walks for 8 hours. The character spends the rest of daylight time making and breaking camp, resting, and eating.

A character can walk for more than 8 hours in a day by making a forced march. For each hour of marching beyond 8 hours, the character makes a Constitution check (DC 10 + 1 per extra hour). If the check fails, the character takes 1d6 points of Stamina damage. It's possible for a character to march into unconsciousness by pushing herself too hard.

**Mounted Movement:** An animal bearing a rider can move at a hustle. It can also be force-marched, but its Constitution checks automatically fail. See the Mounts and Vehicles tables for mounted speeds and speeds for vehicles pulled by draft animals.

**Waterborne Movement:** See the Mounts and Vehicles table for speeds for water vehicles.

**TABLE: Terrain and Overland Movement**

Terrain	Highway	Road	Trackless
Plains	x1	x1	x1
Scrub, rough	x1	x1	x3/4
Forest	x1	x1	x1/2
Jungle	x1	x3/4	x1/4
Swamp	x1	x3/4	x1/2
Hills	x1	x3/4	x1/2
Mountains	x3/4	x1/2	x1/4
Sandy Desert	x1	x3/4	x1/2

**TABLE: Mounts and Vehicles**

Mount/Vehicle	Per Hour	Per Day
<b>Mount (carrying load)</b>		

Light riding animal	9.7km	77.6km
Average riding animal	8.0km	64.0km
Heavy riding animal	6.4km	51.2km
Light draft animal	8.0km	64.0km
Average draft animal	6.4km	51.2km
Heavy draft animal	4.7km	37.6km
Light combat mount	6.4km	51.2km
Average combat mount	4.7km	37.6km
Heavy combat mount	3.2km	25.6km

### Watercraft

Raft or barge (poled)*	0.8km	8.0km
Rowboat	2.4km	24.0km
Sailing boat	3.2km	76.8km
Sailing ship	4.0km	96.0km
Large sailing ship	4.8km	115.2km
Rowed Galley	6.4km	64.0km

\*Rafts and barges are used on lakes and rivers. If going downstream, add the speed of the current (typically 4.8 kph) to the speed of the vehicle. In addition to 10 hours of being rowed, the vehicle can also float an additional 14 hours, if someone can guide it, so add an additional 67.6 kilometers to the daily distance traveled. These vehicles can't be rowed against any significant current, but they can be pulled upstream by draft animals on the shores.

## VISION AND LIGHTING

Characters need a way to see in the dark. See the Light Sources table for the radius that a light source illuminates and how long it lasts.

Characters with low-light vision can see objects twice as far away as the given radius.

**LI Sensors:** Light Intensifying sensors take the ambient light and multiply it electronically, allowing the user to enjoy vision almost as good as under full daylight conditions. Treat any low light condition, except total darkness, as if the light level were normal. A minimal amount of light is required to power LI sensors; a match, a candle, moonlight, even starlight will suffice. LI sensors will not work in total darkness.

**IR Sensors:** Infrared sensors detect differences in temperature, allowing the user to distinguish most creatures and any objects that are at a different temperature to their surroundings. IR sensors work very well in cold environments, and even in total darkness, but do not work very well in high temperature conditions where the background heat creates interference. IR vision quality is typically lower than for visible light sensors. Treat any low light condition as if it were normally illuminated, but any Spot or Search checks are at a -2 penalty.

## ENVIRONMENTS

Travellers can find themselves in a vast range of environments, each with its own unique hazards and characteristics.

### GRAVITY

The gravity in which the character spent the vast majority of their time in during the adolescent development (through age 14 to 18) is considered their 'native' gravity. Note that even though Belters spend a lot of their time in zero-g situations, the majority

TABLE: Light Sources

Object	Light	Duration
Match	1.5m	30 seconds
Lighter	1.5m	5 minutes
Candle	1.5m	1 hour
Oil Lamp	4.5m	6 hours per half-liter of oil
Torch	6m	20 minutes
Campfire	9m	4 hours
Bonfire	12m	6 hours
Flashlight*	9m	6 hours
Electric Lantern	9m	8 hours
Cold Light Lantern	9m	3 days

\* A cone 9m long and 9m wide at the far end.

of their time is spent under the effects of a gravity well (either artificial or natural). Characters raised under very low or zero-gravity situations would be very rare, particularly in a society where artificial gravity generation is commonplace.

A character's native gravity will determine how well they will perform in situations where the local gravity they are currently experiencing is higher or lower than what they are used to. Compare the character's native gravity to the current local gravity to determine the penalty that will be imposed whenever the character attempts to make an attack, use a skill requiring a physical action, making a Reflex save, or making a Strength or Dexterity ability check.

Certain feats are available that allow a character to adapt to heavier or lighter gravities than they are used to:

**Zero-G/Low Gravity Adaptation:** Characters with this feat may reduce the penalty for operating in a lower than native gravity situation by 2 points.

**Improved Zero-G/Low Gravity Adaptation:** Characters with this feat may eliminate any penalty for operating in a lower than native gravity situation.

**Heavy Gravity Adaptation:** Characters with this feat may reduce the penalty for operating in a higher than native gravity situation by 2 points.

## TECHNOLOGY

The use of some skills are in many ways tied directly to the technological level at which they are experienced with and trained for. If a character attempts to use such a skill in a task that has a technological level higher or lower than their 'native' technological level, they will be at a disadvantage. Higher technological levels tasks require concepts and ideas not even contemplated by the character, and when dealing with lower technological level tasks the character is less able to function without modern (relative to the character) tools and resources.

Applies to the following skills: Combat Engineering, Craft, Demolitions, Driving, Gunnery, Navigation, Pilot, Profession, Technical, Use Alien Devices.

Native Gravity	Current Gravity						Str/Con/Dex
	None	Very Low	Low	Average	Heavy	Oppressive	
None	0	-1	-2	-4	-6	-8	-4/-4/+4
Very Low	-1	0	-1	-2	-4	-6	-2/-2/+2
Low	-2	-1	0	-1	-2	-4	-1/-1/+1
Average	-4	-2	-1	0	-1	-2	0/0/0
Heavy	-6	-4	-2	-1	0	-1	+1/+1/-1
Oppressive	-8	-6	-4	-2	-1	0	+2/+2/-2

## Native Technological Level

A character's native technological level (TL) is equal to the TL of their homeworld.

## Technological Penalties

+2 Task DC for every TL higher than the character's native TL  
+1 Task DC for every 2 TL (round up) lower than the character's native TL.

## Knowledge Synergy

If a character has a Knowledge skill related to the Technological skill being used, the following modifiers may apply (where X is the related Technology skill):

**K / X Theory:** +1 to Technological tasks with a TL higher than the character's native TL for every 4 skill ranks (round down).

**K / X History:** +1 to Technological tasks with a TL lower than the character's native TL for every 4 skill ranks (round down).

*For example a character trained in the use of TL12 style demolitions may have some difficulty working with crude explosives available at lower technological levels without some additional knowledge related to the history of demolitions.*

*If the TL of the demolitions being worked with were 5 levels lower than the character native TL, the DC for any demolition task would be increased by 3 points.*

*If the character also had the K/Demolitions History skill with a skill rank of 9, they could add +2 to any Demolition task when using these explosives due to their historical knowledge. If still doesn't completely offset the dangers of working with such cruder explosives, but it does decrease the likelihood of an accident.*

## WATER

Any character can wade in relatively calm water that is not over his head. No check is required.

Swimming in calm water only requires skill checks with a DC of 10. Trained swimmers can just Take10.

Fast-moving water is much more dangerous. On a successful Swim or Strength check (DC 15), it deals 1d3 points of Stamina damage per round (1d6 points of normal damage if flowing over rocks and cascades). On a failed check, the character must make another check that round to avoid going under. If the character goes under, the character is drowning.

Very deep water is not only generally pitch black, posing a navigational hazard, but worse, if one ascends or descends too quickly they may suffer from the bends (see Pressure Breach), with every 30m meters distance up or down equaling 1 atmosphere of pressure increase or decrease.

Very cold water deals 1d6 points of Stamina damage from hypothermia per minute of exposure.

## Drowning

Any character can hold her breath for a number of rounds equal to twice her Constitution score. After this period of time, the character must make a Constitution check (DC 10) every round in order to continue holding her breath. Each round, the DC increases by 1.

When the character finally fails her Constitution check, she begins to drown. In the first round, she falls unconscious (0 Stamina). In each following round, she loses 1d6 Lifeblood until Lifeblood reaches -10 and she dies.

It is possible to drown in substances



other than water, such as sand, quicksand, fine dust, and silos full of grain.

## STARVATION AND THIRST

In normal climates, Medium-size characters need at least 3 litres of fluids and about 2,000 calories (about half a kilo) of decent food to keep them nourished and avoid starvation. This is proportional to size, so small characters may need as little as half as much. In very hot climates, characters need two or three times as much water to avoid dehydration.

A character can go without water for 1 day plus a number of hours equal to his Constitution score. After this time, the character must make a Constitution check each hour (DC 10, +1 for each previous check) or sustain 1d6 points of Stamina damage.

A character can go without food for 3 days, in growing discomfort. After this time, the character must make a Constitution check each day (DC 10, +1 for each previous check) or sustain 1d6 points of Stamina damage.

Characters who have taken Stamina damage from lack of food or water are fatigued. Stamina damage from thirst or starvation cannot be recovered until the character gets food or water, as not even magic or psionic abilities that restore Stamina can heal this damage.

## HEAT

Heat deals Stamina damage that cannot be recovered until the character gets cooled off. Once rendered unconscious through the accumulation of Stamina damage, the character begins to take Lifeblood damage at the same rate.

A character in very hot conditions (above 32° C) must make a Fortitude saving throw each hour (DC 15, +1 for each previous check) or sustain 1d4 points of Stamina damage. Characters wearing heavy clothing or armor of any sort have a -4 penalty to the save. A character with the Survival skill may receive a bonus to this saving throw and may be able to apply this bonus to other characters as well through appropriate measures. Characters reduced to unconsciousness begin taking Lifeblood damage (1d4 points per hour).

In extreme heat (above 45° C), a character must make a Fortitude save once every 10 minutes (DC 15, +1 for each previous check) or sustain 1d4 points of Stamina damage. Characters wearing heavy clothing or armor of any sort have a -4 penalty to their saving throws. A character with the Survival skill may receive a bonus to this saving throw and may be able to apply this bonus to other characters as well. Characters reduced to unconsciousness begin taking Lifeblood damage (1d4 points per each 10-minute period).

A character who sustains any Stamina damage from heat exposure now suffers from heatstroke and is fatigued. These penalties end when the character recovers the Stamina damage she took from the heat.

Abysmal heat (air temperature over 60° C, fire, boiling water, lava) deals Lifeblood damage. Breathing air in these temperatures deals 1d6 points of Lifeblood damage per minute (no save) unless a protective device such as a filter mask is used. In addition, a character must make a Fortitude save every 5 minutes (DC 15, +1 per previous check) or sustain 1d4 points of Stamina damage from skin contact with the air. Those wearing heavy clothing or any sort of armor have a -4 penalty to their saving throws. In addition, those wearing metal armor or coming into contact with very hot metal suffer 2d4 Lifeblood damage per round of contact.

Boiling water deals 1d6 points of scalding damage, unless the character is fully immersed, in which case it deals 10d6 points of damage per round of exposure.

## Catching Fire

Characters at risk of catching fire are allowed a Reflex saving throw (DC 15) to avoid this fate. If a character's clothes or hair catch fire, he takes 1d6 points of Lifeblood damage immediately. In each subsequent round, the burning character must make another Reflex saving throw. Failure means he takes another 1d6 points of Lifeblood damage that round. Success means that the fire has gone out. (That is, once he succeeds at his saving throw, he's no longer on fire.)

A character on fire may automatically extinguish the flames by jumping into enough water to douse himself. If no body of water is at hand, rolling on the ground or smothering the fire with blankets or the like permits the character another save with a +4 bonus.

Those unlucky enough to have their clothes or equipment catch fire must make Reflex saving throws (DC 15) for each item. Flammable items that fail sustain the same amount of damage as the character.

## COLD

Cold and exposure deal Stamina damage to the victim. This Stamina damage cannot be recovered until the character gets out of the cold and warms up again. Once a character is rendered unconscious through the accumulation of Stamina damage, the cold and exposure begins to deal Lifeblood damage at the same rate.

An unprotected character in cold weather (below 5° F) must make a Fortitude saving throw each hour (DC 15, +1 per previous check) or sustain 1d6 points of Stamina damage. A character who has the Survival skill may receive a bonus to this saving throw and may be able to apply this bonus to other characters as well.

In conditions of extreme cold or exposure (below -15° F), an unprotected character must make a Fortitude save once every 10 minutes (DC 15, +1 per previous check), taking 1d6 points of Stamina damage on each failed save. A character who has the Survival skill may receive a bonus to this saving throw and may be able to apply this bonus to other characters as well. Characters wearing winter clothing only need check once per hour for cold and exposure damage.

A character who sustains any Stamina damage from cold or exposure suffers from frostbite or hypothermia and is fatigued. These penalties end when the character recovers the Stamina damage she took from the cold and exposure.

# WEATHER HAZARDS

## WINDS

Winds can create a stinging spray of sand or dust, fan a large fire, heel over a small boat, and blow gases or vapors away. If powerful enough, they can even knock characters down (see the Wind Effects table), interfere with ranged attacks, or impose penalties on some skill checks.

**Light Wind:** A gentle breeze, having little or no game effect.

**Moderate Wind:** A steady wind with a 50% chance of extinguishing small unprotected flames, such as candles.

**Strong Wind:** Gusts that automatically extinguish unprotected flames (candles, torches, and the like). Such gusts impose a -2 penalty to ranged attacks and to Listen checks.

**Severe Wind:** In addition to automatically extinguishing any unprotected flames, winds of this magnitude cause protected flames (such as those of camp fires or lanterns) to dance wildly and have a 50% chance of extinguishing these lights. Ranged weapon attacks and Listen checks are at a -4 penalty.

**Windstorm:** Powerful enough to bring down branches if not



**Table: Wind Effects**

Wind Force	Wind Speed	Ranged Attacks (Normal/Heavy Weapons*)	Creature Size**	Wind Effect on Creatures	Fort Save DC
Light	0-15 kph	-/-	Any	None	-
Moderate	16-30 kph	-/-	Any	None	-
Strong	31-50 kph	-2/-	Tiny or smaller	Knocked down	10
			Small or larger	None	
Severe	51-80 kph	-4/-	Tiny	Blown away	15
			Small	Knocked down	
			Medium-size	Checked	
			Large or larger	None	
Windstorm	81-120 kph	-10/-4	Small or smaller	Blown away	18
			Medium-size	Knocked down	
			Large or Huge	Checked	
			Gargantuan or Colossal	None	
Hurricane	121-280 kph	Impossible/-8	Medium-size or smaller	Blown away	20
			Large	Knocked down	
			Huge	Checked	
			Gargantuan or Colossal	None	
Tornado	281-500 kph	Impossible/impossible	Large or smaller	Blown away	30
			Huge	Knocked down	
			Gargantuan or Colossal	Checked	

\*Wind effects are as follows:

**Checked:** Creatures are unable to move forward against the force of the wind. Flying creatures are blown back 1d10 meters.

**Knocked Down:** Creatures are knocked prone by the force of the wind. Flying creatures are instead blown back 1d10 meters.

**Blown Away:** Creatures on the ground are knocked prone and rolled 1d12 meters, sustaining 1d4 points of Stamina damage per 3 meters. Flying creatures are blown back 2d10 meters and sustain 2d6 points of Stamina damage due to battering and buffering.

whole trees, windstorms automatically extinguish unprotected flames and have a 75% chance of blowing out protected flames, such as those of lanterns. Ranged weapon attacks are impossible, and even heavy weapons such as artillery and rockets have a -4 penalty to attack. Listen checks are at a -8 penalty due to the howling of the wind.

**Hurricane-force Wind:** All flames are extinguished. Ranged attacks are at -10, and even heavy weapons suffer a -8 penalty. Listen checks are impossible; all characters can hear is the roaring of the wind. Hurricane-force winds often fell trees.

**Tornado:** All flames are extinguished. All ranged attacks are impossible (even with heavy weapons), as are Listen checks. Instead of being blown away (see the Wind Effects table), characters in close proximity to a tornado who fail their Fortitude saves are sucked toward the tornado. Those who come in contact with the actual funnel cloud are picked up and whirled around for 1d10 rounds, taking 6d6 points of Stamina damage per round, before being violently expelled (falling damage may apply). While a tornado's rotational speed can be as great as 500 kph, the funnel itself moves forward at an average of 50 kph. A tornado uproots trees, destroys buildings, and causes other similar forms of major destruction.

## PRECIPITATION

Most precipitation is in the form of rain, but in cold conditions it can manifest as snow, sleet, or hail. Precipitation of any kind followed by a cold snap in which the temperature dips from above freezing to 0° C or below may produce ice.

**Rain:** Rain reduces visibility ranges by half, resulting in a -4 penalty to Spot and Search checks. It has the same effect on flames, ranged weapon attacks, and Listen checks as severe wind (see above).

**Snow:** While falling, snow reduces visibility as rain (-4 penalty to ranged weapon attacks, Spot checks, and Search checks). Once on the ground, it reduces movement by half. Snow has the same effect on flames as Moderate Wind (see above).

**Sleet:** Essentially frozen rain, sleet has the same effect as rain while falling (except that its chance to extinguish protected flames is 75%) and the same effect as snow once on the ground.

**Hail:** Hail does not reduce visibility, but the sound of falling hail makes Listen checks more difficult (-4 penalty). Sometimes (5% chance) hail can become large enough to deal 1 point of damage (per hailstorm) to anything in the open. Once on the ground, hail has the same effect on movement as snow.

Very severe hail, falling in large lumps of ice, can be more damaging and may do damage every round.

**Storms:** The combined effects of precipitation (or dust) and wind that accompany all storms reduce visibility ranges by three quarters, imposing a -8 penalty to all Spot, Search, and Listen checks. Storms make ranged weapon attacks very difficult (-10 penalty), except for heavy weapons, (-4 penalty to attack.) They automatically extinguish candles, torches, and similar unprotected flames. They cause protected flames, such as those of lanterns, to dance wildly and have a 50% chance to extinguish these lights. See the Wind Effects table for possible consequences to creatures caught outside without shelter during such a storm. Storms are

divided into two types: Thunderstorms and Duststorms:

**Duststorm:** These desert storms differ from other storms in that they have no precipitation. Instead, a duststorm blows fine grains of sand that obscure vision, smother unprotected flames, and can even choke protected flames (50% chance). Most duststorms are accompanied by Severe Winds (see above) and leave behind a deposit of 1d6 inches of sand. However, there is a 10% chance of a greater duststorm accompanied by Windstorm-magnitude winds (see above and the Wind Effects table). These greater duststorms deal 1d3 points of Stamina damage each round on anyone caught out in the open without shelter and also pose a choking hazard (see the Drowning Rules, except that a character with a scarf or similar protection across her mouth and nose does not begin to choke until after a number of rounds equal to ten times her Constitution score). Greater duststorms leave 1d3 meters of fine sand in their wake.

**Snowstorm:** In addition to the wind and precipitation common to other storms, snowstorms leave 2d6 centimeters of snow on the ground afterward.

**Thunderstorm:** In addition to wind and precipitation (usually rain, but sometimes also hail), thunderstorms are accompanied by lightning that can pose a hazard to characters without proper shelter (especially those in metal armor). As a rule of thumb, assume one bolt per minute for a 1-hour period at the center of the storm. Each bolt causes electrical damage equal to 1d10 eight-sided dice. One in ten thunderstorms is accompanied by a Tornado (see below).

**Powerful Storms:** Very high winds and torrential precipitation reduce visibility to zero, making Spot and Search rolls, Listen checks, and all ranged weapon attacks impossible. Unprotected flames are automatically extinguished, and even protected flames have a 75% chance of being doused. Creatures caught in the area can make a Fortitude saving throw (DC 20) or face the following effects based on the size of the creature. Powerful storms are divided into the following four types:

**Windstorm:** While accompanied by little or no precipitation, windstorms can cause considerable damage simply through the force of their wind (see the Wind Effects table).

**Blizzard:** The combination of high winds (see the Wind Effects table), heavy snow (typically 10d10 cm), and bitter cold make blizzards deadly for all who are unprepared for them.

**Hurricane:** In addition to very high winds (see the Wind Effects table) and heavy rain, hurricanes may be accompanied by flash floods (see below). Most adventuring activity is impossible under such conditions.

**Tornado:** One in ten Thunderstorms is accompanied by a tornado (see the Wind Effects table).

**Fog:** Whether in the form of a low-lying cloud or a mist rising from the ground, fog obscures all sight, including infrared sensors, beyond 1.5 meters. Creatures within 1.5 meters have one-half concealment (attacks by or against them have a 20% miss chance).

**Flash Floods:** Runoff from heavy rain forces creatures in its path to make a Fortitude save (DC 15). Creatures of size Large or smaller who fail the save are swept away by the rushing water, taking 1d6 points of Stamina damage per round (1d3 points on a successful Swim check). Huge creatures who fail are knocked down and face potential drowning. Gargantuan and Colossal creatures are checked, but they only drown if the waters rise above their heads.

## OTHER DANGERS

Use the following guidelines to cover the other sorts of dangers a character can face.

### ACID

Corrosive acids deals 1d6 points of damage per round of exposure except in the case of total immersion (such as into a vat of acid), which deals 10d6 points of damage per round. An attack with acid, such as from a hurled vial, counts as a round of exposure.

The fumes from most acids cause damage upon inhalation. Those who are close enough to a large body of acid (often found on exotic, corrosive or insidious atmosphere worlds) to dunk a creature in it must make a Fortitude save (DC 13) or take 1 point of Lifeblood damage. All such characters must make a second save 1 minute later or take another 1d4 points of Lifeblood damage.

Creatures immune to acid's caustic properties might still drown in it if they are totally immersed.

### CORROSIVE ATMOSPHERE

A corrosive atmosphere is unbreathable to humans and most lifeforms in general, inflicting 1d6 points of Lifeblood damage to lifeforms for each round of inhalation. In addition, these atmospheres are typically of extreme temperatures (either extremely hot or extremely cold) which would be enough to quickly and easily kill a person.

Those whose skin is partially exposed to a corrosive atmosphere (say by vac suit failure) must make a Fortitude save (DC 13) or take 1 point of Stamina damage per minute of exposure. Those who are fully exposed (i.e. have no suit but perhaps a breathing mask) make the same save and suffer 1d6 points of Stamina damage and 1 point of Lifeblood damage per minute of exposure if it is failed.

A Vac Suit, while sufficient to protect a lifeform from the effects of a corrosive atmosphere, will begin to break down (-1 AR per hour) after 24 hours of repeated exposure due to the acidic effects. Once a Vac Suit reaches 0 AR or lower suit failure automatically occurs. Hostile Environment Suits and pressurized vehicles are immune to this corrosive effect.

### CYROGENIC FLUIDS

Cryogenic fluids are the very cold liquids, like Liquid Hydrogen, found as vehicle or starship fuel, used in Low Berths, or carried as cargo. Cryogenic liquids deal 2d6 points of damage for splash hits, up to 20d6 points for total immersion. Sealed armor, such as a vac suit, combat armor, hostile environment suit, or battle dress will reduce this damage normally. Unsealed armor has no effect against this type of damage.

### DISEASE AND INFECTION

Travellers may be exposed to a variety of diseases during their adventures. Most starfaring cultures have sufficiently advanced medical technology that broad-spectrum treatments and immunizations are available which drastically reduce the chances of catching a serious disease. Specific immunizations and other treatments, such as immune system boosters, are available where there is an increased risk of infection.

Disease hazards can be considered to fall into several categories:

- **Bacterial Diseases:** Bacterial diseases are relatively easy to treat with antibiotics and other tools. The disease is caused by bacteria growing and multiplying within the host's body. Infections of this sort can be quite specific or very general.
- **Cancers:** Even in the far future, cancers and similar conditions kill many people. Treatments are available for many cancers, however.
- **Genetic Disorders:** Damage to genes (before or after birth) can cause a range of illnesses and syndromes. Player-



characters are unlikely to suffer from genetic disorders during play.

- **Parasitic Infection:** it is possible to pick up parasites outside or inside the body. Some parasites are relatively harmless while others carry serious diseases or cause effects such as blindness or death.
- **Viral Diseases:** Viral diseases are more difficult to treat but at higher tech levels this is possible. Viruses are often spread by body fluids such as blood but can also be contracted through droplet infection (inhaling droplets containing the virus suspended in the air).
- **Wound Infection:** Bacterial contamination can affect an open wound, especially if it is contaminated with foreign material. Wound infection is relatively easy to prevent and treat. In rare cases an infected wound may become gangrenous, which requires amputation at lower TLs and is difficult to treat even at higher TLs.

There are many different diseases. Most cause flu-like symptoms; fever, shivering, headaches and to forth. The Referee can create detailed diseases if she or she wishes but there is no absolute necessity. To generalize:

- Whenever a character is exposed to an appropriate disease or parasite vector (dirty water, airborne contamination etc), make a DC15 Fortitude save to avoid infection. DC may be varied by the referee to represent more or less virulent diseases.
- Whenever a character has an open wound in dirty conditions, or neglects to properly treat a wound, make a DC10 Fortitude check to avoid infection.

Fortitude saves are modified as follows:

**Table: Disease and Infection save Modifiers**

<i>Situation</i>	<i>DC Modifier</i>	<i>Example</i>
Filthy or disease-ridden conditions	+5	Crowded low-tech slum, jungle
Improvised precautions in place	-2	Pouring alcohol in wound, wearing a surgical mask in disease area
Basic precautions in place	-5	Routine hospital conditions
Extensive Precautions	-10	Professional disease outbreak conditions

For recovery and treatment of infections and diseases, see 'Medical Treatment in the Field'

## EXOTIC ATMOSPHERE

Exotic atmospheres are not safely breathable by most lifeforms, but are not otherwise generally dangerous. This is often due to unusual biological or chemical compounds within the atmosphere that can cause adverse effects. These compounds sometimes cause damage and at other times have more specific effects. If exposed to an Exotic atmosphere, a character will suffer the effects of suffocation (see below) in addition to any other effects listed in the description of the planetary atmosphere.

## FALLING

Falling is a major hazard for adventurers. There are three basic types of fall – falling over from standing as a result of combat, falling from a height (perhaps onto something sharp) and falling from a vehicle moving at speed.

## Falling Over

A character who is knocked over in combat or as a result of colliding with an obstacle when running suffers 1d6 Stamina damage unless a DC15 Reflex save or a DC10 Tumble check is made.

## Falling From a Height

Falling from a height is very serious. Damage is 1d6 Lifeblood per full 3 metres fallen. A character who jumps down from somewhere can mitigate the effects somewhat, taking the first die as Stamina damage. Similarly, falling onto something relatively soft such as water or springy turf also take the first die as Stamina damage. This is cumulative with a jump, as above. Diving into deep water causes no damage if the dive is a good one (DC15 Swim or Tumble check, DC rises by 5 for every full 15m of height dived from).

Hitting something hazardous like broken rocks increases the damage from a fall to 1d8 per 3 meters fallen, and it is not usually possible to mitigate this damage by an aimed jump. Very hazardous landing areas (such as big spikes) cause 1d10 damage per 3 full metres fallen.

## Falling From a Vehicle

A character who falls from a moving vehicle or animal takes damage as noted above under Falling From a Height, and also suffers 1d6 Stamina damage per 20kph the vehicle is moving at. A successful DC15 Tumble roll reduces damage by one die.

## FALLING OBJECTS

Just as characters take damage when they fall more than 3 meters, so too do they take damage when they are hit by falling objects. Objects that fall upon characters deal damage based on their weight and the distance they have fallen.

For each 90kg of an object's weight, the object deals 1d6 points of damage, provided it falls at least 3 meters. Distance also comes into play, adding an additional 1d6 points of damage for every 3-meter increment it falls beyond the first. In an atmosphere, a falling object will reach terminal velocity and do a maximum of 20d6 points of damage. In a vacuum, there is no maximum damage from a falling object.

Objects smaller than 90kg also deal damage when dropped, but they must fall farther to deal the same damage. Use the Damage from Falling Objects table to see how far an object of a given weight must drop to deal 1d6 points of damage.

**Table: Damage from Falling Objects**

<i>Object Weight</i>	<i>Falling Distance</i>
90-46 kg.	6 meters.
45-24 kg.	9 meters.
23-15 kg.	12 meters.
14-4.6 kg.	15 meters.
4.5-2.4 kg.	18 meters.
2.3kg-500gr.	21 meters.

For each additional increment an object falls, it deals an additional 1d6 points of damage. For example, since a 15kg metal sphere must fall 15 meters to deal damage (1d6 points of damage), such a sphere that fell 45 meters would deal 3d6 points of damage. Objects weighing less than 500 grams do not deal damage to those they land upon, no matter how far they have fallen. For any object which is totally unyielding (e.g. rock or metal) or which is well shaped to cause damage (a weapon or stalactite), double the damage it causes when it falls.

## ICE

Characters walking on ice must make Balance checks (DC 15) to avoid slipping and falling. Over long distances, a character must make a check each minute. Characters in prolonged contact with ice may run the risk of cold damage.

Vehicles driven on ice are prone to slide out of control. A DC15 Drive check must be made every 15 minutes to avoid a mishap. An Ice Terrain kit gives a +2 circumstance bonus to these checks.

## INSIDIOUS ATMOSPHERE

Insidious atmospheres are the most dangerous types of atmospheres to deal with, since nothing is safe from their effects. Unprotected characters suffer 2d6 points of damage per round of exposure. Damage continues for 1d3 rounds after exposure ceases, but this additional damage is only half of that dealt during actual contact (that is, 1d6 points per round).

Vac suits are useless in an insidious atmosphere, but a Hostile Environment Suit or pressurized vehicle will last 6 hours before beginning to succumb to the effects at a rate of -2 AR per 15 minutes of additional exposure. Once a Hostile Environment Suit reaches 0 AR or lower suit failure automatically occurs.

## LACK OF AIR/HYPOXIA

Characters in conditions of low oxygen, such as on top of a mountain or a borderline thin/very thin atmosphere, must roll a Fortitude saving throw each hour (DC 15, +1 per previous check), taking 1d6 points of Stamina damage each time they fail.

A character who sustains any Stamina damage from lack of oxygen is automatically fatigued. These penalties end when the character recovers the Stamina damage he took from low oxygen.

**Hypoxia:** Long-term oxygen deprivation due to low atmospheric pressure (typically high altitude) or other causes, affects mental and physical ability scores. After each 6-hour period a character spends at an altitude of over 6 kilometers, he must make a Fortitude save (DC 15, +1 per previous check) or take 1 point of temporary damage to all ability scores.

## LAVA

Lava or magma deals 2d6 points of Stamina damage per round of exposure, except in the case of total immersion (such as when a character falls into the crater of an active volcano), which deals 20d6 points of Lifeblood per round. Damage continues for 1d3 rounds after exposure ceases, but this additional damage is only half of that dealt during actual contact (that is, 10d6 points per round).

An immunity or resistance to heat or fire serves as an immunity to lava or magma.

## POISONS AND TOXIC SUBSTANCES

Many substances are poisonous or toxic to humans and similar beings. The effects of insidious and corrosive atmospheres are detailed separately in this chapter, and can be used to model similar conditions (such as a cloud of acid). The more common poisons and their effects are detailed below.

In the case where a character is exposed to a toxic chemical, a reasonable match can usually be found from this table. For example, a mildly toxic coolant gas might be considered to be a mild choking agent. Different poison effects are also easy to extrapolate. For example, an animal may inject a venom equivalent to Mild Venom, but which causes blindness for 1d6 hours rather than Lifeblood damage.

## Damage from Toxins

Most poisons and other toxins (referred to as 'agents' in some cases) reduce Con or Dex. This is usually as a result of fever, overload of the immune system and damage to the character's organs or bodily functions in the case of Con, and damage to the nervous system in the case of Dex. Recovery from such damage is slow, beginning at a rate of 1 point per week assuming reasonable medical care. See 'Medical Care in the Field' for more details. Int damage from mental poisons is treated the same way.

Note that some toxins have very temporary effects and recovery is quick. This is noted in the details of the toxin (below).

Toxins that cause Lifeblood damage generally do so by causing cell breakdown or interrupting the proper function of he body. Lifeblood damage taken in this way is regained as normal.

Some toxins also have special effects. These are noted in their details, below.

## Protection from Poisons

Breathing gear or a vac suit will obviously protect the wearer from toxins that are inhaled, though some such toxins can be absorbed through exposed skin with a lesser effect. Sealed clothing such as a vac suit or combat environment suit will give total protection in this case.

If a toxin must be ingested, protection is simple. Injected and contact poisons cannot get into a character's bloodstream if they are prevented from making contact with or penetrating the skin by armor, gloves and other protection. In the case of poison delivered by an attack, a successful attack will bring the poison into contact with a character but if the attack is stopped by armor then the poison is not delivered. Small biting animals and insects may find gaps in clothing and non-sealed armor.

## Mitigating Poison Effects

Immediate treatment can usually prevent a poisoning case from becoming any worse. A successful treatment within 1-2 minutes of poisoning (see Medical Treatment in the Field) allows the poisoning victim a second save vs the initial effects, which are halved if the save is made. DC on this save is lowered by 5 if an appropriate antidote or counter-agent is available. Successful initial treatment prevents secondary onset altogether.

If a character becomes poisoned or intoxicated, ongoing medical care will be required. This is subject to the normal rules found under Medical Treatment in the Field in the Adventuring chapter.

In the case of skin-absorbed poisons such as nerve agents and contact poisons, immediate decontamination can help. Specialist equipment is included in military NBC warfare kits for the purpose. If this is not available, it is still possible to prevent or reduce absorption by washing or wiping off the poison or droplets of the agent. If this is done within 1 minute of contact, DC to resist the secondary onset is reduced by 5. Self-treatment in this manner is not possible if the agent has rendered the victim unconscious, but someone else may carry out the procedure. After 1 minute, enough of the agent has been absorbed that further decontamination is ineffective.

Note that it is possible to come into skin contact with various toxins when removing protective equipment, so proper decontamination (washing down with water or neutralizing chemicals) is necessary before removal. Some toxins can penetrate equipment and pose a contact hazard for some time afterward, so decontamination of affected systems and components is vital before an all-clear can be given.

## DETAILS OF POISONS AND OTHER TOXINS

## Table: Poisons and Other Toxic Substances

**Form:** The common form of the toxin – gaseous, liquid, solid etc.

**Manner of Intoxication:** The manner in which the substance can affect a character. Note that some toxins have slightly different effects depending upon whether they are ingested, inhaled etc.

**Initial Effect:** When a toxin is first introduced, the character makes a Fortitude save to avoid its effects. The effect listed here is the result of a failed save. Toxins that have some effect even if the save is made are listed as such.

**Secondary Effect:** Some toxins have an effect some time after initial intoxication. The character may make a second Fortitude save at the same DC as the first. The effect listed here is the result of a failed save. Toxins that have some effect even if the save is made are listed as such.

**Secondary Onset:** The delay between the initial save and the secondary effect.

\* Secondary onset may not be the end of the threat period.

Substance	Common Form	Manner of Intoxication	Initial Effect	Secondary Effect	Secondary Onset
Alcohol	Liquid	Ingestion	None	DC 10 -1d3 Dex/Int	10 minutes
Biological Poison (Lethal)	Varies	Varies	None	DC15 4d6 Con	2d6 hours*
Biological Poison (Mental)	Varies	Varies	None	DC15 3d6 Int	2d6 hours*
Blister Agents	Gas	Inhalation	DC20 2d6 Lifeblood	DC25 3d6Lifeblood	2d6-2 hours
	Droplet	Skin Absorption	DC15 1d6 Lifeblood	DC15 2d6 Lifeblood	2d6-2 hours
Blood Agents	Gas	Inhalation	DC20 3d6 Lifeblood	DC20 3d6 Lifeblood	1d6 minutes
Contact Poison, Mild	Liquid	Skin Absorption	None	DC10 1d6 Lifeblood	30 minutes
Contact Poison, Strong	Liquid	Skin Absorption	DC10 1d6 Lifeblood	DC15 1d10 Lifeblood	3d6 minutes
Contact Poison, Extreme	Liquid	Skin Absorption	DC15 2d6 Lifeblood	DC15 2d10 Lifeblood	1d6 minutes
Choking Agents, Mild	Gas	Inhalation	None	DC15 2d6 Con	4d6 hours
Choking Agents, Strong	Gas	Inhalation	DC20 2d6 Con	DC20 3d6 Con	3d6 hours
Choking Agents, Extreme	Gas	Inhalation	DC25 3d6 Con	DC25 3d6 Con	3d6 minutes
Drugs, Non-Medical	Varies	Varies	Varies	Varies	Usually 3d6 minutes
Drugs, Sedative	Varies	Varies	None	DC15 Unconsciousness	1d6 minutes
Nerve Agents, Mild	Gas	Inhalation	DC15 1d6 Dex/Con	DC20 1d6 Dex/Con	1d10 minutes
	Droplet	Skin Absorption	DC5 1d6 Dex/Con	DC10 1d6 Dex/Con	1d10 minutes
Nerve Agents, Strong	Gas	Inhalation	DC20 3d6 Dex/Con	DC30 3d6 Dex/Con	1d10 minutes
	Droplet	Skin Absorption	DC10 2d6 Dex/Con	DC20 2d6 Dex/Con	1d10 minutes
Poison, Disorientating	Liquid	Injection/Ingestion	DC10 1d6 Dex	DC15 2d6 dex	2d6 minutes
Soporific Gas	Gas	Inhalation	DC15 Unconsciousness	–	–
Spores, Irritant	Suspension	Inhalation	DC15 1d6 Dex	DC15 1d6 Dex/Con	1d6 x10 minutes
Spores, Lethal	Suspension	Inhalation	None	DC 15 4d6 Con	1d6 days
System Poison, Mild	Varies	Varies	None	DC10 1d6 Con	1d6 hours
System Poison, Strong	Varies	Varies	DC10 1d6 Con	DC15 2d6 Con	1d3 hours
System Poison, Extreme	Varies	Varies	DC15 2d6 Con	DC20 3d6 Con	3d6 minutes
Tear Gas	Gas	Inhalation	DC10 Special	-	-
	Gas	Contact	DC5 Special	-	-
Venom, Mild	Liquid	Injection	DC10 1d6 Lifeblood	None	-
Venom, Strong	Liquid	Injection	DC15 2d6 Lifeblood	DC15 1d6 Lifeblood	1 minute
Venom, Extreme	Liquid	Injection	DC15 3d6 Lifeblood	DC20 2d6 Lifeblood	30 seconds
Vomit Gas	Gas	Inhalation	DC15 Special	-	-

### Notes:

1. Some 'toxins' listed here are actually living biological organisms or the products of such lifeforms.
2. If no initial effect is listed, there is no initial save. The character may not know if she was exposed or not until the secondary onset period has elapsed, at which point a save is made at the listed DC.
3. Some toxins are not normally considered poisons, but their effects can be serious so they are listed here.
4. Where a toxin is dangerous by more than one means of intoxication, for example inhalation and skin exposure, only the most serious applies to any given target. E.g., a character who inhales nerve gas does not also suffer the effects of skin contact.



## Alcohol

Alcohol is in fact a mild poison, though in small quantities it is fairly harmless. Most characters can tolerate a few drinks and remain unimpaired, but as the toxin builds up in a character's system, he becomes increasingly clumsy. In addition, alcohol impairs judgement to the point where the character is likely to believe he is irresistible, eloquent, infallible, a great fighter and in some cases, able to defy gravity. DC to resist doses of alcohol increases by 1 for every 'dose' (bottle, pint, shot or whatever) after the first. As checks are failed, the character begins to lose points from Int and Dex (1d3 from each per failed check), descending into uncoordinated incoherence. When either Int or Dex reaches 0 the character passes out and remains unconscious for several hours. In addition, a character who fails a Fortitude save by 10 or more becomes violently sick, and someone who fails by 20 or more succumbs to alcohol poisoning. (See below)

Int and Dex are regained at the rate of 1 point (of each) per hour as the character's body purges his system of the poison. There is a danger of choking on vomit while unconscious. A straight check on DC2 is necessary to avoid this.

Alcohol Poisoning is quite serious and requires medical treatment. The character will suffer 1d3 Lifeblood damage every hour until successfully treated as per the medical rules or until recovery begins. Make a Fortitude check at DC18 each hour for natural recovery to begin.

## Biological Poisons

Biological poisons are either the product of the life cycle of harmful organisms or the organisms themselves. Some biological poisons cause death, others affect the mental state of the victim. Mild versions of such poisons can be considered to be much the same as recreational drugs. Indeed, they are often used that way.

Lethal biological poisons include Botulinum and Saxitoxin, plus a great variety of similar but alien toxins. Mental poisons include ergot, a fungus that affects grain crops, and certain fungi. While such poisons as Ricin are actually biological in origin, they are considered to be ordinary 'system poisons' because the dangerous organisms are not alive. It is the fact that biological toxins are alive that makes them dangerous. For example, Botulinum bacteria can grow in food or in the victim, in some cases actually becoming more virulent. For this reason, biological toxins do not cease their effect upon secondary onset. If the victim survives, an additional Fortitude check is made every day at DC10. If it is failed then 1d6 Con or Int (depending upon the type of poison) is lost. Once three checks in a row have been successfully made, the victim's system has eliminated the dangerous organisms.

Normally biological toxins must be ingested, though if they are artificially concentrated they can be dangerous through injection or even by skin contact. Mental poisons can cause psychosis or insanity, and can seriously impair mental function for long periods, possibly permanently. A character who suffers mental damage regains Int at the rate of 1 point per day, but must make a DC10 Fortitude check or permanently lose 1d3 Int. Special effects are possible, such as lethargy, violence or confusion.

## Blister Agents

Blister agents, such as mustard gas, cause damage by skin contact and inhalation. Inhalation results in damage to the lungs and respiratory tract, resulting in coughing and respiratory distress, which can be fatal. Skin contact causes blistering and irritation, especially of the eyes, and can result in blood poisoning. If breathing equipment is available, damage will be by skin contact only, at the lower listed level of damage. Even measures as simple as covering the mouth and nose with a cloth will provide some

protection – reduce DC of saves by 5 if this is done quickly upon encountering a blister hazard. Covering the eyes with goggles reduces damage from skin contact. This is irrelevant if the gas is breathed, but breathing/facial protection (e.g. a filter mask with goggles) will suffice. In this case, reduce damage dice to 1d3 and 2d3 instead of 1d6 and 2d6 respectively.

Blister agents are very persistent and can contaminate an area for days or weeks.

## Blood Agents

Blood agents, such as hydrogen cyanide, interfere with the absorption of oxygen into the blood, preventing respiration. This can damage the heart and central nervous system, or cause death. Moderate exposure causes dizziness, vomiting and deep, rapid breathing. More severe exposure causes convulsions, loss of consciousness and respiratory failure, leading to death. Protection requires breathing gear. There is no danger from skin contact.

## Contact Poison

Contact poisons are normally artificial in origin, and often take the form of a sticky semi-solid, semi-liquid substance. They are absorbed through skin contact, so protection is a matter of keeping a barrier (e.g. gloves) between the character and the poison. Contact poisons vary in their effects and the manner in which they achieve them, but skin contact is a fairly inefficient way of introducing poison into the system so DCs to resist, and damage caused, tend to be lower than for ingested or injected poisons.

If an object coated in contact poison actually penetrates the skin (e.g. a dart) then DC to resist the poison's effects is increased by 5 and there is no chance to wipe off the poison.

## Choking Agents

Choking chemicals include Chlorine and Phosgene gas and the excretions of some animals. Industrial chemicals and animal excretions tend to be fairly mild choking agents, while military gases are more severe in their effects. All choking agents damage the respiratory tract, often causing death by fluid buildup in the lungs. Initial symptoms can be relatively mild, such as shortness of breath or coughing. Lethal effects can take some time to appear.

Protection against choking chemicals requires filter or breathing gear.

## Drugs, Non-Medical

It is possible that characters may be exposed to various drugs and drug-like effects without wanting to be. Drugs can be administered as tablets, dissolved in something or as an injection. Some general effects are listed below. DC to resist the drug is normally 15, though greater or lesser doses can be used to alter this value.

The sort of drugs (other than medical treatments and special cases such as Fast or Slow drug) that a character may be exposed to are loosely grouped below, along with their common effects. Most in-game drug effects are more roleplaying matters than hard-and-fast rules, and side-effects, addiction and other unpleasant consequences are a matter for the Referee to consider.

In most cases there is an initial effect. Secondary onset is after 3d6 minutes and is DC15 to resist. DC rises by 5 per additional dose given, but this is dangerous. A DC5 Fortitude save is necessary, with the DC increasing by 5 per dose after the second, or the character goes into overdose shock and will die if not promptly treated.

The effects of most non-medical drugs last 1-3 hours, after

which the character regains any diminished attributes at 1 point per hour.

- **Downers:** A character who has taken or been given 'downers' is likely to be lethargic and unwilling to act. This translates to a loss of 1d3 Int per dose taken and a general lethargy that makes it difficult to get them to do anything. A character on downers will not take the lead and suffers a -4 penalty on all skills like Leader, Intimidate and so on to get others to obey them. This penalty also applies to resisting the effects of such skills, making these drugs useful in impromptu interrogations.
- **Hallucinogen:** Hallucinogens cause the subject to see and hear things that are not there. This is at best distracting, causing a -4 penalty on all skills, and can cause bouts of paranoia, panic or violent attempts to fight imaginary creatures. The Referee may choose to call for a DC15 Will save every few minutes to determine if the character who is trying to function normally while suffering hallucinations can tell what is real and what is not. Failure indicates that the character must react to his hallucinations rather than the real world, no matter how pressing matters there may be.
- **Uppers:** Make the character feel more alert and able to ignore fatigue. This is usually at the expense of concentration and fine motor control. The character temporarily gains 1d6 Stamina (perhaps even exceeding normal Stamina levels) but suffers a -2 penalty to all Int, Edu or Dex based skills. She is also more likely to be thoughtless or reckless in her actions.
- **Recreational:** All manner of designer recreational drugs exist. Specific effects and hazards are up to the Referee. A generic 'recreational drug' makes the user feel good for a while then causes a period of 'low' as they come out. A penalty of -2 applies to all skills when on recreational drugs due to the effect on concentration and thought process. A character who takes recreational drugs before a fight or encounter also suffers this -2 penalty on all actions, but may reduce all damage taken while under the influence of the drugs by one point per die. This applies to Lifeblood damage also. These points are recorded separately, and when the drug effect ends, they are applied to Lifeblood and Stamina all at once. This may cause the character to collapse and die. Heavy doses of painkillers can also be used in this manner. Those who do this on a frequent basis often become addicts or even psychologically dependent; unable to face danger without their shot. Paranoia and other side-effects are not uncommon.
- **Other:** Some drugs do not fit into these categories and have unusual effects. Again, this is a matter for the Referee, who may choose to create a whole pharmacy of special drugs and their effects if she chooses to do so.

Note that some drugs have different effects, or no effect at all, on species they are not targeted at.

### Drugs, Sedative

Sedatives are normally used in a medical context but may be administered to a character for other reasons. Sedatives cause the subject to become lethargic and sleepy, making activity difficult. There is no initial effect. After a few minutes, the character begins to feel sleepy and must make a Fortitude save (normally DC15). If this is failed, the character falls gently asleep. If the save is made, a second save at the same difficulty level must be made. If this is successful, the character shrugs off the drugs. If it is failed, the character loses 1d6 from Dex and Str for the duration of the drug's effect.

Additional doses may be administered. Each must be saved

against separately, and the DC increases by 5 for every extra dose within the sedative's 1-3 hour duration. However, this may kill the subject. A Fortitude save at DC5 is necessary for the second dose, increasing by 5 per additional dose. If unsuccessful, the character slips into a coma and will die after 1-3 days unless properly treated.

### Nerve Agents

Nerve agents, which are mostly military gases but can also be produced by some creatures, plants and even environmental conditions, attack the nervous system through inhalation or skin exposure. Major exposure to nerve agents will produce instant unconsciousness, while a lesser dose results in dizziness, nausea and possibly seizures and paralysis.

Mild nerve agents are usually natural in origin or the product of some industrial processes. Strong nerve agents are almost all artificially created for military purposes. It is possible to find animals that inject a nerve poison on their natural weapons, or to use a bullet or needle as a delivery system for a dose of nerve poison.

Breathing equipment will prevent inhalation of nerve agents, but skin exposure is still dangerous. Without proper protective equipment it is impossible to prevent skin exposure to a gas cloud, but contact can be minimized by precautions like covering as much skin as possible with fairly impervious clothing (leather, waterproof coats etc.) such precautions give a +2 bonus to resist the effects of the gas and reduce stat reduction by 1 point per die.

Nerve agent exposure causes reduction of Con and Dex (roll the amount separately). If Con reaches half its normal value, the character collapses, unconscious. If Con reaches 0, the character's respiratory system fails and they immediately die. If Dex reaches half its value, the character is paralysed other than some muscle spasms. If Dex reaches 0, the character begins to convulse, suffering 1d6 Lifeblood damage per round until the convulsions are controlled with appropriate drugs. Convulsions will continue for several minutes, far longer than an unaided character can survive.

### Poison, Disorientating

Some poisons affect brain and nervous system function, causing disorientation and poor coordination. Some such poisons are used by predator animals, others can be administered to a character for various purposes. Disorientating poisons cause a reduction in Dex that lasts for 1-6 hours. If Dex reaches 0, the character passes out and remains unconscious until the drug wears off. A character who is given orders or interrogated under the effects of a disorientating poison suffers a -4 penalty to resist (not cumulative with other drugs). Dex-based skills, combat and all skills requiring a sense of direction are similarly affected.

### Soporific Gas

Sop-Gas is sometimes used as a riot-control agent, or may be emitted by certain creatures. Breathing gear or a good filter mask will completely protect a character. Inhalation of Sop-gas causes immediate unconsciousness lasting 1-10 minutes if a DC15 Fortitude save is not made. The save must be made every round the character remains in the gas cloud.

### Spores, Irritant

Some fungi can create a cloud of spores that irritate the airways of anyone breathing them. Skin contact often causes itching and other mild symptoms, but these are not serious. Filter or other masks, or a vac suit, will of course protect a character from spores. Breathing the spore cloud causes coughing and difficulty in breathing. The immediate effect is a 1d6 reduction in Dex, and within minutes a secondary effect takes place (if the save is not

made), further reducing Dex and also causing a reduction in Con. The spores affect a character for 1d6 hours, after which they have finally been eliminated from the body. Sadistic Referees may wish to consider the possibility of secondary infection and other complications.

Only one spore-irritation can affect a character at any one time.

### Spores, Lethal

The spores of some bacteria or fungi are not immediately harmful, but begin to grow in a character's airways. In time this causes flu-like symptoms, respiratory distress and possibly death. One example of this kind of infection is Anthrax spores, which can be 'weaponized' to create a biological weapon to be delivered by sprayer or artillery shell.

Symptoms take several days to appear. Spore infection is more properly a disease than a toxin, but is included here because of its similarity with other toxic hazards. Con damage is rolled at the time that the save is failed, but is applied at the rate of 1 point per hour until all Con damage has been suffered. This will often be fatal unless proper medical treatment is available. Con is regained at the rate of 1 point per week if the patient pulls through.

Breathing or filter equipment will prevent infection, and vaccines are available to counter particular strains of bacteria. However, the vaccines make people quite ill, so broad-spectrum immunization is not feasible.

### System Poison

System poisons include metals like Arsenic and Mercury as well as organic compounds. The specific effects of poisons vary, along with the symptoms of poisoning. This generic poison can be used for anything from bacterial food poisoning to toxic waste exposure. They are modeled in the T20 system by Con damage, which is regained at the basic rate of 1 point per week. System poisons that occur naturally are normally mild, or sometimes strong. Creating an extreme poison normally requires refining the toxic material.

System poisons are normally administered by injection or ingestion, but their form varies greatly and intoxication is possible via a range of means.

### Tear Gas

Tear Gas is normally delivered as a grenade, though some animals can produce their own natural equivalent and sprayers are available that deliver the liquid form of the gas in a short-range jet. Tear gas irritates the eyes, nose and airways to create a very unpleasant but almost always non-lethal effect. Contact with skin can also cause irritation. Breathing gear or a filter mask will protect against the inhalation effect and goggles (built into most masks) will prevent eye irritation. A cloth over the mouth and nose gives a +2 to saves vs inhalation but does not protect fully.

When a character is exposed to tear gas, a save is required (depending upon contact type). If this save is made, the character may act normally. If it is failed, he is basically incapacitated. He can run blindly away or flail about but can do little else. In all probability he will not be able to see. Trained personnel can usually manage to don protective gear if it is handy.

Any character that fails to save vs tear gas should make an immediate DC2 straight check. If it is failed, he suffers an allergic or overdose reaction and collapses, requiring medical treatment. If this is received he will recover quickly. If not, there is a 25% chance that the character will die from breathing difficulties and in any case he suffers 2d6 Con damage which is regained at the rate of 1 point per week.

If a character (other than one who is fully protected) remains in a tear gas cloud or is sprayed again, he must save again every

30 seconds. The DC of this save does not increase for prolonged exposure. However, DC to resist the effects of tear agents are 5 higher if the character is directly exposed, either to a jet of the liquid or to the stream of gas coming from a grenade or vent.

### Venom

Venom is a natural poison injected or spat by a creature. Most venom causes cell breakdown and internal bleeding, though some special types exist that cause blindness, paralysis etc. Venom must enter a character's bloodstream to have any effect. The normal result is Lifeblood damage, which is suffered every time the character receives a fresh dose of the venom. Lifeblood damage taken in this way heals normally.

Protection vs venom is mainly a matter of keeping the venom out of contact with the character's bloodstream. Armor, clothing and even skin are all useful barriers. Some creatures can spit venom into the eye, so eye protection is necessary in this case.

Treatment with a general or specific antivenin agent will prevent the secondary onset of Lifeblood damage.

### Vomit Gas

Vomit gas is a nastier form of tear gas. It often has the same irritant effects as Tear Gas (see above) but also induces violent vomiting and sometimes diarrhea. Characters affected by vomit gas inhalation suffer all the effects of tear gas and in addition if their exposure was by inhalation, vomit spectacularly for 2d6 rounds. It is not possible to do anything but groan and stumble about while this is taking place. If the vomiting lasts for more than 30 seconds (5 rounds), every round after that the character suffers 1d6 Stamina damage.

### PRESSURE BREACH

The interior of starships in space, vehicles used in deep water, along with buildings on vacuum, trace, exotic, corrosive, or insidious atmosphere worlds are typically pressurized, allowing those inhabitants within to live and work without the use of a pressure suit. In the event that such an environment should lose internal pressure through any reason other than the normal use of airlocks, this will cause compression (if the outside pressure is higher) or decompression (if the outside pressure is lower).

If a path of open hatches, iris valves, doors (any type, open or closed), internal walls (if they are not airtight), and/or breached bulkheads can be traced from a location in the vessel to a pressure breach, then all locations along that path become exposed, resulting in compression or decompression. Iris valves and hatches may not be opened if there is a difference of pressure on either side (i.e. they will not function if there is pressure on one side and vacuum on the other side).

**Rate of Compression:** A 1-ton (14 cu. meter) area will compress at a rate of (0.1 atmospheres multiplied by the difference in outside air pressure) every 12 seconds from a hole 100 square centimeter (1 sq. meter) in size. Thus a 100-ton ship on a planet with an atmospheric pressure of 10 would increase from 1 atmosphere to 10 atmosphere in a period of 2 minutes from a 100 sq. cm hole. The rate of compression scales up and down proportionally to the size of the hole.

If the rate of compression is enough to raise the pressure 1 full atmosphere or more in a single round, exposed victims must make a Fortitude save (DC15) to avoid getting the 'bends' or pressure sickness. A failed save will inflict 1d6 Lifeblood damage per 1 full atmosphere of change.

**Rate of Decompression:** A 1-ton (14 cu. meter) area will decompress at a rate of 0.1 atmosphere every 12 seconds from a hole 100 square centimeter (1 sq. meter) in size. Thus a 100-ton ship would drop from 1 atmosphere to 0.1 atmosphere (effective vacuum) in a period of 20 minutes from a 100 sq. cm hole. The



rate of decompression scales up and down proportionally to the size of the hole.

If the rate of decompression is enough to drop the pressure 1 full atmosphere or more in a single round, an explosive decompression occurs (see below). In addition, survivors of the explosive decompression must make a Fort save (DC15) to avoid getting the 'bends' or pressure sickness. A failed save will inflict 1d6 Lifeblood damage per 1 full atmosphere of change.

**Explosive Decompression:** Any lifeform unprotected and exposed must make a Reflex save (DC15) to avoid holding their breath. Characters with the Armor Proficiency (Vac Suit), Armor Proficiency (Battle Dress), or Zero-G and Low Gravity Adaptation feat may add +2 to their saving throws due to training and experience. If the saving throw is failed, the character held their breath, resulting in lung damage. The character must now make a second Reflex save (same DC and modifiers) to realize their mistake fast enough to avoid too much damage. If this second save is successful, the character takes 3d6 Lifeblood damage (which can reduce the victim to a minimum of 1 Lifeblood). If the save fails, immediately reduce their Lifeblood rating immediately to 0, and the character is dying.

A character in a decompressed area is now subject to vacuum exposure (see below).

Robots, along with lifeforms in sealed vac suits, battle dress, or combat armor are immune to the effects of explosive decompression.

**Signs of Atmospheric Change:** The following signs can be used by the Referee to give characters a hint that they are facing a change in atmospheric pressure:

(a) Explosive Noise. When a rapid change of pressure occurs it is usually accompanied by a loud explosive noise when the two air masses meet.

(b) Flying Debris. As the rapid drawn out of a spacecraft or aircraft at altitude, unsecured items within the cabin with also be drawn toward the point of rupture. Most anything of 1kg or less will become a hurtling projectile, some very capable of inflicting serious damage if they should happen to strike anyone in their path. The Referee may wish to have characters in such a situation make a Reflex save (DC10 to 15) to avoid getting hit by debris for 1d6 damage.

(c) Fogging. Sudden changes in temperature or pressure, or both, can create a temporary fog within the cabin during the event.

(d) Temperature. If a decompression occurs, temperature will be reduced rapidly. Chilling and frostbite may occur if protective clothing is not worn or available. If compression occurs, temperatures will rise rapidly to match the outside temperature.

(e) Pressure. A compression or decompression event is accompanied by a rapid change in air pressure, cause the ears to pop, sinuses to clog, etc.

## RADIATION

Radiation occurs from many sources; Nuclear bombs, Meson guns, solar flares, some power plant fuels are all sources of radiation. Some planets may also be heavily irradiated due to any number of factors including large concentrations of heavy

**TABLE: Radiation Damage**

Severity	Rads	Stamina	Lifeblood	CON*	Symptoms
Mild	51-150	1d6	-	-	Mild to moderate nausea and vomiting
Moderate	151-300	2d6	1d4	-1 once	Hair loss, mild skin burns, nausea, vomiting
Severe	301-500	2d10	2d6	-1 per hour	Hair loss, moderate skin burns, nausea, vomiting, internal bleeding.
Extreme	501-800	3d10	2d10	-2 per hour	Hair loss, severe skin burns, nausea, vomiting, internal bleeding, sterility
Lethal	800+	4d10	3d10	-4 per hour	Hair loss, massive skin burns, nausea, vomiting, internal bleeding, sterility

\*Requires a Fortitude save (DC10 + 2 per 100 rads of exposure), to avoid this permanent loss to Constitution.

metals and other radioactive elements, stellar bombardment, or even ancient wars.

Radiation occurs in two modes, burst and continuous. Radiation bursts, like from a nuclear bomb blast, do normal stamina/lifeblood damage, but personal armor has no effect (vehicle and starship armor still apply normally).

Continuous radiation exposure, like from solar flares or nuclear fuel rods, cause damage based on the level of exposure measure in Rads (see the Radiation Damage table below), for each hour of exposure.

Dose Reduction is cumulative. I.e., a character in a vac suit inside an ATV reduce dosage by 90%, then by 10% of what remains.

**TABLE: Radiation Protection**

Protection	AR Equivalent*	Dose Reduction**
Vac Suit	1	10%
Radiation Suit	5	75%
Starship internal wall***	2	20%
Starship Internal Bulkhead****	10	90%
Earth or Concrete Bunker	7	80%
Starship Hull	20	95%
Starship Armor	As Hull, +1 per USP rating	As Hull, +1% per 2 points of USP Rating to max of 99%

\* AR is the amount of Lifeblood or Stamina damage reduction provided by the armor

\*\* Various materials absorb radiation, preventing it reaching characters sheltering behind

\*\*\* Treat a light (civilian) vehicle hull as equivalent

\*\*\*\* Treat a military vehicle (or ATV) hull as equivalent

**TABLE: Long-Term Radiation Hazards**

Hazard	Rads per Hour
Nuclear Crater, Very Old (1000 yr+)	1d10
Nuclear Crater, Old (100 yr+)	2d20
Nuclear Crater, Recent (10 yr or less)	1d100
Nuclear Crater, New	10x1d100
Fallout-contaminated area*	5x1d100
Solar Flare	100x1d20 for 1d12 hours
Minor Reactor Leak	100+1d100
Major Reactor Leak	500+5d100
Severe Reactor Leak	100x1d100

\* Halve the dose if the character has breathing protection such as a filter mask.

## SMOKE OR HEAVY DUST

A character who breathes heavy smoke must make a Fortitude saving throw each round (DC 15, +1 per previous check) or spend that round choking and coughing. A character who chokes for two consecutive rounds takes 1d6 points of Stamina damage.

Smoke obscures vision, giving one-half concealment (20% miss chance) to characters within it.

## SUFFOCATION

A character who has no air to breathe can hold her breath for 1 round per point of Constitution. After this period of time, the character must make a Constitution check (DC 10) in order to continue holding her breath. The save must be repeated each round, with the DC increasing by +1 for each previous success.

When the character fails one of these Constitution checks, she begins to suffocate. In the first round, she falls unconscious (0 Stamina). In each subsequent round, she loses 1d6 Lifeblood until she suffocates to death.

**Slow Suffocation:** A Medium-size character can breathe easily for 6 hours in a sealed chamber measuring 3 meters on a side. After that time, the character takes 1d6 points of Stamina and 1 point of Lifeblood damage every 15 minutes. Each additional Medium-size character or significant fire source (a torch, for example) proportionally reduces the time the air will last. Thus, two people can last for 3 hours, after which they each take 1d6 stamina and 1 Lifeblood damage per 15 minutes. If a fire or other flame is present (equivalent to another Medium-size character in terms of the air it uses), the air runs out in only 2 hours.

## VACUUM EXPOSURE

A character who is exposed to vacuum without protection suffers effects similar to suffocation, but due to the nature of a vacuum the character cannot hold her breath. To do so would be extremely harmful. (see Explosive Decompression for more information). While exposed to a vacuum a character can survive for 1 round per 2 points of Constitution. After this period of time, the character must make a Constitution check (DC 20) in order to continue to survive. The save must be repeated each round, with the DC increasing by +1 for each previous success.

When the character fails one of these Constitution checks, she falls unconscious (0 stamina). In each subsequent round, takes 1d6 Lifeblood damage until she dies.

## BEYOND THE FANTASTIC ROLEPLAYING IN A TECHNOLOGICAL SOCIETY

Traveller is normally associated with high-tech adventuring in the far future, but the T20 rules span a wide range of technological levels and as such can be used to run adventures in almost any setting. It is quite possible to run a fantasy adventure using T20, or to set a game in your favorite historical period (including modern times). Once the game setting moves away from the traditional realms of fantasy, certain factors come into play.

Most importantly, people in a technological society (even one as relatively low-tech as the Renaissance or its fantasy equivalent) tend to possess more skills than characters from a fantasy world. As technology becomes more advanced, what you know how to do becomes far more important than how tough you are.

Another important factor is the relative deadliness of combat in a technological society. Even the most basic firearms are deadly; a character can be killed outright by a lucky hit. Thus fairly incompetent enemies, who would be no match for a tough character face-to-face with swords or bare knuckles, can be lethal if they possess the right weaponry.

Finally, a wider array of challenges and hazards can confront the adventurers, and the number of ways around those challenges is greater. For example, characters can be faced with out-of-control vehicles, terrorists armed with weapons of mass destruction, computers gone mad, and a whole array of new problems. Fortunately, they also have technological means to deal with these hazards – if they possess the right skills.

As technology levels increase, societies change. As greater yields can be obtained from farmland for the same effort, more people are found living in cities and large communities. The average “peasant” tends to become an industrial worker, and then a “citizen”, probably working in tertiary industry like retail or administration, or else a technician of some kind. This move towards bigger communities tends to result in people becoming more sophisticated, especially once mass media is available.

At higher technology levels, people tend to travel more, for work or pleasure. The typical fantasy peasant farmer is unlikely to ever go beyond the nearest market town in his entire life, but his equivalent (agricultural or industrial worker, or shopkeeper) in a higher-tech society may well take an annual foreign holiday. This increase in the available life experience of the typical person has important implications for higher-tech societies.

People tend to be more politically aware, and less likely to be taken in by fast-talking adventurers, when they have seen a little of the world. Conversely, people tend to be less accepting of harsh conditions, since they know that things are better elsewhere. Rabble-rousers have access to more people, and thus are more influential. Thus higher-tech societies can become unstable in hard times.

One other consequence of increasing technology is that people become more complex. Many fantasy games have clear-cut evidence of Good and Evil, and thus people's attitudes tend to be somewhat polarized. In a technological universe, the normal assumption is that everything is rather more “gray”, and the motivations of people are complex and often a little murky. There is no actual need for this to be the case; fantasy games can include moral ambiguity and complex motivations, and a technological game can be a clear-cut crusade against the forces of evil.

As a rule, the motivations of people in an SF universe will be complex and often ambiguous; this “feels right” to many players since a SF game setting resembles our own shades-of-gray world more than the realms of epic fantasy. However, it is entirely up to the Referee and players what they want their universe to look and feel like. It is also up to the gamers to decide whether their universe is a “Hard-SF” one where the rules of physics are immutable or a freewheeling “Space-Opera” where amazing things are handwaved and the physical laws bent or ignored in the interest of a good story. Most Traveller games are set in a universe that is basically hard but with a few space-opera handwaves, and in which motivations are complex but heroes and villains are real. What yours looks like is up to you.

Another factor that will affect adventurers in a high-tech setting is the availability of information. In a society where many people are literate and information can be obtained from libraries, newspapers and computer data systems, it is relatively easy for characters to find out about the local situation, prominent characters, current affairs and even technical information. This cuts both ways. When the adventurers arrive in town, anyone interested can check up on their past deeds using police records, newspaper archives and so on. And of course, if information can be obtained this way, false data can also be fed to the characters or their enemies.

Communication also improves with technology level. Once accurate images of people can be sent, it becomes much more difficult to flee from the authorities, and once the characters are plugged into a communication and commerce network such as exists today (credit cards, mobile phones and such like) it becomes difficult to hide from those who have access to the network.

In the Official Traveller Universe, where starships carry all communications between star systems, it is possible to outrun your criminal record or bank details, making a certain amount of

dubious trading or mobile criminal activity possible. Warrants and investigators will eventually catch up, of course, but the flow of communication greatly affects the activities of characters.

Playing a game in a historical (or pseudohistorical) or modern setting using T20 is straightforward. Some skills and feats will of course not be available (e.g. vac suit and Astrogation, unless you are playing a Science Fantasy game), but overall it isn't too difficult to reference the appropriate Traveller tech level for the period you want to game in, and go from there. History books (especially the sort with lots of pictures) give a good idea of what the period looked like and can provide basic background.

Science-Fiction games may seem more daunting. What does a starport or a grav tank actually look like? However, modern society provides us with a good starting point. With a little imagination and some thought about how changing technologies might affect how things get done, modern concepts can be transplanted into the far future.

Take Starports, for example. Yes, they're futuristic high-tech places, but they're also places where people go when they want to obtain transportation to somewhere. That's not so different to an airport, seaport or railway station. It's not so difficult to imagine the airplanes as starships and shuttles waiting to blast off to the stars. The details may be slightly different, but you can bet all the trappings of the airport are present in your far future starport. The check-in desk, security scanners, crowds of people disembarking or awaiting flights. The shops and stalls on the concourse may be run by Vargr and Sydites; the security guards may be Imperial Marine troopers, and the announcements may be in Vilani, but the basics of the setting are the same.

People in the far future will still go to work, eat, sleep, argue with one another. They'll go shopping or sit in coffee shops all day, or socialize in bars. The details may differ; the "sky" is a concrete dome in an underground city; the barman is a hologram and the music is live Vargr Jazz, but the basics are once again, drawn right from our modern society.

This is the way to build a believable future; use the mundane and the modern as a peg to hang the amazing on. A crowd is a crowd; pull the details of noise and bustle from your last shopping trip. Now imagine that some of the people are aliens, or dressed in High Vilani fashion. Imagine a Free Trader crew swaggering through the mass with their pseudoleather jackets and low-slung snub pistols. Add an air/raft passing overhead, or a bank of interactive holographic adverts, and you've got a scene from the future.

You can of course also draw on concepts from movies and TV to flesh out your future setting. There are many different visions of the future to choose from; lift whatever concepts you like from any of them, if it helps you visualize. Some measure of consistency is advisable, but it's your future setting – it looks the way you want it to!

The bottom line is that it's not hard to transport yourself into an imaginary future. Nobody is saying the future will actually look like that – we don't know what the day after tomorrow will look like – but this isn't an accurate simulation of the future of humanity. No, it's a game, created by today's people for their amusement. It's fantasy. Beyond the traditional sword and sorcery, maybe, but fantasy all the same.

#### THE WAY OF THE WORLD(S)

Traveller can be played as a black & white, good-vs-evil campaign if players so choose. However, the setting becomes much more interesting if a "shades of gray" and "wheels within wheels" approach is taken. There can still be truly evil people, of course, and threats that are so dire that they unite everyone against them no matter what their differences may be. But for the most part, every person, every group and every organization will

have its or their own agenda, and motivations that may be quite complex.

This creates a lot of moral ambiguity in the setting, where it is hard to know what to do for the best. One way around this problem is of course to become totally self-centered and simply do whatever brings the characters the greatest advantage. However, something is lost from the game when characters engage in this kind of activity.

Traveller assumes that characters are heroes of some kind. Flawed heroes, maybe, or not very heroic ones, but heroes nonetheless. People who don't rob and kill just for the fun of it, and who will usually try to do what's right (or at least to do things that aren't particularly bad for others!). Such heroes sometimes find that their employer isn't as honest as they thought, or that their actions have had unexpected consequences. Other times, becoming involved in a situation can lead deeper and deeper into a web of deceit, conflicting influences and hidden knowledge. As a rule, characters who try to do right will have more fun – or at least, a deeper game experience – than those who just take the money and run.

Players whose characters are heroic rather than self-centered do run greater risks, but they can expect this to be offset in two ways:

First of all, the Referee is more likely to "play to" characters he knows will respond, meaning that heroes tend to take centre stage (note that heroes are not all combat-bunnies; any character can be heroic in this sense, even if he's a complete coward).

Secondly, some Referees choose to reward "heroic" actions and slightly penalize uncaring behaviour. One example of this is to give an experience bonus to characters whose actions are heroic or honorable. Such actions don't have to be risky, just "decent". Another approach is the Karma Rule mentioned in another version of Traveller. There is no specific mechanic for this, but it can be boiled down to: Heroes get the odd lucky break; bad things happen to bad people. Thus a group that badly needs a spare part for their ship will find it easier to get one if they've gotten involved in the game universe rather than just marauding across it collecting the loot. Note that even if your Referee uses "karma", it won't save you from a fatal wound. Heroes die too. What it might do is allow the dying companions a chance to scrounge or fabricate the part needed to make the autodoc work, just in time.

An alternative version of the Karma Rule is used subconsciously by many Referees: Interesting characters are worth keeping alive. Generic Ex-Marine #17 is expendable. After all, #18 will be along in a moment and he'll be the same character, more or less.

However your Referee and players choose to run the game, it is the Official Position™ of the Traveller designers that 2-dimensional self-centered munchkinism is a Bad Thing, while creating a character who is interesting and at least slightly heroic is the best way to experience the richness of the Traveller universe.

None of this means that characters can't break the law, smuggle stuff, run from the cops or shoot it out with the opposition. What it means is that the Traveller universe, like ours, is a complex place where individuals have to make their own decisions and deal with the consequences. The bottom line is this:

Traveller has no artificial morality or alignment system imposed upon it. Characters' morality must come from the player, making each character unique. If you play a character who does not take responsibility for his actions, you'll lose out on part of the gaming experience.

But the choice, ultimately, is yours.





Most intelligent beings have some latent psionic ability, though in the vast majority of cases the talent is too weak to even measure. Through natural talent or formal training, a rare few of those who do possess real potential can learn how to harness their incredible powers.

## PSIONICS INSTITUTE

All groups engaged in the study or teaching of psionics are referred to as "Psionic Institutes", whether they are a large university campus or a lonely (and possibly mad) hermit passing on arcane wisdom to the occasional student. The Institute will examine those seeking to determine their psionic potential, and train those who wish to be trained, for the appropriate fees or services. Unfortunately, most Institutes do not advertise in the local paper and can be rather hard to find. Locating a Psionics Institute is often an adventure in its own right.

### DETERMINING PSIONIC POTENTIAL

A comprehensive examination will take two weeks time and cost Cr5000. At the end of the examination the character will be provided with a comprehensive measure of their psionic potential. It should be noted that psionic potential severely declines as one gets older. The earlier someone is tested and trained, the more potential they are likely to have.

Some charity is available for the truly indigent who apply (Referee's decision, then have the character make a Charisma check (DC18) to be given a free examination). Characters being examined by the Institute due to selecting the PSI Training feat have this fee waived.

**The Examination:** The character determines his psionic potential by rolling 3d6, subtracting -1 for every 4 years of age (or fraction thereof) he is over the age of 18. For example, a 54 year old character being tested would roll 3d6-9 to determine his psionic potential ( $54 - 18 = 36 / 4 = +9$ ).

If a character has previously taken this exam, they do not roll again. Instead simply use the previous potential. If the character has aged a year or more since the last examination, the effects of age still apply and may reduce the character's potential if enough time has passed.

### TRAINING

Once it has been determined that a character has a psionic potential of 1 or more, he must be trained in the use of that potential immediately or it will continue to degrade with age. The only way to avoid the loss in potential with age is to be trained. The Institute of course offers such training for a fee of Cr100,000.

The training takes 4 months of intensive study and training, during which time the character will be unable to attend to anything other than his basic needs.

Characters attending the Institute by selecting the Psi Training feat have this fee waived. Extremely gifted individuals (Psi score of 12 or higher) may apply for a scholarship if they cannot otherwise afford the training. In such cases, the Institute will take 95% of the character's assets and possessions and waive the remainder of the fee.

Once trained, the character may now record their psionic potential as their actual PSI score, and need no longer worry about the effects of further aging on their psionic ability.

### PSIONIC STRENGTH (PSI)

Psi represents the total psionic power a character is able to call upon before become too mentally exhausted to continue using their psionic abilities. Psionic feats, called *talents*, require a specific cost in Psi to empower its effects. When a talent is used, the cost is applied against the character's current Psi score. If the cost of using the talent would reduce the character's current Psi rating to less than 0, that talent cannot be used at that time.

If the use of a talent ever reduces the character to exactly 0 Psi points, the character will immediately fall comatose for the next 2d6 hours. The character can make a Will save (DC15) to cut this time in half. It will be impossible to wake the character during this comatose state. After the given number of hours, the character will awaken from the coma on his own, with the effect of having had the equivalent of a full night of rest and recovery.

**Recovery:** A character will recover 1 Psi point per hour of standard activity (i.e. no combat or use of other psionics). A full night of rest will fully restore any expended PSI points.

**Note:** PSI is not an ability score. A character's Psi score cannot be improved except through the use of psi-enhancing drugs.

### THE FIVE POSSIBLE SPHERES

There are five possible spheres of influence that a psionist may be capable of manipulating, though it is very unlikely that anyone would be capable of activity in all spheres. When the character receives training at a Psionics Institute, it will be determined which spheres the character has an affinity for.

A character will always have an affinity for at least one sphere, but which one is not necessarily up to them. The character may list which of the spheres they would prefer to have an ability in, from most preferred to least preferred. If the character is a *natural talent* and already has one sphere of influence noted, the character will skip that sphere and list the remaining spheres as previously described.

Starting with the character's first choice on the list and consulting the table below, the character must roll 1d20 against the DC listed for the appropriate sphere. If the roll is successful, the character may develop talents within that sphere.

Continuing down the character's list, each sphere is similarly checked to see if the character may also develop talents within these spheres. A cumulative modifier of -2 is add to each roll after the checking the first sphere on the character's list: -2 for the second roll, -4 for the third roll, and so on.

If the last sphere on the character's list is reached and no other spheres have yet to be gained, then this will be the one and only sphere the character has an affinity with. Otherwise, check for affinity normally.

Table: Psionic Strength by Age

Age	Max Psi*	Roll for Psi
up to 18	18	3d6
22	17	3d6-1
26	16	3d6-2
30	15	3d6-3
34	14	3d6-4
38	13	3d6-5
42	12	3d6-6
46	11	3d6-7
50	10	3d6-8
54	9	3d6-9
58	8	3d6-10
62	7	3d6-11
66	6	3d6-12
70	5	3d6-13
74	4	3d6-14
78	3	3d6-15
82	2	3d6-16
86	1	3d6-17
90	0	3d6-18

\* At the time of testing only.

**TABLE: Sphere Affinity**

<i>Sphere</i>	<i>DC</i>
Telepathy	4
Clairvoyance	7
Telekinesis	7
Awareness	9
Teleportation	15

**Effects of Training**

Psionics is very much a mystical art rather than a precise science. Thus training at the Institute can merely acquaint the character with basic concepts and theories of control over his newfound gifts. As little as the training really is, it provides enough knowledge to allow the character to begin actually developing his abilities.

**SPHERES OF INFLUENCE**

The talents available to a psion are divided into five different spheres of influence: Telepathy, Clairvoyance, Awareness, Telekinesis, and Teleportation. A psion develops his capability within a given sphere, but the number of different spheres of influence a psionist may control limited to those acquired during training at the Institute.

**SPHERE DEVELOPMENT**

Once a character has an affinity with a sphere of influence and has been trained, he may list and develop it as if it were a normal cross-class skill, except that the character's skill rank in the sphere may never exceed his Psi score. For example a character with a Psi score of 8 could not develop any sphere higher than a skill rank of 8, regardless of his actual level.

The skill rank of a character within a sphere of influence determines which of the Talent feats the character is eligible to learn. If a Talent feat has a skill rank requirement of 7 and the character only had a skill rank of 6 within that talent's sphere of influence, the character could not yet select that talent.

Note that a character with the *Natural Talent* feat will always have an effective skill rank of 2 higher than their actual skill rank within their natural sphere of influence.

Members of the Psionist prestige class develop their skill ranks in the spheres they have an affinity with as class skills. In addition, they do not need to take talents as separate feats. Instead, talents are gained automatically as soon as the Psionist reaches a high enough skill rank to qualify for (and use) the talent.

**PSIONIC TALENTS**

The things a psion can do with his or her mind are called *talents*. A talent is similar to a magical spell in other d20 games. Indeed, to folks of lower technology levels, psionics may appear to be evidence of real magic. However, a psionic talent has no necessary 'components' of any sort. A psion merely need to think of doing something and will it to be done, immediately.

For most psions, ie those who are not members of the Psionist prestige class, each talent must be selected as if it were a normal feat, and the character must have a skill rank in the appropriate sphere of influence at least equal to or greater than the rank of the talent itself before it may be selected. The character must also be able to satisfy any other prerequisites that may be listed for a talent.

Members of the Psionist class do not need to take each talent as a separate feat. Instead they automatically gain access

to all the talents within the spheres they possess as soon as the Psionist's skill rank in that sphere is high enough.

**USING TALENTS**

Psionic talents may be used in the game in the same manner as feats; a psionic action is as natural to a psionic character as opening a door or firing a weapon. Sufficient psionic strength must be available to the character to pay the base cost of the talent and any extra cost associated with range. If insufficient psionic strength is available, the talent may not be used at that time.

It may or may not be obvious to onlookers that the character has done something. Many psionists make small gestures or speak aloud when using their talents. Others are able to seem to be doing nothing as a psionic phenomenon manifests itself nearby. The Referee should decide if gestures etc are necessary, a habit some psionists have, or are irrelevant, according to his or her wishes.

Using a psionic talent does require concentration and will normally take up a character's full attention for the round, though he will be able to carry out simple automatic actions like walking, turning door handles or cuffing an apprentice around the ear at the same time.

**RANGE OF PSIONIC TALENTS**

Each psionic talent has a cost associated with the range at which it is used, in addition to the base cost listed for the talent itself. Consult the chart below to determine these costs.

**PSIONIC RANGE TABLE**

<i>Range</i>	<i>Tele- pathy</i>	<i>Clair- voyance</i>	<i>Tele- kinesis</i>	<i>Tele- port</i>	<i>Range Descriptions</i>
Close	0	0	0	2	in physical contact, touching.
Short	2	2	2	3	sword or polearm point. 1 to 5 meters.
Medium	3	2	3	5	pistol range. 6 to 50 meters.
Long	4	3	7	5	rifle range. 51 to 250 meters
Very Long	5	3	14	5	extreme range. 251 to 500 meters.
Distant	6	5	-	7	beyond normal contact. 501 to 5000 meters.
Very Distant	7	5	-	7	out of sight. 5 to 51 kilometers.
Regional	8	6	-	8	51 to 500 kilometers.
Continent	8	6	-	8	501 to 5000 kilometers
Planetary	9	6	-	8	5001 to 50,000 kilometers.

**TALENT FORMAT**

Each talent follows the same format as described below.

**TALENT NAME**

**Sphere:** A character must have at least a skill rank of 1 or higher within the listed sphere of influence for that talent.

**Prerequisites:** Some talents require the possession of other lesser but related talents before they may be taken.

**Rank:** Each talent lists the minimum skill rank that a psionist must have in order to use that talent. For example, a psionist trained in the Telepathy sphere with a skill rank of 7 could not use the Probe (Rank 9) or the Assault (Rank 10) talents.

**Cost:** To use a talent, the psionist must temporarily expend their Psionic Strength (PSI) to empower it. If a psionist does not have sufficient PSI remaining to empower a talent, he may not use it at that time.

**Duration:** Some talents are immediate in effect, other may last for seconds, minutes, or even hours. Each talent details the amount of time the talent will remain in effect.

A descriptive text will follow the statistics of each talent.

## TELEPATHY SPHERE

Telepathy is the ability to communicate directly with other minds. In its most basic form, telepathy allows a character to detect or project feelings and emotions only. In its more advanced forms, telepathy allows for direct transfer of mental images and thoughts, or even a psychic assault against another mind.

### SHIELD

**Sphere:** Telepathy

**Rank:** 1

**Cost:** 0

**Duration:** Always in effect

**Benefit:** All Psionists trained in the telepathy sphere are taught how to erect a mental shield, protecting them against unwanted outside telepathic interference. This shield is in force at all times and requires no effort or expenditure of Psi Strength to maintain it. The shield will stop any type of telepathic talent short of an Assault, when directed against the psionist. The psionist may lower this shield at any time to allow another telepath access to his or her thoughts, if so desired.

### LIFE DETECTION

**Sphere:** Telepathy

**Rank:** 1

**Cost:** 2

**Duration:** Up to 60 seconds

**Benefit:** The Psionist can detect the presence of other minds. This ability enables a character to sense the presence of other minds, the number of minds present, the general type of minds (animal, human, Vargr, etc.) and their approximate location.

### TELEPATHY

**Sphere:** Telepathy

**Prerequisites:** Life Detection

**Rank:** 2

**Cost:** 2

**Duration:** Up to 60 seconds

**Benefit:** The Psionist can sense and communicate emotions and basic feelings. Telepathy allows the character to read the emotions and feelings of both animals and members of their own race. The character may also send emotions such as love, hate, fear, trust, and others to influence other animals and members of their own race.

### READ SURFACE THOUGHTS

**Sphere:** Telepathy

**Prerequisites:** Telepathy

**Rank:** 4

**Cost:** 3

**Duration:** Up to 60 seconds

**Benefit:** The Psionist can read the thoughts of other (sentient) individuals. He may read and comprehend the active, current

thoughts of a subject who will (if not herself psionically talented) remain unaware of the action. If the subject is psionically talented, their thoughts cannot be read due to their natural shields, and they will immediately be aware of the attempt.

### SEND THOUGHTS

**Sphere:** Telepathy

**Prerequisites:** Read Surface Thoughts

**Rank:** 5

**Cost:** 3

**Duration:** Up to 120 seconds

**Benefit:** The Psionist may send thought messages to anyone, though psionically talented individuals may choose to shield out such thoughts if desired.

### PROBE

**Sphere:** Telepathy

**Prerequisites:** Read Surface Thoughts

**Rank:** 9

**Cost:** 12

**Duration:** Up to 10 minutes

**Benefit:** The Psionist may question a subject using Probe and easily determine deliberate untruths that may be told (or thought). Probe cannot be used on a shielded mind.

### ASSAULT

**Sphere:** Telepathy

**Prerequisites:** Send Thoughts

**Rank:** 10

**Cost:** 14

**Duration:** 2 seconds

**Benefit:** An assault against an unshielded mind will reduce the target to 0 Stamina, rendering them immediately unconscious immediately and will additionally inflict 2d6+6 points of Lifeblood damage. Against a shielded mind, the attack must make an opposed PSI check. If the target has the higher PSI check roll, there is no effect from the assault.

## CLAIRVOYANCE SPHERE

Clairvoyance is the ability to sense events occurring or 'see' items located out of the direct view of the character. Early ability with this sphere is restricted to vague and basic 'views' at very limited range, and grows in range and capability with the increased development.

### SENSE

**Sphere:** Clairvoyance

**Rank:** 2

**Cost:** 2

**Duration:** Up to 30 seconds

**Benefit:** A character will become aware of the most basic characteristics of a location when using this talent, such as 'a room containing four dogs' or 'an open plain with a single tree'. Generally the most interesting or important features will be sensed.

### CLAIRVOYANCE

**Sphere:** Clairvoyance

**Prerequisites:** Sense

**Rank:** 5

**Cost:** 3

**Duration:** Up to 30 seconds

**Benefit:** The character can view the activity and features of a specific distant location.



**CLAIRAUDIENCE****Sphere:** Clairvoyance**Prerequisites:** Sense**Rank:** 5**Cost:** 3**Duration:** Up to 30 seconds**Benefit:** The character hears the any sounds and noises occurring at a specific distant location.**COMBINED CLAIRAUDIENCE AND CLAIRVOYANCE****Sphere:** Clairvoyance**Prerequisites:** Clairaudience and Clairvoyance**Rank:** 9**Cost:** 3**Duration:** Up to 30 seconds**Benefit:** Imparts the benefits of both talents.**AWARENESS SPHERE**

Awareness deals with the sense and control of one's own body.

**SUSPENDED ANIMATION****Sphere:** Awareness**Rank:** 2**Cost:** 5**Duration:** Up to 7 days**Benefit:** The character can enter a state of suspended animation similar to cryosleep, but without the dangers, and remain suspended without need of food and water for up to 7 days. An external stimulus is required to awaken the sleeper, such as an alarm clock or a friend.**PSIONICALLY ENHANCED STRENGTH****Sphere:** Awareness**Prerequisites:** Suspended Animation**Rank:** 4**Cost:** Varies**Duration:** 60 minutes (peak effectiveness)**Benefit:** For each Psi point spent using this talent, the Psionist may temporarily add 1 point to his or her strength score. This effect will last for 60 minutes, after which it will begin to quickly return to normal at a rate of 1 point per minute.**PSIONICALLY ENHANCED CONSTITUTION****Sphere:** Awareness**Prerequisites:** Suspended Animation**Rank:** 5**Cost:** Varies**Duration:** 60 minutes (peak effectiveness)**Benefit:** For each Psi point spent using this talent, the Psionist may temporarily add 1 point to his or her constitution score and 1 point to Lifeblood score. This effect will last for 60 minutes, after which it will begin to quickly return to normal at a rate of 1 point per minute.**REGENERATION****Sphere:** Awareness**Prerequisites:** Psionically Enhance Strength and Psionically Enhance Constitution**Rank:** 9**Cost:** Varies**Duration:** Immediate**Benefit:** For each Psi point spent using this talent, the Psionist may recover 1 point of Lifeblood damage and 10 points of Stamina

damage. Healing occurs immediately. This talent includes the ability to grow new limbs and organs to replace lost ones, and may also be used to heal old injuries suffered before the character was trained. This talent cannot counteract the effects of aging.

**TELEKINESIS SPHERE**

Telekinesis is the ability to manipulate objects without physically touching them. There is but one talent associated with this sphere; Telekinesis. How large and object and how long it can be manipulated is based on the Psi rating and skill rank of the character.

**TELEKINESIS****Sphere:** Telekinesis**Rank:** Varies**Cost:** Varies**Duration:** up to 60 seconds**Benefit:** A character can manipulate (use) any item or object as if he or she were physically touching it, but is not subject to any physical danger, pain, stimuli, or other consequences that would normally befall anyone in contact with the object.

<i>Weight</i>	<i>Rank</i>	<i>Cost</i>	<i>Duration</i>
1 gram	1	2	60
10 grams	2	3	60
100 grams	3	5	60
1 kilogram	5	8	60
10 kilograms	8	12	60
100 kilograms	10	14	60
1000 kilograms	14	16	60
10,000 kilograms	18	18	60

**TELEPORTATION SPHERE**

Teleportation is the ability to instantaneously move from one point to another, without regard to intervening matter. Like telekinesis, there is only one talent within this sphere; Teleportation. How much weight one may move and how far are based on the Psi rating of the character and his skill rank with this sphere.

**TELEPORTATION****Sphere:** Teleportation**Rank:** Varies**Cost:** Varies**Duration:** Instantaneous**Benefit:** If the Psionist can see the destination at a distance, is already familiar with the destination, or can have the mental image of the destination implanted into her mind by a telepath, she may use this talent to move immediately to the destination location.

<i>Circumstance</i>	<i>Rank</i>	<i>Cost</i>	<i>Max Weight</i>
Self, unclothed	5	Range	Body Weight
Self, clothed	7	Range	+ 1000g
Self, with light equipment	9	Range	+ Str x 1kg
Self, with moderate equip.	12	Range +2	+ Str x 10kg
Self, with heavy equip.	15	Range +5	+ Str x 20kg

## PSI DRUGS

Chemical means are available to enhance a character's psionic strength on a temporary basis.

**Booster:** The basic psi-drug, available in a small one-dose pill. It will temporarily increase the user's Psi score by 5 if the user is at full psionic strength, otherwise it will only increase the Psi score by 3. The effects will last one hour. Additional doses taken during that hour will have no effect.

**Double:** A more potent form of Booster, available in the same small one-dose pill. Double will increase the user's Psi score temporarily by +8 (+5 if not currently at full psionic strength). The effects will last one hour. Additional doses taken during that hour will have no effect.

**Special:** The rarest of psi-drugs, special is only available in liquid form and must be taken by injection. Once taken the user's Psi score will gradually increase to 18 at the rate of one point per hour. It will remain at 18 (if unused) for four hours, and then slowly begin to wear off, again at a rate of one point per hour. There is a danger when using Special, of permanently losing one point from the user's Psi score (Con save vs. DC5 to avoid this effect)

## PITFALLS

The abuse of psi-drugs can lead to the loss of psionic ability and physical debilitation. If a character takes 3 doses of any psi-drug within three days, there is a chance (Con save vs. DC6 to avoid) of an overdose within six hours of the last dose taken.

If an overdose occurs, the character becomes seriously ill, lapses into unconsciousness, and takes 3d6 Lifeblood damage from the effects. If the character recovers, they will have permanently lost 1 from their Psi score (Con save vs. DC16 to avoid the loss).

## OBTAINING PSI DRUGS

It can be both difficult and hazardous to obtain psi drugs, which are illegal in most localities and scarce everywhere. The following base prices reflect a purchase on the open market. Illegal purchases may cost much more.

**TABLE: Psi Drug Costs**

Drug	Cost Per Dose
Psi Booster	Cr1,000
Psi Double	Cr4,000
Psi Special	Cr10,000



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## **CHAPTER 1:**

# **THE GRAND FLEET OF THE THIRD IMPERIUM**

Space is of vital importance to the Third Imperium and its neighbors. Even if a particular world or state has no offworld holdings and little trade, local activity in space may have great economic and strategic value. As a world's importance on the interstellar stage increases, so does its need to use space for a variety of purposes.

Space offers many opportunities, and as many vulnerabilities. Space is the avenue of attack upon worlds; defenses must be prepared. Installations and offworld holdings are vulnerable to annexation; security must be provided. Trade and commerce must move through deep space; ships must be protected. In times of war or tension, space is the arena in which most issues are resolved. From the diplomatic message sent by a token gunboat enforcing a territorial claim to deep-space fleet engagements between hundreds of ships, space forces are powerful tools with which to protect or further national interests.

Space is a deadly arena where the slightest error or deficiency means a horrible death by decompression. But the need exists, and in states across Charted Space, the call is answered by a special breed of men and women. They are the champions of their state; its defenders and its emissaries. Occasionally they are scapegoats or sacrificial victims. Most often they are enforcers of routine and sometimes resented laws. But however mundane or routine their duties may be most of the time, they are vigilant. They stand ready to defend against all enemies, whatever the odds.

In the Third Imperium these men and women (of many species), proudly serve under a single banner. From the highest admiral to the newest recruit they are a part of the greatest military force in Charted Space – the Grand Fleet of the Third Imperium.

## **FACTS OF SPACE TRAVEL**

The *Traveller* universe is shaped by certain facts concerning space travel. Of these, Jump and the lack of "subspace radio" or other means of instant communication are the most influential factors. Since there is no means of faster-than-light communication available, information travels only at the speed of the ship carrying it. This factor influences the nature of military, political and economic management throughout Charted Space. Local commanders and executives are required to make their own judgments without outside instructions. In this sense, the Traveller universe resembles the far-flung colonial empires of Terra's 19<sup>th</sup> century, where a warship commander might be months from reinforcement or instructions, and where cruising warships acted as floating embassies and intervention forces to assist local officials.

The Jump drive is the only practicable means of interstellar travel. Generation and "freezer" ships have been used for colonization purposes, but for economic and military purposes, Jump-capable ships are the only answer to the immense distances between the stars. Since gravity wells interfere with Jump drives, all physical objects have a radius around them within which it is highly inadvisable to enter Jump, and only possible to exit in the case of a catastrophic Misjump.

This means that ships must travel in normal space to reach a jump point. In a cluttered system, nearby Jump points may be masked

by the gravity wells of moons, asteroids or stars, necessitating a long journey to the Jump point. This need for normal-space transit makes commerce-raiding and piracy a possibility within the Traveller universe.

A vessel's Jump rating defines the maximum distance (in Parsecs) that it can travel in a single Jump. The highest Jump number available in Charted Space is 6, other than in the case of highly dangerous and unpredictable Misjumps. A Jump takes one week, give or take a day or so, and this duration is more or less immutable. Ships can of course jump less than their Jump number, and in-system microjumps are not uncommon where this will shave a few days off a long normal-space transit.

Jump requires very large amounts of fuel (liquid hydrogen). The majority of this fuel is used in a highly inefficient process that nevertheless generates a great deal of energy – enough to project the ship into Jumpspace. The remainder is used during the Jump to maintain the Jump field. If the Jump field collapses or becomes unstable, the vessel is usually destroyed. This voracious appetite for fuel means that Jump-capable vessels must sacrifice large amounts of hull space in return for strategic mobility. Few ships carry enough fuel for more than one jump, though measures such as drop tanks have been tried, with mixed results.

While commercial vessels tend to use Jump-1 or -2 engines, trading speed for cargo capacity, the nature of military operations requires that many military vessels use higher Jump numbers. Jump -3 or -4 are accepted as the norm for military ships. Any higher and the ship loses too much offensive and defensive capability, though some patrol, intruder and courier ships are capable of such high jump numbers.

Vessels which do not carry a Jump drive can fit more weapons and other systems into a hull of the same size, giving the defender a considerable ton-for-ton advantage. This has led to the creation of many classes of non-Jump-capable warships, from System Defense Boats to huge Monitors and the sublight Battle Riders carried by Jump-capable tenders.

## **THE ROLE OF THE NAVY**

The navy of any interstellar power, and particularly that of the Third Imperium, is a political instrument which serves the purposes defined for it by the ruling elite. These purposes may vary from place to place and time to time, but in general they fall into the following categories:

### **ENFORCEMENT OF TERRITORIAL CLAIMS**

Without some form of armed force to back up a territorial claim, it is meaningless and can be challenged by anyone who feels like it. Territorial enforcement forms part of the role of light patrol forces. A regular but, token presence is generally all that is needed to maintain a claim, so long as the situation is clear – anyone who wants to dispute this claim is going to have to fire on a naval vessel and can expect a response from a much more powerful force.

The regular patrols undertaken by Imperial Navy vessels throughout the Imperium and along its borders serve this purpose, among others. They demonstrate the willingness of the Imperium to defend its territory with armed force, even if the only vessel on hand is a single Patrol Cruiser.

Another territorial claim enforcement technique used by the Imperial Navy is to deploy a destroyer or light cruiser at a particular location as a guardship. Some sensitive areas have a permanent guardship

presence, replaced in rotation, while others receive a vessel only in times of heightened tension. Guardships are deployed where local forces are insufficient, or where there are none at all. An example is Melior/Glisten, which has no naval forces of its own but is assigned a guardship from the naval base at Egypt/Glisten.

## ENFORCEMENT OF INTERNAL AND INTERSTELLAR LAW

While some states maintain a specialized customs and law-enforcement force, in the majority of cases some part or all of this role falls to the navy. Naval starships have the right to stop and search suspect vessels – and they have the weaponry to compel obedience. The enforcement role includes suppression of piracy and smuggling as well as routine tasks such as ensuring compliance with shipping regulations and Red Zones.

While the task is normally carried out by Starport personnel, Naval parties are sometimes detailed to inspect a starship's safety equipment for compliance with Imperial Regulations. Such a routine inspection led to the apprehension of the corsair Captain known as Spacer Hal when his vessel, masquerading as a legitimate merchant vessel, was stopped for inspection by the patrol cruiser *Kugillinaa* off Liga in Glimmerdrift Reaches sector. Several naval personnel lost their lives in the ensuing action, but the spaceways are that much safer for their sacrifice.

## FLAG SHOWING

One of the most important, but overlooked, roles of the Navy is to be seen. The highly visible presence of Imperial Navy vessels has several important benefits. It is a reminder to the population of member worlds that the Imperium has not forgotten them; that the vessels of the Navy stand ready to defend them at need. On the other side of the same coin, the flag-showing operations remind potential troublemakers that the Navy is ready to come in and correct them if they step out of line.

Foreign powers are also reminded of the power and omnipresence of the Imperial Navy, reminding them that the Imperium is a powerful ally and a deadly foe. As well as deterring foreign intervention, vessels on flag-showing patrol also have a marked deterrent effect on piracy and smuggling. A useful side effect of the “goodwill visits” and “courtesy tours” undertaken by Navy vessels is that there is a chance – not a large one, but a chance all the same – that when a crisis develops a Navy vessel may be on hand to assist. And of course, those who might precipitate or exploit such a crisis cannot know that the Navy will not show up unannounced and derail the plan.

## PROTECTION OF COMMERCE

Interstellar commerce is the lifeblood of any civilization. Freighters packed with goods represent a tempting target for thieves and pirates, while the destruction of commercial traffic is a valid military tactic in times of war. Disruption of trade has brought more than one state to the brink of ruin in human history. If this is to be avoided, escorts and patrol forces must be provided in order to keep the space lanes (relatively) safe for merchant shipping.

Many naval personnel see the protection of helpless merchant traffic as their highest ideal, and Imperial history abounds with stories of convoys defended to the last against overwhelming odds. The tale of the Ramada Class Close Escort *Turbulent*, lost during the Solomani Rim War while protecting a convoy from commerce raiders, is just one of many. (see *EPIC Adventure 2: Into the Glimmer Drift* for details of *Turbulent's* fate)

## DIPLOMACY AND INTER-STATE RELATIONS

A vital part of the mission of any interstellar navy is simply to be seen. The “fleet in being” is a powerful symbol of a state's power and prestige. By “showing the flag” and in other ways being highly visible, the fleet reassures allies and deters potential aggressors. Warships are often used to transport emissaries and ambassadors, and serve as a demonstration of power and wealth – and of course military might – to back up the diplomats' words.

When the Imperial Ambassador to Chronor was assassinated in 1104, the Imperial Navy sent a single ship to bring her body home. The vessel was *INS Pantheress*, a gigantic *Tigress* class dreadnought, and her presence in Consulate space sent a very clear message to the Zhodani leadership.

## SUPPORT OR PROTECTION OF INTERESTS

When diplomacy or the implicit threat of naval force does not suffice, naval assets can be deployed in support of the state's interests. This can simply mean placing a vessel over a vulnerable installation as a guardship, or can be more complex. The presence of a small Imperial warship over Steel in the Spinward Marches might not prevent an attack – after all, how much can one Close Escort or Patrol Cruiser achieve? – but attacking it means firing on the Imperial Navy. Even the stupidest aggressor knows that if you take on any part of the Navy, you end up taking on all of it – or at least, as much of it as is necessary to stomp you flat.

## POWER PROJECTION & INTERVENTION

Sometimes the capability to project power, as demonstrated by moving a ship, squadron or even a fleet into the region, is enough to influence events there. Naval assets can exert a powerful stabilizing influence simply by being present. At times, however, direct intervention is required. This can take place entirely in space (e.g. blockade), or from space (e.g. attacks on military installations from orbit). In some cases direct intervention on the ground is necessary. Many naval personnel receive special “Naval Regiment” training for such ad-hoc intervention. If it is at all possible, the Imperial Marine Corps conducts intervention on the ground, backed up by forces from the Imperial Army as needed.

## PACIFICATION & PEACEKEEPING

When a region is troubled by war or piracy, the Navy deploys forces to pacify it. Where possible, problems are tackled at the root; pirate bases are found and destroyed; combatants are given pressing reasons to declare a ceasefire. When these measures are not effective, the standard Navy solution is to swamp the region with patrol craft and heavy units. All vessels are stopped and searched. Illegal activity is harshly punished. Once the area is “cleaned up”, the major units withdraw, but a peacekeeping force is left behind for a time.

Peacekeeping generally means keeping combatants apart and rigorously applying Imperial Law. Infractions that would in another area be given the benefit of the doubt are investigated and dealt with to the utmost extent of the law. The message this sends to belligerents is simple – the Navy will make their lives as difficult as possible until they begin to behave themselves. Lieutenant-Commander Miche of the Patrol Cruiser *Isakagi*, positioning his vessel between an armed merchant and a suspected raider during the Braccai Technum/McClellan Factors Trade War of 1107, summed up the Navy's uncompromising attitude in his curt broadcast to both vessels: “This vessel is on a peacekeeping deployment. That means you don't fight round here unless you want to fight with the Imperial Navy!”

## BLOCKADE/RED ZONE ENFORCEMENT

For various reasons, the Imperium may want to prevent contact with a particular world. Whether keeping unauthorized traffic out of a world under Imperial Sanctions, or preventing traders too greedy for their own good from blundering into a deathtrap world, the Navy undertakes many such missions. Vessels are warned, then turned around and sent back the way they came. If necessary, force is used.

Blockade can only be enforced if intruders can be detected, so this is a task for ships with excellent sensors, backed up by a unit possessing sufficient firepower to deter any potential blockade-runner from making the attempt. Blockade forces usually comprise a light cruiser with a number of patrol vessels for sensor coverage and with auxiliaries in support. However, the Red Zone at Andor/Five Sisters is considered sufficiently important that a *Tigress* class dreadnought is the flagship of the blockade fleet, accompanied by several cruisers and support vessels.

## WAR-FIGHTING

The Navy must of course remain ready to meet and defeat external threats. War-fighting operations include fleet actions, squadron-level raids, commerce raiding and protection, escort of transport and logistics ships, and planetary attack. This is the role for which the gigantic battleships and dreadnoughts, the fast cruisers and the fighter-laden escort carriers are designed. Such vessels represent vast overkill in enforcing laws or chasing pirates, but for the defense of the state against a similarly-equipped foe, powerful ships are the first, last and only line of defense.

The most recent major war in Imperial history is the Fifth Frontier War. Characterized at first by dispersal and frittering-away of resources, the war was brought to a successful conclusion by the assembly of enough Imperial capital ships to smash the Zhodani fleets one by one.

## EXPLORATION

The Imperial Navy undertakes little exploration work although in the Zhodani Consulate and the Solomani Confederation, both of which have open frontiers and no specialist Scout Service, exploration is a significant part of the Navy's role.

## TRANSPORT

Most transportation in Imperial Space is by civilian or corporate freighters. However, the Navy does transport its own supplies and munitions in dangerous or sensitive areas. The Navy also transports troops of the Imperial Army and individual personnel such as ambassadors. The Navy maintains large numbers of courier vessels for the latter role, and many armed and unarmed transport vessels for the former.

## THE IMPERIAL RULE OF SPACE

With a few exceptions, the Third Imperium does not rule worlds. Instead, the Imperium claims as its domain the space between the stars. On the face of it, this claim seems meaningless or even silly – space is, after all, rather empty. But empty or not, space is valuable. Every cargo, every message, every diplomatic envoy travels through the space that is the domain of the Third Imperium. Thus the economic and political affairs of each and every member world can be dominated by the fleets of the Third Imperium.

The Imperium not only undertakes to rule the vast reaches of space but also to defend them, and thereby the worlds that lie within Imperial territory. The Imperial rule of space is thus not a

stranglehold upon the member worlds but a contract between the Imperial rulers and the member worlds. While the Imperial Navy jealously guards its right to control space, so also does it claim the proud duty of guaranteeing the safety of the trade ships and the planetary populations of the member worlds.

Although space is the preserve of the Imperium and its Navy, each world is of course entitled to self-government and defense. This means that there must be some meeting point between Imperial and local jurisdiction. The standard terms of Imperial membership allow for a zone of shared jurisdiction between planetary and Imperial forces. This zone begins 10 diameters out from the world and ends at 100; it is not a consequence that 100 diameters is the minimum safe Jump distance. Under 10 diameters is the sole jurisdiction of the planetary forces, except where Imperial intervention has been requested by the world or imposed by legitimate Imperial authorities, or special areas such as Starports, which are considered to be Imperial territory. The 10-diameter zone is patrolled and defended by whatever COACC (Close Orbit and Airspace Control Command) forces the world can muster.

Beyond the 100-diameter limit, Imperial authority is absolute. Local vessels are subject to the same rules and controls as foreign (i.e. out-system) vessels moving through that space. However, there are some special considerations. Worlds with holdings elsewhere in the system are allowed courtesy "transit corridors" to and from their offworld holdings, within which local vessels are considered to be in the "shared responsibility" zone and subject to greatly relaxed restrictions. This courtesy is simply to avoid pointless hassle for local traffic, and is not extended to out-system ships unless they are proceeding between points on the transit corridor. Foreign ships crossing the corridor are in Imperial space, and are the responsibility of the Navy.

The second exception concerns the right to enforce customs and to provide for local defense. All Imperial member worlds have "standing permission" to meet incoming vessels beyond the 100 diameter limit if necessary, and to station system defense assets anywhere in the system that is not specifically prohibited by, say, the proximity of an Imperial Fleet installation in the outsystem. Standing Permission can be revoked as part of sanctions against an unruly world.

System defense vessels operating in what is very definitely Imperial space might seem to be a breach of the Imperial Rule of Space, but this is not the case. Local defense vessels are not foreign warships intruding into Imperial space but are the forces of an Imperial member world protecting local Imperial space against pirates, smugglers and hostile forces. Thus they have every right to deploy for defensive purposes anywhere in local space (normally defined as their home star system, including the system of a binary partner star).

Local forces do not have the stop-and-search rights of naval vessels in their own right – as local forces they have no jurisdiction in Imperial space. However, local forces are by definition part of the Colonial Fleet of the Third Imperium and as such are required to uphold Imperial (not local) laws wherever they may be. This not only grants the right to conduct searches, anti-piracy sweeps and so on, but also the duty to do so. These duties are undertaken not in the name of local government but with the Emperor's authority. How enthusiastic local forces are about these duties does tend to vary from system to system.

Jump-capable local forces are treated exactly like sublight vessels, even if they leave the home system. If they are acting as units of the Colonial Fleet (i.e. under orders from the Subsector admiral), they



are treated as regular Navy vessels. They must uphold Imperial Law and observe local jurisdiction as if they were visiting fleet units. Colonial vessels often take part in anti-piracy or patrol operations in conjunction with or instead of Imperial Navy ships. However, when not under Imperial orders, the deployment of locally-owned warships beyond the home system is a matter for the discretion of the planetary government, subject to permission from the Imperial Authorities. This is discussed later, under Naval Procedures.

Thus the Imperium retains the right to absolute rule of space, yet acknowledges and welcomes the contribution of local forces to that rule. The various gray areas in this arrangement allow for a variety of diplomatic incidents, but this is considered a necessary evil in return for a workable system.

## A HISTORY OF THE IMPERIAL NAVY

The fleets of the Third Imperium and its neighbors did not of course spring into being in their present form. They are the product of a long, long period of evolution. Along the way, vessel design and fleet structure was influenced by the capabilities of potential and real enemies, by hard lessons learned in war and economic factors in peacetime. The development of the fleets begins with the Vilani Ziru Sirka. It is still going on today.

### PAX VILANI

The Vilani created the First Imperium in -4045. As any interstellar polity must be, their empire was founded upon naval strength.

When the Vilani became the first race since the Ancients to discover the Jump drive, they quickly learned that they were not alone. A loose interstellar community founded upon trade sprang up in a 60-parsec radius around Vland. Individual traders pushed still further out and sold Vilani technology, even Jump technology, to the races they encountered.

Thus other races joined the Vilani on the interstellar stage. Many were assimilated into Vilani culture, but not all of the races encountered by these new Starfarers accepted Vilani values. Some began to raid, hoping to take by force the technologies they could not afford to buy. It became apparent that some of these races were creating empires that would in time threaten Vilani trade and culture. The three bureaus that ruled Vilani society were not prepared to let this happen. They raised fleets of warships to protect Vilani trade and strike back at the raiders. The appearance of these fleets, and the new attitude that they represented, caused increased friction with the border empires. In some areas this boiled over into open conflict, and thus began the Consolidation Wars, which would last a thousand years.

At first, the three bureaus each maintained their own fleets, but over time it became apparent that central control was needed. To impose this control, the Grand Empire of Stars (Ziru Sirka) was declared, and with it a reform of the Vilani fleets to create a unified organization. The reorganized fleets of the Ziru Sirka systematically destroyed or absorbed all opposition, until eventually there were no civilized states left on the Vilani borders. Historians may care to note that the Vargr were an exception to this – but then the Vilani never saw the Vargr as civilized.

After the end of the Consolidation Wars, a peace now variously known as the Pax Vilanica or Pax Vilani descended. The powerful fleets of the Ziru Sirka assumed the role of protectors to the Empire, and maintained a careful watch to prevent any “barbarian” powers from arising on the border. Occasional action was required to put down such a nascent threat, but for many hundreds of years the

fleet patrolled and observed, and gradually slid into decline.

At its height, the Ziru Sirka controlled 15,000 worlds throughout 27 sectors. The price of rigidly controlling such a large area was cultural stagnation and a loss of interest in the worlds beyond the Imperial borders. When, late in the Pax Vilani, a barbarian power emerged just beyond the frontier, there was little interest, and no action. The Ziru Sirka dozed in the final years of a golden age, little suspecting how badly prepared it was for a new war. That war began in -2422, when the Pax Vilani was shattered by upstart barbarians boiling out of an insignificant world named Terra. A startlingly short time later, the Grand Empire of Stars was no more.

### THE SOLOMANI “NEW FLEETS”

The Terrans, now known to history as the Solomani, developed Jump technology independently in -2434. Solomani explorers encountered the Grand Empire of Stars soon after, at Barnard's Star. At first the Vilani ignored the barbarians and their primitive starships.

The Solomani insisted upon claiming Barnard as their territory, which resulted in friction and finally, in -2408, a Vilani trade caravan coming under fire from American vessels. The Vilani reaction was predictable. A fleet was dispatched to teach the upstarts their place. The Vilani force met a combined Solomani fleet composed of vessels drawn from the United States Navy, China's Defense Force, the British Royal Navy and Brazil's large commerce fleet. Run-down and overconfident as the Vilani navy was, its vessels still had no difficulty in wiping out the totally inexperienced Solomani force. This served to confirm Vilani overconfidence, while the barbarians were unquestionably taught a lesson.

Unfortunately for the Ziru Sirka, it was not the lesson they had set out to teach.

Fearing that they faced annihilation or subjugation, and knowing that they could not defeat the vast Vilani Imperium as a collection of individual nations, the people of Terra were forced to co-operate as never before. The United Nations was given greater powers to coordinate the efforts of various nations in a move that eventually led to the formation of the Terran Confederation.

Even worse for the Vilani, the Solomani now had some idea how to fight an interstellar war. They constructed fleets organized like those of the Vilani, with homogenous squadrons, and composed of low technology but effective warships. A new class of light attack craft or missile boat was created to return the Vilani salvoes with large numbers of relatively crude weapons, while dreadnoughts mounting spinal weapons closed for a decisive clash.

The Solomani New Fleets also included a number of cruiser classes intended for deep raiding missions to disrupt trade and commerce. These vessels boasted a Jump-2 drive, which was a shock to the Vilani since they had monopolized the device for a thousand years.

The Vilani remained overconfident, and were repeatedly defeated by the Solomani, who saw themselves as fighting for survival. Gradually the Solomani gained ascendancy, though it was not until -2204 that the Ziru Sirka, weakened from within, collapsed and the Rule of Man began. The Solomani navy did what it could to stabilize and govern the shattered Vilani Imperium, and held back the night for another 400 years. However, despite all that could be done, the Ramshackle Empire lost its grip and fell into the darkness. The Long Night began.

It would be 1700 years before light flared once more, and once

again the Navy would be the torchbearers.

## **SYLEAN GUNSHIP DIPLOMACY**

The Sylean Federation was established on Sylea in -650 and grew slowly, absorbing several worlds to create a trade federation. By -30 the Federation was under heavy attack by raiders who looted local colonies and pirates who pillaged the trade routes. A long war against the Chanestin Kingdom drew off many ships that could have dealt with these threats.

As the politicians talked of withdrawing Federation ships to the core worlds and abandoning outlying assets, the industrialist Cleon Zhunastu proposed an entirely different solution. Cleon was a Sylean nobleman of Solomani descent, and the head of a powerful industrial consortium. His vision was simple but daring – instead of withdrawing in the face of opposition, the Federation would go out and conquer it, and thus create a Third Imperium. To carry out this bold undertaking, Cleon needed increase the naval power of the Federation so that it could protect its assets and strike against the Chanestin. Old records from the First Imperium offered an idea, which Cleon put into practice at his own expense.

The first Sylean Battle Tenders were simply converted cruisers carrying a half-squadron of four large gunboats. These gunboats were ideal for combating the foes the Federation faced at that time, which could only field relatively small vessels. Sylean gunboats, since they did not need to carry Jump drives or fuel, were faster, more agile and better armed than a starship of similar size. The gunships, despite a shaky start, proved very effective against pirates, clearing the way for an offensive against the Chanestin.

Larger and better gunboats were created, carried aboard custom-built tenders. A new fleet organization was built around squadrons of 2 tenders, each with 6-8 gunboats, and an escort force. These gunboat squadrons struck deep into Chanestin space, backed up by assault tenders carrying squadrons of assault landers. The combination was a success, and the Chanestin Kingdom was forced onto the defensive.

Gunboat tenders also became the symbol of Sylean diplomacy as they carried economic and diplomatic delegations out beyond the borders of the Federation to begin absorbing non-aligned worlds. As the Federation grew, so money became available to build large, powerful warships. By the declaration of the Third Imperium in Year 0, the first battleships and dreadnaughts of what would become the Imperial Grand Fleet were joining the battle lines, and Chanestin resistance began to crumble. In Year 2, the Imperial Sunburst was raised above the Chanestin Royal Palace.

The golden age of the battle tender was short, but they provided the Sylean Federation with an effective way to use what resources were available to gain an edge over evenly-matched foes. However, as soon as the funds were available, the line of battle role was transferred to capital ships, and the tenders were relegated to a secondary position as escort carriers and military transports.

## **THE PACIFICATION CAMPAIGNS**

The Pacification Campaigns (76-120) were for the most part more economic and political than military. The Imperium was involved in rapidly absorbing a great number of single worlds and small states, most comprising less than five or six worlds. The naval power of such states was slight, but there were a lot of them.

Naval forces played several important roles in the Pacification Campaigns, and often without firing a shot. Flag-showing visits from impressive Imperial Navy vessels helped sway many wavering

worlds, and the presence of a naval squadron that outgunned the locals' entire navy served to underscore the pointlessness of armed resistance for others. The concept of using a "Single Unkillable Ship" as a diplomatic tool was first demonstrated during this period. Deploying a lone vessel that clearly could take on anything the locals had - and win - ran contrary to conventional naval thinking, but it served a diplomatic purpose.

Nevertheless, the Imperial Navy was forced to fight. Many worlds were absorbed by force after a naval campaign. This was more a cruiser war than an affair of battleships and dreadnaughts. Minor powers, unable to take on the Imperial Navy head-on, often resorted to harassing raids and war upon trade. So many such "small wars" were ongoing at any one time that by the time one small state had been subdued, two or three more had become involved. Fast cruisers, responding to each threat as it arose, fought to contain each conflict while the BatRons and AssaultRons ground down the homeworlds one by one.

Many conquered worlds remained rebellious, and the Navy was involved in policing the rear areas for several years after the "front lines" had moved outwards. This was again an affair of cruisers and escorts; small vessels capable of covering a lot of ground contributed more than the battleships of the striking fleet.

The most notable actions of this period took place during the Arnaki Resistance, when the world of Arnaki/Core sat at the head of an alliance of relatively powerful worlds. Though the alliance was spread over too large an area for concentrated action, and was thus eventually defeated in detail, the capital ships of the various alliance worlds were powerful enough to slow down the Imperial advance for several years. Effectively integrated with the guerrilla activities of minor states, the Arnaki Alliance gave the Imperium a tough time of it before the sudden collapse of resistance in 98.

## **THE JULIAN WAR**

As the Imperium spread into the Antares Sector, alarm mounted among the various human and Vargr states to Coreward. This resulted in the formation of a loose alliance, which took its name from its leader, Julian. The goal of this alliance was simple – to curtail Imperial expansion in the Antares sector by any and all means necessary.

The Julian Protectorate was thus born, and with it its striking arm, the Star Legion. However, the Star Legion was not a tidy fleet of shiny battleships. While many member states possessed capital ships and contributed some to the Star Legion, the majority of ships were privateers and corsairs, and vessels designed to combat them. Thus for every battleship or heavy cruiser, the Star Legion had a hundred or more corsairs, commerce raiders, armed merchant cruisers, patrol corvettes or intervention frigates. Many of these vessels were privately owned, recruited for pay or plunder. Command and control was rather loose.

The Imperials quickly established a line of bases facing the Protectorate, and looked down their noses at the random assemblage of "spacegoing junk" facing them across the buffer zone. In the wake of the Pacification Campaigns, the balance of the Imperial fleet had shifted towards heavier units. The reasoning was simple; if more such units had been available during the Pacification Campaigns, more worlds could have been taken, quicker. Other problems such as commerce raiding would simply dry up when the centers of resistance were smashed.

Presented with an ultimatum by the Protectorate, the Imperium was unconcerned. The fleet was ready; it had the right tools. A

few concessions were granted but the Imperium was not willing to compromise to any great degree. The Protectorate was forced into a corner, and decided to strike before the corsairs grew bored and took their ships home.

As a horde of commerce raiders and heavier striking squadrons poured into Imperial space, the grand Imperial fleets charged into the Protectorate, crashing through all opposition and taking world after world. Despite the damage being wreaked in the rear, there was simply no way the Imperials could lose. The sword that was the Imperial fleet was too big, too sharp and too heavy for the fragmented Protectorate forces to parry.

But Julian knew that, too. So he fought an entirely different war. Each important world was held as long as possible, with the defenses bolstered by heavy units and capital ships of the Star Legion which would fight hard, then pull back before when defeat became inevitable. Worlds were lost, but the Imperial fleet was ground down.

The Imperial fleet was operating at the end of a long supply line, and Julian raiders swarmed through every system between the fleet and its depots. Imperial forward bases were raided by fast striking forces. Damaged vessels returning for repair ran a gauntlet of harassing raids and the occasional ambush. The Imperial advance ground inexorably on, but the cost was high and back in the Antares sector, worlds began to reconsider their allegiance to the Imperium. Still, the Imperials were winning, and the end seemed to be in sight when a large number of Julian capital ships were suddenly withdrawn from the battle line. Most analysts assumed that the Protectorate was beginning to break up, or that the ships were simply too battered to fight on.

Their absence was explained shortly after, when powerful Julian fleets made end-runs against Imperial depots in Fornast and Ley Sectors. Both depots were captured after heavy fighting, though the Fornast fleet withdrew after making repairs and destroying the depot with nuclear explosives.

With the Ley Sector depot in enemy hands, the heavy units of the Julian Fornast Force rampaging through the rear areas destroying escorts and raider-hunters, heavy losses among supply ships and commercial traffic and political troubles in the Antares sector, Imperial High Command decided that the eventual victory of the battle fleets would come at too high a price. A peace settlement was proposed, and after a fraught period of negotiation, accepted.

Concessions by both sides led to the creation of a buffer zone, an independent League of Antares, and the curtailment of Imperial expansion in the region. The sector remained a hotbed of incidents and intrigue for many years after the war's official end in 191.

## ASLAN AND VARGR WARS

The Vargr Corridor Campaigns (210-348) and the intermittent conflicts with Aslan clans in the Reavers' Deep region provided the Imperial Navy with a wealth of experience at fighting relatively small-scale actions against small non-human states. Neither the Vargr nor the Aslan ever resembled a coherent threat, and the goals of these wars were different to many others. There was no massive threat to Imperial security nor any need to mass huge fleets and conquer a region. Instead the campaigns were very much a 'cruiser war' in which conflict with one Vargr state or Aslan clan would be brought to a conclusion just in time to meet the threat from another. These 'wars' resembled large-scale peacekeeping operations more than full-scale warfare.

The Vargr Corridor Campaigns dragged on for 130 years (though fighting was not constant) before the Corridor region was properly secured. To this day the Corridor Fleet remains one of the most active in the Imperium, since the region stays secure only as long as sufficient force to deter Vargr raiders is stationed there. The occasional corsair does still try his luck however, so the patrol elements of the fleet remain at a high pitch of readiness.

The Aslan wars were a slightly different affair, being mainly concerned with keeping expansionistic Aslan clans out of Imperial space. These clans were not seeking conflict with the Imperium but were unable of (or unwilling to) control their *Ihatei* who wanted to seize territory from the weak Imperials. After centuries of intermittent fighting, some of which became quite large-scale as clans were dragged into war by their *Ihatei*, a peace deal was finally hammered out. The Peace of Fatahr remains in force to this day, but only at great effort. While the Imperium and the clans want peace, groups on both sides seek their fortune in the buffer zone created by the treaty, and this inevitably leads to major peacekeeping requirements. The Imperium maintains a special fleet composed mainly of cruisers and light forces to maintain the Peace, and it has its work cut out for it.

## THE CIVIL WAR (604-622)

In the wake of the First Frontier War, Grand Admiral Olav hault-Plankwell proceeded to Capital with his victorious fleet, murdered Empress Jacqueline and proclaimed himself Emperor by right of Fleet Control.

Plankwell had considerable support and various legitimate grievances, but these were not sufficient to guarantee his position as Emperor. The power struggle that followed lasted for 18 years and saw no less than 18 Emperors declared. The Imperial Navy was instrumental in the strategy of most of these Emperors, and provided many of them from its ranks.

Various factions of the Imperial Navy supported one candidate or another, or played kingmaker from a position of power. Squadron and even fleet battles were common during this period as even those candidates who cited other means of accession to the throne, such as Right of Assassination, recognized that the Navy was the single most important tool in their pursuit and maintenance of power.

Naval actions during the Civil War took three forms. Demonstrations of military power served to sway worlds and even sectors into supporting an Emperor or a pretender to the Iridium Throne. Relatively bloodless skirmishes decided many issues in what was more akin to the display-competition of male animals at mating time than a serious attempt to win battles. And far too often, all-out battles to the death took place, either for control of Capital and the surrounding Core Worlds or as one faction attempted to destroy the fleet or support base of another.

While the Civil War was a nasty business, and atrocities occurred, on the whole it was conducted with a surprising amount of regard for sophonts' rights and the understanding that innocents should be spared as far as possible. Whether this was in recognition of the fact that the opposition were Imperial citizens too, or simply a cynical understanding that people you have bombed from orbit are unlikely to offer you their wholehearted support later, will never be known.

More than half the Imperial candidates of the Civil War period were killed in naval actions. The only one to survive, Grand Admiral Arbella, fought the Second Frontier War to a hard-fought victory



then marched on Capital as Plankwell had done. Arbella, however proclaimed herself regent rather than Emperor, and set about pacifying the other candidates. She eventually became Emperor, but as ratified by the Moot rather than self-proclaimed by Right of Fleet Control. However, the part played by her control and leadership of the fleet cannot be overstated. The Imperial Navy put Empress Arbella on the throne, as it had others before her. However, her reign lasted because while she knew how to use the fleet to serve the throne, it was not her sole right to sit on it.

### **THE SOLOMANI RIM WAR (990-1002)**

In 990, rising tensions between the Imperium and the Solomani Autonomous Region suddenly became outright war. Caught off guard, the navy was driven back along almost the entire battlefield, and suffered heavy losses. An immediate and effective implementation of a delaying strategy, coupled with the launch of deep raids into Solomani territory, slowed the advance while Imperial reserves were brought up. The contribution of Imperial ground forces and planetary defense crews, holding out behind enemy lines, cannot be discounted.

While initial Imperial battle performance was unimpressive, especially among reserve forces brought up from deep in the Imperium, hard lessons were well learned in the early stages of the war. Soon the Imperial fleet was on the offensive. From this point on, the Solomani had lost, though hard years of war were needed to convince them of it.

The Imperium could field more and better ships, and remembered the mistakes made by the First Imperium against the Solomani. There would be no piecemeal commitments of local forces; the Solomani were seen as a threat to the existence of the Imperium and no effort would be stinted to crush them. Whole fleets joined the battle lines, and more importantly, the Imperial high command had a unified strategy aimed at defeating the Solomani and winning the war. At no time was a policy of taking back lost territory or “teaching the Sollies a lesson” even considered. The enemy would be smashed; territory would then be claimed. It was a hard-nosed policy that embraced the true principles of warfare and made few concessions to public-opinion considerations.

When fighting the Solomani, this is the only way to win.

Rather than nibble at the enemy along the front and take back “prestige” worlds, or go to the assistance of fortress planets heroically holding out, the Imperial Fleets plunged into Solomani space, striking at bases, depots and worlds whose industry was critical in supporting the war effort. The Solomani fleets were forced onto the defensive and, pinned against these vital objectives, shattered by superior Imperial forces. Meanwhile, light raiding squadrons slashed in and out of Solomani-held space, gathering intelligence, distributing propaganda and causing as much nuisance as possible. As the main-line Solomani fleets were pulled into defensive actions to defend their critical bases, reserve and second-line Imperial fleets assaulted worlds and took them back in a “crumbling” strategy along the frontier that left the Solomani guessing where the next blow would fall – and unable to mass against it.

The war dragged on for more than ten costly years, but gradually the scales tipped more and more towards the Imperials. Finally, the knockout blow was launched; the invasion of Terra itself. The remaining Solomani fleet units and Terra’s impressive planetary defenses put up a tremendous fight, but the outcome was never in any doubt. With the fall of Terra, the Solomani finally agreed to a cease-fire that has become an uneasy peace. Live-fire incidents

are not uncommon between Imperial and Solomani vessels, but neither side wants to go through the grinder again, so the fragile peace holds... for now.

### **THE FRONTIER WARS**

The Third Imperium has fought five Frontier Wars against the Zhodani to date.

**The First Frontier War (589-604)** arose out of tensions between the aggressively-expanding Imperium and the more conservative Zhodani Consulate. Brought to a successful conclusion by Grand Admiral Plankwell with almost no support from outside the region “Behind the Claw”, the First Frontier War was a catalyst for the Imperial Civil War that followed immediately after it.

**The Second Frontier War (615-620)** was an attempt by the Zhodani-led Outworld Coalition to reverse their defeat of a decade previously by exploiting the weakness of Imperial forces due to the Civil War. Inspired leadership by Grand Admiral Arbella eventually resulted in a close victory for the Imperials and acted as her springboard to Imperial power.

**The Third Frontier War (979-986)** arose out of long-standing tensions between the Imperium and the Consulate. Complacent Imperial forces made a poor showing and while the armistice of 986 gave little away, the war resulted in the abdication of Emperor Styryx as well as some rethinking at court and within the fleet.

**The Fourth Frontier War (1082-1084)**, also known as the “False War”, is mainly remembered for the fact that it was over before the Emperor’s instructions for the conduct of the war reached the commanders fighting it. Despite early Zhodani thrusts made in strength, little gain was made. The discovery of a Zhodani forward base in deep space between Yres and Menorb resulted in the climactic Battle of Two Suns, which was a victory for Imperial forces.

**The Fifth Frontier War (1107-1110)** opened with a series of uprisings by Pro-Zhodani and Anti-Imperial groups. Initial Imperial strategy was poor, mainly due to a complacent high command more suited to internal politics than interstellar warfare. After Duke Norris of Regina purged the officer class using special powers granted by the Emperor’s Warrant, Imperial forces went over to the offensive and took back all that had been lost.

The war resulted in a shake-up of the Imperial Navy and an attempt to find lasting peace with the Consulate.

### **RIM SKIRMISHES**

Although the Solomani Rim War is over, there is still a great deal of tension along the border. Occasional shooting incidents occur, but far more serious is the proxy war fought between Solomani forces and the navies of the Vegan Autonomous Region. This is a low-intensity affair, with no actions larger than the squadron level. The Imperial authorities allow the situation to continue for two reasons. Firstly, there is no desire to push the issue and risk renewed war with the Solomani, and secondly, the situation allows Solomani vessels and tactics to be studied. What the Solomani hope to achieve is open to speculation.

## CHAPTER 2:

# VESSELS OF THE IMPERIAL NAVY

The Imperial Navy makes use of many types of vessel. Some are tailored to a specific task while others are general vessels designed with flexibility in mind. The fact that communications are limited to the speed of a jump-capable courier imposes an important requirement upon Navy vessels: they must be capable of handling unusual situations as they occur. This is mostly true of vessels up to cruiser size, as capital ships rarely operate alone.

## VESSEL CLASSES

Within each class of vessel, several variants may exist. The following overview is a guide to the general capabilities of type rather than precise details of any given class. As a rule, Imperial vessels are designed to match “fleet mobility” requirements – i.e. Jump 4 and 6G acceleration. A few classes exceed this requirement, but the cost is too great for a significant portion of the fleet to be so equipped.

### CAPITAL VESSELS

Capital vessels are designed for heavy combat in the line-of-battle. They exist to meet heavy enemy units and crush them in squadron or fleet actions. Most capital ships are built around the biggest spinal mount they can carry, backed up by a powerful secondary armament of bay weapons. Batteries of lasers and sandcasters are carried as tertiary armament, mainly for dealing with fighters and strike craft. Some capital ships carry an organic fighter element, and most have large numbers of ship’s troops aboard.

Capital ships very rarely operate without support, screening and escort vessels. Ships are not usually dispersed on minor errands or guardship duty, though a few very sensitive red zones are assigned a single capital vessel to back up the interdiction squadron. Occasionally a capital ship will be detached to carry out a particularly prestigious function such as transporting a great noble to a major event.

With the exception of battle riders, all capital ships are commanded by a full Captain, who will often hold a knighthood or be a member of a noble family. Capital ship command is a highly prestigious posting, and is generally seen as the route to flag rank and/or the high nobility.

#### Superdreadnought

The Superdreadnought is a concept which has emerged occasionally. Essentially a larger and even more powerful version of the standard dreadnought, the Superdreadnought is intended to be able to smash two or more enemy dreadnoughts in combat whilst exercising effective command & control over the battle. Superdreadnoughts are phenomenally expensive and subject to diminishing returns.

The most famous attempt to revive the concept in recent years was the private project of Archduke Erechs of Gateway. The unfinished prototype, *Annababar*, was lost with all hands while defending the Domain capital (its namesake) from a Solomani strike force in the early years of the Solomani Rim War.

#### Dreadnought

The best and newest (and most expensive) line-of-battle ships are designated dreadnoughts. They form the backbone of the front-line

battle squadrons and continually evolve to meet new threats or exploit new ideas. As a dreadnought class loses its cutting-edge status, it is downgraded to Battleship designation. The 200,000 ton *Kokirrak* class dreadnought is about to suffer this reduction in status, reflecting the fact that the design is becoming obsolescent. Current Imperial dreadnoughts include the *Plankwell* class (200,000 t) and the awesome *Tigress* class (500,000 t), which carries 300 fighters in addition to its main armament.

#### Battleship

Including both downrated dreadnought classes and purpose-designed second-class line-of-battle ships, the Battleship designation covers the bulk of Imperial capital ships. Like dreadnoughts, battleships concentrate their firepower in a huge spinal mount and batteries of secondary bay weapons. Defenses include thickly armored hulls and huge sandcaster batteries.

Battleships are deployed by preference in massed squadrons, but may be encountered detached as guardships or showing the flag. Battleships are second-class only when compared with dreadnoughts; any battleship is capable of ripping the heart out of a heavy cruiser with a single salvo.

#### Battlecruiser

More lightly protected than a battleship, though mounting the same armament, the battlecruiser is designed for a slightly different role than the line-of-battle. Battlecruisers cannot stand up to their own armament for long, but they are not intended to. Instead, they undertake fast strike operations against enemy shipping or bases, or chase down enemy cruisers doing so against their own side.

Battlecruisers sometimes possess a higher jump capability than battleships or dreadnoughts, to give enhanced strategic mobility. The Imperial Navy does not favor battlecruisers.

#### Battle Rider

Battle riders are designed to be an alternative to jump-capable warships. Since a whole squadron can be carried by a huge Battle Tender, the battle rider need not devote space to jump engines or fuel. The space thus saved can be used for weaponry and armor, while the money saved pays for the lightly-defended tender.

A battle rider is up to 50% more effective in combat than an equivalent jump-4-capable ship, but lacks the mobility to break off if the fight goes against it. Tenders are vulnerable to enemy action and since their loss will leave the squadron stranded, resources must be diverted to protecting them. The result is that battle rider squadrons are not always as effective as they might at first seem. The concept is not currently in favor with the Imperial Navy, though many squadrons still exist. Some battle riders have been transferred to the colonial fleets, assigned as guardships at depots and strategic worlds, or sold to friendly powers.

Battle Riders are often commanded by an officer holding the rank of Commander rather than a full Captain.

## CRUISERS

Starfarers within the Imperium are far more likely to encounter a cruiser – or a squadron of them – than a battleship. Cruisers are the workhorse units of the Imperial Navy, and can be encountered singly or as part of a task force. Cruisers engage in patrol and flag-showing operations, deterring piracy and unrest by their imposing presence. In wartime, cruisers undertake a variety of roles. Some are escorts for heavier units and transports. Others raid into enemy territory or chase raiders down.

Cruiser armament generally consists of a powerful spinal mount and relatively light secondary (bay) armament, but this depends upon the role intended for the vessel. A cruiser of any kind would be gutted by the main armament of a capital ship, but its weaponry could inflict severe damage on that capital ship. Against anything smaller than a cruiser, such as a commerce raider, a cruiser is as good as a battleship; effectively invulnerable and devastatingly powerful.

Commanding officers aboard cruisers tend to be Captains or Commanders, with seniority tending towards the heavier types.

#### **Heavy Cruiser**

The Heavy Cruiser is a powerful naval unit, capable of undertaking most operations. Armament is centered around a heavy spinal mount and defenses are good. Heavy cruisers protect the line-of-battle and undertake combat against similar enemy units. Many operate detached as single-ship task forces. Most carry a marine force for intervention operations.

#### **Frontier Cruiser**

The Frontier Cruiser is a high-jump vessel (J-5 is common) intended for long-distance patrols along and beyond the Imperial frontier. Such a vessel must be capable of dealing with any eventuality from piracy to disaster relief, and such capability is bought at cost of lighter armament and defenses. The most famous class of frontier cruiser is the Azhanti High Lightning class.

#### **Strike Cruiser**

Somewhat similar in concept to a Battlecruiser, a strike cruiser is a fast, lightly-defended vessel built around a single weapon system (usually a spinal meson or particle accelerator weapon) and intended for one role only – to carry that weapon system into range of a target.

Strike cruisers mount little secondary armament, though a reasonable tertiary armament to defend against light craft is common. Defenses are light, meaning that the vessel must get into range, take the shot and withdraw rapidly. This kind of strike operation may be conducted deep into enemy territory, so high jump numbers are not uncommon.

#### **Missile Cruiser**

Missile cruisers are not popular with the Imperial Navy, but are experimented with from time to time. Built with no spinal mount but bristling with missile tubes, the missile cruiser usually carries a few small craft with excellent passive sensors to “spot” for it. Ideally, the first an enemy vessel knows of the presence of a missile cruiser is the arrival of a huge salvo of nuclear warheads.

#### **Light Cruiser**

The most common type of cruiser in the Imperial Navy, light cruisers mass around 30,000t and are usually biased more towards armament and maneuverability than defenses. A light cruiser is more than enough to deal with most threats short of a major warship, and is cheaper to man and deploy than a more powerful vessel.

In peacetime, light cruisers can be encountered anywhere. They may be showing the flag, acting as guardship, or conducting intervention operations. Wartime roles include patrol, escort and protection of the battle line against light enemy vessels.

#### **Rift Cruiser**

A special vessel designed for operations in the Great Rift, the Rift Cruiser has reduced armament but Jump-6 capability, allowing patrols in the star-sparse area to be maintained. Occasionally the high jump capability of this vessel is exploited for a rapid

redeployment or a deep raid into enemy territory, but limited numbers are available and costs are high.

#### **Escort Cruiser**

Unlike all other classes of cruiser, this variant light cruiser mounts no spinal weapon. Instead powerful secondary and tertiary batteries are carried. Escort cruisers are designed to stick close to a high-value unit such as a flag dreadnought or battle tender. Their role is to protect the major vessel against missiles, fighters and light vessels. Escort cruisers can also be encountered escorting tankers or other vulnerable vessels, and engaging aerospace forces during planetary assaults.

#### **Reconnaissance Cruiser**

Another small class, the reconnaissance cruiser is fast but lightly armed. It carries a huge sensor suite and is intended to penetrate hostile space to gather intelligence. While able to fight its way out of trouble, the recon cruiser ideally will avoid detection or use its high jump and maneuver capability to escape pursuit.

#### **Interdiction Tender**

The Interdiction Tender is a cruiser-sized vessel with fairly low mobility (Jump-2 or 3) which carries a large number and wide range of subordinate craft. Its mission is to support and maintain the forces blockading a Red Zoned world. The tender is armed well enough to take on a destroyer-sized opponent, which is all it is likely to encounter. Its brood of fighters and gunships enable it to cover a lot of space, and it can support other vessels (in the escort or destroyer classes) assigned to assist it. To a great extent, interdiction tenders are more mobile bases than warships. The concept has never really caught on, but some Sector Fleets have one or two of them and find them useful enough to be worth retaining.

### **CARRIERS AND TENDERS**

The Imperial Navy is not greatly enamored of fighters and other sublight craft. However, they do have their uses, and jump-capable vessels are required to transport them. Fighters are primarily useful for fleet security and reconnaissance or engaging aerospace forces during an assault, but at need they can make massed attacks on enemy vessels. Casualties are always high in this role, and results disappointing.

Carriers are generally commanded by a full Captain in the case of battle tenders, fleet and strike carriers, and a Commander in other cases. Battle Tenders often act as the flagship for their squadron of riders, and carry a commodore and his staff for this purpose. Carrier Captains are sometimes held in low esteem by the commanders of cruisers and battleships, who refer to them as “brown shoe skippers”.

#### **Fleet Carrier**

Large carriers, massing around 100,000t, are assigned to every fleet. They do not carry a spinal mount and while possessing a large secondary armament, are not intended for close combat. Carrier operations are centered around a large number of heavy fighters – 300 or so – which carry out screening, escort and patrol duties. Extensive repair and maintenance facilities keep the fighter squadrons at high readiness.

#### **Strike Carrier**

Massing around 75,000t, strike carriers mount a light spinal armament and are both more agile and better defended than fleet carriers. Despite their name, strike carriers spend more time acting as a mobile patrol force base in threatened areas than undertaking strike operations. However, at need a strike carrier can penetrate



a hostile system, launch a swarm of fighters to harass shipping or shoot up facilities, and withdraw before effective resistance can materialize. A typical complement is 80 fighters.

#### Escort Carrier

The escort (or light) carrier is simply a lighter, cheaper version of the fleet carrier. Typical mass is around 30,000t, with no spinal mount and a complement of 80 fighters. While the large number of fighters aboard a fleet carrier might lead to the conclusion (always proven wrong) that the fighter wing could carry out massed operations against serious opposition, the smaller complement of a light carrier obviously cannot. Light carriers are generally deployed with a couple of escorting destroyers as mobile patrol platforms or to conduct security operations in advance of a squadron.

#### Battle Tender

Battle tenders are huge, open-frame vessels capable of transporting up to five large battle riders. The tender often acts as flagship for the riders, and thus carries extensive command and communications equipment. A reasonable secondary armament is also shipped for self-defense, but tenders are very vulnerable and require escorts.

Recent experiments with hybrid tender/carriers have not met with success. Such a vessel, whose fighters or gunships could protect and screen in while the riders engaged enemy forces, is attractive in theory but plagued by technical difficulties in practice.

### ESCORTS AND COURIERS

Without effective communications, a squadron or fleet is ineffectual. Similarly, it is all but impossible to conduct operations while beset by nuisance attacks. These roles are vital to the fleet, though they are often overlooked or viewed with derision.

Escorts keep smaller enemy vessels away from the high-value units, preventing the enemy from conducting effective reconnaissance or launching a strike with one-shot weapons. Escorts of moderate size such as destroyers and fleet escorts usually rate a full Commander, while smaller vessels are Captained by a Lieutenant-Commander. Escorts may be grouped into specialist escort squadrons, assigned to a task group or detached for patrol and commerce-protection duties. They can be encountered anywhere.

Couriers are assigned to a squadron or fleet as a "pool" to be used as needed. Incoming couriers join the pool, outgoing ones may be reassigned to the pool wherever they arrive, or may return with message confirmation. Courier vessels are ubiquitous, and can be encountered anywhere. They are sometimes used for patrol or picket work, but are not really suited to this role.

Couriers are generally small vessels, and are commanded by a senior lieutenant or possibly a lieutenant-commander.

#### Fleet Escort

Fleet escorts such as the *PF Sloan* class are intended to accompany heavier ships and to intercept light craft and missiles headed for the high-value units. Thus they are lightly armored and are armed for taking out fighters, not destroyers. The typical escort masses about 5,000 t. If engaged in combat alone, fleet escorts tend to fare badly.

#### Destroyer

Destroyers do not, as a rule, carry a spinal mount. They are thus not considered major combatants by the Imperial Navy, though their armament of bay and turret weapons can be formidable. Sizes range from 1-3,000 t, with a general emphasis on maneuver rather

than defense.

Although the Imperial Navy sees destroyer-class vessels as escorts, they are often pressed into service in other roles. Destroyers can thus be encountered operating solo or in squadrons. Missions include guardship, flag-showing, patrol and even strike against relatively soft targets. A destroyer is more than a match for any civilian vessel, but even squadrons should not take on major combatants.

#### Missile Corvette

Small missile-armed vessels such as the *Valor* class represent good value for money so long as their modest capabilities are remembered. When conducting patrol and escort duties, these craft can be effective in deterring piracy or in resisting commerce raiding. When committed to open battle, they tend to be slaughtered. A typical corvette masses about 500t. Defenses are quite poor, as is beam armament. The missile salvo is impressive for such a small ship, however, contributing greatly to the deterrent effect.

#### Close Escort

Close escorts such as the *Gazelle* and *Fiery* classes, massing around 300t, are intended for piracy suppression, patrol of commercial routes and of course the close escort role. In the latter, the close escort shelters under the big guns of a larger ship, and in turn protects it from attack by light craft.

Close escorts are effective in this role, being quite capable of destroying incoming fighters or gunships. However, their value in open combat is almost negligible. Despite this drawback, shortages of ships result in close escorts being assigned as the sole protection for a convoy, or to solo patrol. The type has always fared badly in this role.

#### Fleet Courier

While the Type S Scout/Courier is often assigned as a communications and liaison ship, fleet communications require a fast vessel capable of looking after itself. Massing 400t, the Fleet Courier is a Jump-6 capable vessel mounting a significant armament. Defenses are weak, and attempts to use couriers as response units or escorts have always ended in disaster. However, the courier is capable of defending itself if intercepted by light craft. This is an entirely likely scenario, since maneuver is sacrificed for the sake of high jump and the fuel required to maintain it.

### LOGISTICS AND SUPPLY VESSELS

Without logistics and supply vessels, the Navy would grind to a halt within days. These unglamorous and often-overlooked vessels carry fuel, missiles, spares, tools, food... and everything else the fleet requires. Horribly vulnerable and under-armed, supply ships are regularly sent into dangerous areas with an inadequate escort. Skippers tend to hold the rank of Commander or Lieutenant-Commander.

#### Fleet Logistics Vessel

The Fleet Logistics Vessel is a general-purpose supply and transport ship designed to accompany a task force. Not only capable of transporting a variety of vital supplies, the FLV has extensive machine and electronics shops, and is capable of fabricating necessary spares on-site, greatly increasing the fleet's capability to keep ships on deployment.

FLVs are lightly armed for self-defense and carry a number of small craft including specialized repair tugs. They are often pressed into service as repair ships, and more recent classes are designed with this capability in mind. Commanding officers tend to be senior

Commanders or junior Captains.

### **Tanker/Resupply Ship**

Most logistics ships of the Imperial Navy are either tankers (which skim, purify and transport liquid hydrogen fuel for the line ships) or resupply ships, which carry “dry stores” which can be anything from missiles to boots to coffee beans – and usually all of them. Some classes of tanker carry a number of fighters for close escort work. This is a recent development, and is still under evaluation. The concept was introduced after heavy tanker losses during the Fifth Frontier War, often inflicted by relatively light craft.

### **Dromedary**

A dromedary is a combination tanker/supply ship. Dromedaries often accompany small task forces where the deployment of several support vessels would be wasteful.

### **Freighter**

Freighters are operated by the Imperial Navy for routine movement of stores. Freighters are usually unarmed, and are not intended to support the fleet in action. Instead, they bring supplies into the fleet bases, where they are transferred to armed support vessels if necessary. The vast bulk of supplies never go further than the depots.

### **Troop Transport**

Troop transports are used to move ground forces between worlds. For routine operations, where combat is not expected immediately upon arrival, the *Briann* class is often used. The *Briann* class carries its troops in low berths and equipment stowed. Landings are made direct to a planetary surface or via interface lighters carried for the purpose.

For “hot transfers”, the *Iron Horse* class Assault Transport is used. Built on the same 20,000t hull as the *Briann* class, the *Iron Horse* sacrifices capacity for the ability to convey an armored battalion or infantry brigade (carried awake rather than in cold sleep) to a planetary surface in large lighters. These are still not assault craft in the true sense, but can fight through a light defense at need.

### **Fleet Auxiliary**

The term “fleet auxiliary” covers a multitude of small vessels carrying out routine tasks such as personnel transfer, non-urgent courier and mail duty, small cargo shipments and so forth. Such craft tend to be small merchant vessels fitted with a light armament. Many are identical to the far traders and fast traders operated by mercantile concerns, while a few are purpose-built to military specifications.

### **Reserve Auxiliary**

Any shortfall in auxiliary transport capacity (local or sector-wide) is made up by impressing civilian vessels. This is done in a variety of ways. Reserve Auxiliaries tend to be small merchant craft whose Captain holds a reserve commission, or which have been assigned a liaison officer. Such “ships taken up from trade” (STUFT) are usually assigned short, safe, one-off cargo or personnel delivery runs. However, in wartime the needs of the Navy may send an unarmed far trader halfway across the sector, or into a dangerous region. These vessels are highly vulnerable to commerce raiding.

## **PLANETARY ATTACK VESSELS**

Planetary assaults are always a costly business. Even once the system has been secured, planetary defenses and aerospace fighters still pose a threat. Whole brigades can be wiped out without firing a shot if the vessel transporting them is hit. Even once the run-in is complete, troops must deploy into the very hottest of hot

zones, and the landing ships are still at risk as they climb back to orbit. Imperial planetary attack vessels and tactics are designed to minimize the losses taken while maximizing the effectiveness of the attacking force.

### **Assault Tender**

Most planetary assaults are undertaken in relatively small non-jump capable craft launched from large assault tenders. Some such tenders carry fighters to escort the attack ships in, but few carry significant planetary-attack armament. Current Imperial thinking prefers to keep the tenders at a safe distance and leave artillery tasks to specialized vessels, which usually means fire support craft carried aboard the tender.

The most impressive assault tender of all is the *Iridium Titan* class, which at a massive 150,000t can transport a division of the Imperial Army along with assault landers and fire support craft. Most, such as the *Mongol* class, carry only a brigade-sized unit.

### **Bombardment Cruiser**

The support vessel of choice for orbital attack is the 50,000 ton *Warspite* class bombardment cruiser. This is the Imperial Navy's only vessel optimized for planetary attack, though many other classes have a secondary bombardment capability. The *Warspite* class cruisers are armed with a mix of mass drivers for mass damage, missile launchers and meson gun bays for relatively precise strikes. A secondary armament of lasers for close-in defense is also carried, and the vessel has the capability to use them in pinpoint-strike mode.

*Warspite* class cruisers carry three large (4000t) Bombardment Support Craft. Sometimes called “trash compactors”, these vessels are equipped to gather up small asteroids and fragments of wrecked warships for compacting into mass-driver projectiles. Being bombarded with the wreckage of one's own system defense squadron has a severe morale effect upon the enemy. The physical damage tends to be more significant, all the same.

### **Marine Carrier**

The 40,000 ton *Tarawa*-class Marine Carrier is crewed and commanded by naval personnel but forms part of a Marine task force. Carried aboard is a Marine Infantry brigade supported by a grav cavalry battalion plus a fighter wing and assault shuttles. All craft are flown by Marine personnel. Extensive command and control facilities are carried aboard, to allow the brigade commander to control and coordinate the operation.

### **Assault Ship Lander**

The 5000t *Outrider*-class Assault Ship Lander is designed to bring a battalion of the Imperial Army direct to the planetary surface from Jump, and to support them there with fire from its ground-attack armament. Planetary assault is normally thought of as the work of the Marine Corps, but Army units are frequently used in this role, either alongside or as a follow-up to Marine spearheads.

The *Outrider* class saw extensive use during the planetary assaults of the Solomani Rim War, where it was found that the inefficiency inherent in the design – which landed Jump engines and fuel tanks along with its fighting cargo – made it far less than cost-efficient. The class suffered heavy losses to ground defenses and is due to go into reserve, to be replaced with a tender/assault ship combination like that used by the Marines. Various designs are currently under consideration.

### **Assault Lander**

Assault landers range from small armored shuttles carrying an infantry squad to the Marine Corps' 1200t *Nakerkh* class assault

ship. They all have certain features in common; notably high speed, good armor and ECM systems, and some form of support or self-defense weapon. Assault landers are high-value targets, at which a defender will throw everything he has in the hope of destroying a large proportion of hostile ground forces before they hit the ground.

### Fire Support Craft

A variety of craft in the 1-3,000 t range are used to give close fire support to an assault. These craft, of which the 1000t *Hansnaht* class gunship is commonest, engage enemy aerospace craft, troop concentrations and ground targets. Their role encompasses defense suppression, assault escort, diversionary attack and a sweeping shoot-everything-on-the-ground role.

## PATROL SHIPS

Patrol vessels are the most commonly-encountered ships of the Imperial Navy. They patrol the spacelanes to deter, counter and punish illegal activity such as smuggling and piracy. Patrol ships are often pressed into service as escorts in time of war, while in times of tension they act as "tripwire" forces to warn of enemy action. Since the bulk of the IN budget goes on capital ships and cruisers, there are never enough patrol ships.

Most patrol ships are captained by a Lieutenant-Commander or a Commander, since they operate solo for long periods and their crews are often the only Imperial representatives in a system.

### Patrol Cruiser

The Patrol Cruiser is a common sight in Imperial space. Some observers wonder that a 400t vessel should be termed a "cruiser", but the term is accurate in one context – this class of vessel is designed to undertake long solo cruises and deal with whatever it encounters. This is a traditional cruiser role, whatever the more usual meaning of the word "cruiser" may be.

Patrol Cruisers are often purchased by world governments as guardships or customs vessels, roles they fulfill admirably. Though small, they are well armed with missiles and lasers and can take on even a large armed merchant at need. Patrol Cruisers are not main-line warships, however.

### Colonial Cruiser

The 1200t *Kinunir*-class Colonial Cruiser (also termed a Vanguard Cruiser or Battle Cruiser) was originally conceived as a peacekeeper vessel combining heavy armament with a marine contingent for intervention operations. The class was plagued with system faults, and was a failure operationally, too. The class carried too few Marines to make any real difference, but wasted too much tonnage on the Marine force to be an effective warship. The class is being phased out, though a few remain.

However, the concept of a heavy patrol ship remains viable, and in time a new class may emerge to fulfill the patrol/flag-showing role, either solo or as the flagship of a small patrol force.

### Huscarle Cruiser

The Huscarle Cruiser was designed and built by Instellarms as a larger version of the Mercenary Cruiser, the Huscarle Cruiser masses 2000t and is available with various optional weapons fits. In its basic form, the Huscarle Cruiser functions as a transport for up to a company of troops and can act as escort for a noble's yacht. More expensive versions are often purchased as personal flagships for nobles, or as warships for those nobles maintaining a flotilla.

### System Control Ship

The 5,000t System Control Ship is a resurrection of an old idea, combining the features of a very light cruiser with the fighter complement of a "pocket carrier". Not intended to take on major warships, the SCS's light spinal mount can shatter the typical commerce raider or corsair, while its wing of fighters, picket boats and inspection cutters can police traffic over a large area within a star system, bringing tight customs and revenue control to the region for as long as necessary, without need for a permanent base.

System Control Ships can also undertake raiding and escort duties, but are not really suited to these roles.

### Fleet Picket

The 1000t Fleet Picket is a specialist vessel, with good defenses but light armament. Its function is to monitor a region of space or sweep ahead of an advancing fleet, using remote sensor drones and an impressive array of detection equipment to warn of approaching or lurking hostiles. Pickets are sometimes pressed into service as search or intelligence-gathering vessels.

## SPECIALIST VESSELS

The Navy operates a number of specialist ships optimized for various roles. These ships are not intended for combat, but may be armed for self-defense. They are often assigned a close escort.

### Rapid Assistance Vessel

The 10,000t *Messiah* class Rapid Assistance Vessel is a lightly-armed jump-5 capable starship intended to render whatever assistance is needed to any Imperial world suffering a catastrophe of any kind. The *Messiah* has only a token armament, but it carries extensive command and coordination facilities, plus workshops, medical wards, laboratories and a complement of engineers and security troops provided by the Imperial Marine Corps.

In the event of a major disaster, a *Messiah* is usually the first vessel on the scene, acting as a command post to assess the situation and coordinate the employment of other assets as they arrive aboard freighters and other craft. A pair of fast courier boats are carried, so that the assessment and any request for backup can be rapidly transmitted to headquarters.

*Messiahs* have been instrumental in dealing with disasters as diverse as earthquake, fire, flood, life support breakdown, plague and refugee assistance in wartime. War, insurrection and revolt are dealt with by more conventional vessels, but a *Messiah* may well accompany a task force to alleviate suffering among victims of a conflict. Only one has ever been lost to combat, during the Solomani Rim War. The vessel was mistaken for an assault transport by Solomani strike craft during the assault on Terra.

### Hospital Ship

All Navy vessels have a sickbay, and assault ships almost always have extensive surgical facilities. However, casualties are transferred to bases or hospital ships as soon as possible. Hospital vessels are traditionally unarmed or fitted only with sandcasters plus a few point-defense turrets. In almost all wars, the non-combatant status of hospital vessels is respected. The standard Imperial hospital ships are the 10,000t *Girianis* class Fleet Hospital Ship and the 2000t *Fleming* class Medical Auxiliary.

### Intelligence Ship

Intelligence ships (often referred to as "spy ships" by the media) are small, stealthy vessels packed with sensors and data-processing equipment. Many operate entirely openly, gathering information



from communications, drive signatures and other emissions in the electromagnetic spectrum.

### **Covert Operations Vessel**

The Imperial Navy operates a number of 200t *Onyx* class Covert Operations Vessels. These heavily-stealthed ships are used to insert and recover teams of covert operatives. They are lightly armed but very fast, with excellent sensors. Their ability to evade detection or escape if spotted makes them useful picket vessels, but this is a waste of their real capabilities.

### **Repair/Recovery Ship**

Specialized repair ships are operated by every fleet. Usually grouped with a light escort and logistics or supply ships, repair ships sometimes accompany a task force, particularly on siege operations. Alternatively, the vessel may stand by on call to attend any ship which has suffered a breakdown or battle damage and cannot make port under its own power. The Navy prefers to send out a repair ship than to have the public see one of its cruisers limp into a civilian port for emergency assistance. Repair ships are often used to recover wrecks of friendly and enemy ships for intelligence or salvage purposes.

## **NON-STARSHIPS**

The Imperial Navy uses many classes of vessel not intended for Jump operations. Most of these are small craft intended for various subordinate craft roles, while others are warships in their own right. A vessel which does not have to devote tonnage to Jump drives and fuel can carry far more weaponry for the same mass and cost as an equivalent starship.

### **NON-JUMP WARSHIPS**

There are two basic types of non-jump-capable warship; system defense boats and monitors. The only real distinction between them is size and combat capability. Note that battle riders are not considered here, as they are considered capital ships and form part of the mobile fleet (with suitable tenders).

#### **Monitor**

Monitors are large system defense craft intended to take on and destroy incoming heavy units. While in theory they can be equal in capability to a battle rider (indeed, a battle rider can serve as a monitor if no tender is available), they tend to be constructed more cheaply and to lower specifications.

Monitors thus tend to have relatively low acceleration – 2g is common – as they rarely move far from the world or installation they are defending and operate on interior lines. Defenses are particularly heavy, as the main purpose of a monitor is to remain “in being” to threaten an attacking force. Actually destroying enemy forces is a bonus, but preventing a landing or bombardment is enough.

Some monitors are constructed from hollowed-out planetoids. Such vessels tend to have very low acceleration but are extremely hard to kill. They also have stealth and surprise advantages. The Imperial Navy does not build planetoid monitors but many individual worlds do.

The Navy primarily uses monitors to defend its bases and depots. Most naval bases have a force ranging from a single light monitor of about 5000 tons displacement to several squadrons of battleship-sized units to back up the more numerous light system defense boats. Although battle riders can just as easily be used, monitors have the advantage that they cannot be ‘poached’ for fleet

operations, thus leaving a depot inadequately guarded.

### **System Defense Boat/Gunboat/Missile Boat**

The title System Defense Boat is applied to any warship over 100t intended for defense of an area of space. There are literally hundreds of classes of SDB in existence throughout the Imperium. The 400t *Shugukan* (Dragon) class is typical, mounting a mix of laser and missile armament. SDBs (also referred to as gunboats, missile boats etc depending upon their armament and intended role) often undertake police and customs duty near a mainworld, but their main function is to oppose hostile action within the system. That can mean routine patrol sweeps or massed action against an intruder.

SDBs are designed to hide from enemy sensors in hostile environments such as deep water and gas giant atmospheres. Ideally, an invader will be met head-on and repulsed by fleet action, but in the case of a siege or overwhelming enemy force, SDB forces can hamstring an invader by sweeping out of their hiding places to strike vulnerable rear-echelon vessels and troop ships, then scatter to hide. Sieges of well-defended worlds are a nightmare of hit-and-run raids of this sort.

SDBs can be transported from world to world aboard freighters or using specially designed SDB Jump Shuttles. They are sometimes carried aboard larger vessels as powerful, long-range fighters.

The typical SDB is commanded by a Lieutenant, with the squadron commander being a Lieutenant-Commander or Commander.

### **SMALL CRAFT**

The small craft of the Imperial Navy are vital to its operations, yet they rarely receive a moment's thought. They are innumerable, flitting about their administrative and logistical tasks. Small craft (with the exception of fighters) rarely have a permanent crew assigned, but are manned from the roster of qualified enlisted personnel aboard ship. Only important craft such as a Captain's gig rate a petty officer pilot. The rest are usually crewed by Able Spacehands.

Imperial Navy vessels which operate subordinate craft generally use a standard launch tube with capacity for a 50t craft. Thus most subordinate craft are of this size.

#### **Cutter**

The 50ton modular cutter is used by large ships, bases and Starports as an inspection, liaison and rescue craft. Most cutters are unarmed, and assigned a single module – usually the passenger or cargo module. The Navy does not favor carrying several modules aboard a warship, seeing this as a waste of space.

#### **Military Gig**

The 20t military gig is a fast, streamlined utility craft with light armament. It is usually carried as a subordinate craft by small ships, where it is often used to extend sensor coverage or transport personnel to a planetary surface. Boardings always take place from the gig, covered by the guns of the parent craft.

#### **Naval Lifeboat**

The 20t Naval Lifeboat is not very different from its civilian cousin, except that it is designed to leave a crippled vessel under fire. A single, one-shot sandcaster is carried, along with general hardening of the boat's systems. A modest ECM and auto-evade system is built into the command and control equipment, increasing survivability in the event of a hostile evacuation. Lifeboats have

capacity for 24 personnel in emergency low berths.

#### **Pinnace**

The 40t Pinnace is rarely used by the Navy as a liaison craft, though some bases carry several to reach distant parts of the system.

#### **Troop Shuttle**

The 50t Troop Shuttle is designed for a single purpose – getting a force of ground troops onto a planetary surface. They are built tough, with a lightly armored hull (by starship standards) and an armament of a single point-defense laser and a sandcaster. The laser can be used in support of ground troops at need, though it is not especially effective in this role. The troop shuttle has a crew of 2 and is capable of 3g acceleration. It can deploy 50 troops, though the troop bay is cramped with so many aboard and long flights are not recommended.

#### **Shuttle**

A variety of cargo and passenger shuttles are used. Most mass 100t or larger, and are mainly used for cargo transfer to and from depots and logistics ships. They are not usually carried by warships.

One shuttle variant that is sometimes carried by certain classes of warship is the fuel shuttle. This streamlined craft allows an unstreamlined vessel to undertake wilderness refueling without need for tankers. Many tanker classes replenish themselves using fuel shuttles. This is a lengthy process, but it means that tankers need not carry expensive streamlining, nor expose themselves to the risks of gas-giant skimming.

Almost all shuttles, of all types, are unarmed.

#### **Fighter**

The 10t light fighter with its single light laser is virtually useless as a military vessel. Even en masse, light fighters are little more than a nuisance to any serious warship. However, they do have a useful role as patrol and picket craft operating from a base or starship. Since even a fighter can chew up a Free Trader, fighters are effective in the policing and security role, and often escort inspection cutters or shuttles carrying important personnel.

The main value of light fighters is in their ability to act as a “tripwire” and as a screen to intercept enemy strike craft at a safe distance from the parent vessel. All Imperial Navy fighters are piloted by officers. Pilots are usually Ensigns or Sublieutenants, with squadron commanders holding higher rank.

#### **Heavy Fighter**

The 2-seat 50t heavy fighter is usually armed with dual or triple lasers. Capable of longer patrols and far more survivable than its light cousin, the heavy fighter is still little more than a target to a ship with decent point defense, but a flight of four presents a serious menace to a small warship such as a close escort or patrol cruiser. Heavy fighters are capable of massed strikes against warships, but experience has shown that this is like trying to stab a Sumo wrestler to death with a box of pins. As with their light cousins, heavy fighters are best employed in the screening and security role.

#### **Missile Fighter**

A variant of the heavy fighter, the missile fighter (sometimes referred to as a ‘bomber’) is armed with standoff missiles, and is intended to reach firing range, launch its weapons and withdraw at top speed. This does give a powerful strike capability, but a fighter cannot carry sufficient reloads to be useful in a protracted combat situation. The concept has not found favor with the Imperial Navy, which believes that a missile corvette is a better way to employ

such weapons.

#### **Strike Fighter**

Another variant of the Heavy Fighter, the Strike Fighter mounts a single, powerful weapon (usually a plasma or fusion gun) capable of dealing heavy damage to even a large warship. Strike fighters represent massive overkill against conventional fighters and small merchant craft, and their armament is outranged by most other weaponry. However, if they can get close enough they can do real damage to a warship.

Strike fighters are the reason why light fighters are carried by the fleet. They must be intercepted before they reach firing range. To prevent this, strike squadrons are usually escorted to the target by conventional fighters.

#### **Picket Boat**

The Picket Boat is a heavy fighter with its armament replaced by an extensive sensor suite. Uses include early-warning of approaching enemy craft, detailed sensor sweeps of an area, fighter control and forward missile direction. In the latter role, picket boats are often escorted by conventional fighters.

## **CHAPTER 3:**

# **STRUCTURE AND ORGANIZATION OF THE GRAND FLEET**

The Grand Fleet is a symbol of power and an instrument of policy as much as it is a military force. As such, its command structure is not as clear-cut as some might assume. While the chain of command runs clearly through a series of ever-more-senior admirals, it is also subject to influence from other quarters.

### **POLITICAL COMMAND**

The Fleet is a political tool and as such its orders come from the civilian authorities – ultimately the Emperor – that run the Imperium. The ships and fleets are commanded by Naval officers, but they serve the needs of the Imperium, which are determined by its leaders. Since political command devolves down from the Emperor through successive levels of nobility, each of these levels has the ability to exercise influence over the fleet elements at its level.

The nobility exercises *influence*, not *command*. No noble has the right to give direct orders to naval personnel – orders must come through the proper chain of command. There are exceptions to this, however. The Emperor has the right to command any Imperial military unit at any time (indeed, lawful orders can be considered to technically originate from the Emperor's authority). Also, certain Imperial Warrants give the bearer (usually a noble) the right to assume command of Imperial assets.

Outside these two situations, the process of commanding the Navy is fairly simple: the political leaders inform the Admiralty of the situation and what they think needs to be done (or more accurately, the outcome they would like to see) and the Admiralty decides if it can be done and if so, how. After some discussion the political leadership authorizes the Fleet to act and the Admirals then decide how to carry out the operation and what assets to use.

In short, the Admiralty listens to the political leaders and attempts to give them what they want wherever possible, but retains control of its own assets at all times.

Note that some requirements from political leaders may be illegal or may conflict with the Imperial Navy's mission to protect the Imperium and her citizens. A fleet admiral asked to invade a neighboring state by his Sector Duke must decide if starting a war is really in the Imperium's best interests. Once the orders of the political leaders start to conflict with the Navy's duty to the Imperium and the Emperor, the system has broken down and some tough decisions need to be made. This has not happened in a long, long time, though smaller conflicts of interest have occurred at times.

As an example, in the early days of the Solomani Rim War various Archdukes and Sector Dukes protested about Navy assets being stripped from their sectors to go to the war front. The orders to relocate came through the proper naval chain of command and were not subject to alteration by local leaders. Similarly, local leaders along the Solomani border who demanded a 'not one step back' defensive strategy were (or should have been) ignored by naval commanders who had to think about fighting a war on behalf of the whole Imperium, not just protecting one small corner of it at the expense of many ships and thousands of lives.

The system works well enough in most cases. Naval officers command the Navy, but at the highest level they answer to the political leadership of the Imperium. In this way excesses are prevented and self-interest is curbed as much as possible.

### **THE EMPEROR**

The Grand Fleet owes ultimate allegiance to the Imperium, as personified by the Emperor. All personnel swear an oath to preserve and defend the Imperium, and to do the will of the Emperor. The Emperor holds the honorary title of Admiral-in-Chief of the Grand Fleet, though an Emperor has not actually led any Imperial fleet into battle for centuries. However, ultimate responsibility for the actions of the fleet; for the appointment of its admirals and its officers; for the provision of ships and spares, rests with the Emperor and whomever he appoints as his subordinates.

There is a great deal of personal loyalty to the Emperor within the Imperial officer class. The degree to which he is revered does vary from region to region, and from ship to ship, but at the very least each and every ship has a portrait of the Emperor hanging in the Wardroom, and toast is drunk (sitting down, by tradition) to the Emperor's health at dinner every night. While some crews are imbued with an almost fanatical personal loyalty, for most the public display of loyalty is merely a part of the naval tradition.

Fleet Control is one of the rights recognized by Imperial Law as a legitimate claim to the Iridium Throne. No Emperor since the Civil War has held his position merely through this right, but it is still recognized as one of the most important factors making an Emperor fit to rule – he must be able to impose his will, and the Imperial Navy is the perfect tool for that task.

The Navy is used by the Emperor as a political tool as much as a military one, and his choice of subordinates, deployments and strategies must weigh military considerations against political ones. Thus it may be necessary to "waste" a powerful fleet on garrison duties in a peaceable region, or to appoint a poor officer to the admiralty, in return for loyalty and support from a segment of the Imperial population.

### **THE ARCHDUKES**

The Archdukes are technically not in the Naval chain of command, and do not command the fleets stationed in their Domain. However, they are the Emperor's appointed political representatives, and as such have a great deal of influence over the Fleet.

While the Admirals commanding fleets in any given domain answer, through their superiors, to the Admiral-of-the-Fleet, and he to the Emperor directly, the Archduke of the Domain has certain claims upon the fleet and its commanders. Chief among these is the Right of Support. This means that as the Emperor's trusted vassal, the Archduke has the right to reasonable cooperation and support by and from the Imperial Navy. In practice, this means that the Navy cannot ignore a request to deploy warships or to carry out legal duties in support of the Archduke's policies unless there is a pressing military reason to do so. The Archduke is specifically prohibited from issuing direct orders to any ship, fleet, officer or admiral in the Imperial Navy, but strongly-worded requests are not uncommon. They are seldom ignored, though the Archduke may well not get everything he asks for.

There is sometimes friction between the Archduke's administration and the Navy forces within the Domain as to how requests are complied with, and by what forces, but for the most part what exists is a partnership in which the Emperor's loyal servants work together, discussing matters from their different viewpoints to agree



on a workable solution.

The Archduke can of course bring pressure to bear from a political or social angle, especially through the nobles assigned to the domain's fleets. All Archdukes have an Imperial Warrant available if it proves necessary to get something done no matter what. High-handed action of this sort must be explained to the Emperor, of course, so it is kept as a last resort.

Far more commonly, the relationship between Fleet and Archducal Administration is one of discussion, compromise and (sometimes strained) cooperation. It is very rare to find Archduke and Admirals at odds for any length of time. Such a situation is dangerous to the stability and safety of the Imperium, and will be quickly dealt with from On High.

The shifting pressures of influence and traded favors may sometimes result in orders that are utterly incomprehensible to those tasked with carrying them out - but theirs is not to reason why.

## THE SECTOR DUKES

Like the Archdukes, the Sector Dukes are not in the direct Naval chain of command. However, they too are important representatives of the Emperor who must at least be listened to by the Admirals. The Sector Dukes have a keen understanding of the political and defensive needs of their sector, and advise the admirals accordingly.

Sometimes this 'advice' approaches blackmail, since the Dukes wield considerable influence. Naval units cannot legally be used to support personal projects, but a little rule-bending in return for favors is not uncommon. As a result, deployments in a sector may not be the perfect military solution to the problems of defending and patrolling the sector. Those wielding influence know how far they can go, however, and blatant misuse of naval assets will earn swift correction.

Note that the power of the Archdukes has waxed and waned over the centuries, and also in different regions. Thus in some cases the Sector Dukes can get more from the Navy than the Archduke they theoretically answer to.

## THE SUBSECTOR DUKES

Each subsector also has a Duke as its senior noble. Like their superiors at Sector level, the Subsector Dukes are well placed to understand what the Imperium needs from its Navy within their own area of influence. While they have no power to give orders, their influence makes itself felt. This is more commonly at the Subsector Fleet level than above, however.

## OTHER NOBLE INFLUENCE

The Fleet is influenced by the nobility at all levels. As the senior service and a route into the nobility, the Navy is a fashionable career for up-and-coming young sophonts. Those who already possess (or are in line for) titles naturally wield considerable influence over their commoner peers.

This sort of social influence is inevitable, and not particularly harmful in most cases. Indeed, with few exceptions, young nobles are raised to believe that service to the Imperium is their right and duty. This ethic tends to rub off on those seeking to impress them, too. It is made very clear to young nobles joining the Navy that they have an additional duty to those carried out by their peers - they are expected to provide a shining example of what it is to be a Naval Officer. Most live up to the challenge, or at least try. A

few exploit their advantages. The Navy has had many years to find ways of dealing with this kind of corruption.

The nobility influence the Navy in other ways. Many of the corporations that build naval equipment or support the bases are run by noble families, who can exert influence to obtain a good posting, have a piece of equipment made the fleet standard, or to further some other goal such as having Navy ships in place to catch a rival red-handed in some dubious practice.

There is considerable influence exerted by the great noble families to make sure the Navy protects their interests. Border nobles want Navy ships stationed in their system to defend against invasion. Industrialists want their products accepted for Naval use. Those with shipping concerns want patrols to guard against piracy. Those with extensive outsystem holdings want a Naval presence to deter raids. The Navy cannot meet all these demands, but each noble will try in various ways to get his or her own way. Social pressures applied at receptions, exchange of favors, correct through-channels requests, outright bribery and even threats... any and all means may be used. The overall effect is that the Navy is subject to shifting pressures in addition to the immediate military situation. These might not be directly obvious, but they do exist. This all makes the life of a senior naval officer more complicated, but that comes with the territory.

For the more junior personnel, noble influence is simply a fact of life like having to peel spuds in the galley or clean out the air filters. Sometimes the results are unpleasant, sometimes they can be used to your advantage - and sometimes you have no idea what's going on. It happens. Just salute and say "Aye Sir". Easier that way....

## THE ADMIRALTY

The actual command of the Navy rests with a chain of admirals and senior officers. While subject to influence and political pressure, this body (often referred to as The Admiralty) exerts direct control of the fleets and is the ultimate authority in time of war. Archdukes may request, world governments may protest, but the Admiralty is in charge until the Emperor says different.

## GRAND ADMIRALS

The most senior officers of the Imperial Navy are Grand Admirals. The term is both a formal rank and a job title. A Grand Admiral commands the combined fleets of a Domain or a theater of war. For example, at the outbreak of the Solomani Rim War a Grand Admiral was appointed to command the Imperial war effort in the theater. All other naval commanders - whether they ran subsector or sector fleets, depots, combined battle fleets or whatever else - answered to this officer, who was responsible for coordination of effort and the overall conduct of the war.

The Imperial Navy has several Grand Admirals on the books at any given time. Mostly their duties are ceremonial and/or to oversee the fleets of a region in the capacity of an inspector-general. However, they can be assigned to a troubled region to take over command of all naval assets.

The commander-in-chief of the Imperial Navy is also a Grand Admiral, headquartered at Capital/Core. He holds the same rank as other Grand Admirals but is formally known as 'Admiral-of-the-Fleet', which is very much a job title as well as an honorific. The title is relinquished when he steps down or is replaced; another Grand Admiral takes on the mantle at that time. The post of Admiral-of-the-Fleet is usually assigned for a long period but sometimes the

incumbent may decide to effectively demote himself in order to take charge of a crisis on the border.

While the Emperor (in his capacity as Admiral-In-Chief) is titular commander, the Admiral-of-the-Fleet is actually responsible for all naval orders, assignments and deployments. The appointment is as political as it is military. A significant part of his time is spent at functions and parties, representing the Navy to the nobility and the public. However, the Admiral-of-the-Fleet does have certain vital duties.

As the head of a large planning staff, the Admiral-of-the-Fleet is responsible for ensuring that a contingency plan (with suitable options and variations) exists for every conceivable naval situation – and many inconceivable ones. Within hours of news reaching the Capital of a crisis, the Admiral-of-the-Fleet must be ready to present the possible responses to the Emperor, along with detailed briefings on enemy capabilities and the possible outcomes of any given course of action.

The Admiral-of-the-Fleet is also the Emperor's chief advisor on Naval matters. He must have ready answers to any question, no matter how obscure, about the capabilities of any vessel or state. He must have accurate predictions of enemy intentions available, as well as detailed information about the Imperial Fleet and its leaders. While the Emperor tends to reserve large-scale decisions for himself, the Admiral-of-the-Fleet has the right and the responsibility to deploy the fleet as he sees fit unless overruled by the Emperor. In practice, this means that the Admiral-of-the-Fleet is responsible for the day-to-day running of the entire Imperial Navy, and for ensuring that it is ready for whatever happens.

In the event that the Emperor is not available, the Admiral-of-the-Fleet is expected to make Naval decisions in his absence. To this end his word carries the weight of an Imperial Standing Warrant – his lawful orders to Naval personnel can only be overruled by the Emperor himself.

The Admiral-of-the-Fleet is usually assisted by a staff of senior officers including one or more Grand Admirals. These 'spares' can be sent off to deal with a crisis or kept at home where their advice and many years of experience can benefit the planning process. Less effective admirals, promoted out of fighting assignments, are generally retained on the staff this way.

## SECTOR ADMIRALS

Each Sector Admiral commands a Named Fleet, which is to say that he or she is in overall command of the fleets of a Sector. His (or her) station is normally at a naval depot or the sector capital, though when a combined fleet is formed from elements of several numbered fleets, the Sector Admiral will sometimes command it in person.

The Sector Admiral is often a high noble in his own right, and is much more than a "fighting admiral". His staff are responsible for contingency planning and the provision of suitable logistics for any necessary operations. He is also both an advisor to and in close liaison with the Archduke of the Domain and/or the Sector Dukes, and submits regular reports and recommendations to the Admiral-of-the-Fleet at Capital/Core.

The Sector Admiral is the lowest-ranked of the "political admirals". Less senior officers can concern themselves with military realities, but at the Sector level there are far wider concerns than combat capability or squadron manning levels. 'Sector Admiral' is a job title as well as a formal naval rank. Sometimes a Fleet Admiral holds

the job of Sector Admiral for lack of anyone more senior; in this case he is referred to as the Acting Sector Admiral.

## SUBSECTOR ADMIRALS

Subsector Admirals command each of the Numbered Fleets and Numbered Colonial Fleets of a sector. They answer to the Sector Admiral but have considerable leeway to carry out their duties as they see fit. Subsector Admirals are fighting admirals. In peacetime they may command from a base or depot, but in a crisis they can usually be found aboard a flagship in the 'flag' formation of the subsector fleet, where they can exercise direct control over the command.

'Subsector Admiral' is a job title which indicates that the officer commands a subsector fleet. The actual rank held by a subsector admiral is Fleet Admiral, and in terms of seniority Fleet Admirals and Subsector Admirals are equal.

## FLEET ADMIRALS

The rank of Fleet Admiral is an actual rank and also a job title. A Fleet Admiral may not actually command a fleet – he may be assigned to a more senior admiral's staff as a 'spare' to replace losses, to undertake a special mission or whatever. However, Fleet Admirals generally have fighting commands. Some have static commands such as a subsector fleet, while others command the specialist fleets formed for a variety of tasks. Thus three Fleet Admirals of ostensibly identical rank may carry out very different duties. One may command a subsector fleet, another a battle fleet formed from the assets of several other forces. The third may not yet have a command but be on alert to take over a critical task.

A number of spare Fleet Admirals are assigned to each sector to replace casualties or to take over scratch forces created for a particular task. These fleet-admirals-in-waiting are assigned to the Sector Admiral's staff as planners and assistants, or undertake liaison and training duties. They can be called at any time, to undertake any task.

## STAFF ADMIRALS

The fighting Admirals of the Imperial Navy (including the Grand Admirals and all Sector Admirals) are drawn from the Line branch of the navy. Normally the only way to Flag rank is via a transfer to the Line and special training. However, it is possible to achieve an equivalent rank without leaving a specialist branch. Such flag officers are outside the normal chain of command and undertake mainly training, administrative and advisory duties. They can and do take over line commands in times of desperate crisis, but they are not trained for this role.

Staff Admirals wear a slightly different uniform from their Line comrades. They are allowed to use the Line title for their rank upon retirement, but in service are known by their appointment title to avoid confusion. The heads of the various branches of the Navy hold rank and status equivalent to a Sector Admiral, but are titled Senior Flag Officer (Branch) e.g. Senior Flag Officer (Engineering). Regional branch heads also exist, with a rank equivalent to a Fleet Admiral. These individuals are titled Flag Officer (Region) (Branch), e.g. Flag Officer Deneb (Gunnery).

## SQUADRON COMMANDERS

Small task forces and squadrons of minor vessels (up to Destroyer size) are commanded by the senior officer of the formation (who may be a mere Lieutenant Commander) with no special rank awarded. Such an officer is referred to as the "Officer Commanding, (Squadron)", e.g. Officer Commanding 39<sup>th</sup> Rhyllanor

Patrol Squadron.

Formal squadrons of major warships are commanded by a Commodore, or by a senior Captain who has not yet received his pennant (Commodores are not “flag” officers but in ancient tradition were allowed to fly a pennant aboard their flagship). The latter case is supposedly temporary, though many squadrons have been commanded by a succession of commodores-in-waiting for years on end.

A commodore has his own small staff, and is never the commanding officer of a vessel. Squadron commanders have enough to worry about without trying to fight a ship and deal with all the crises arising along the way.

When squadrons are broken up, the commodore may find himself commanding a squadron of one vessel. Even in this case, he is not in command of the vessel. He is in charge of the mission, and can make recommendations to the Captain or issue direct mission-related orders. He should not micromanage the running of the vessel or give specific orders to the Captain or crew.

Striking a balance between directing the mission and letting the ship's Captain do his job is a vital part of the squadron commander's training. Many commodores (and admirals) interfere too much in the running of the flagship, and the resulting friction can be highly detrimental to morale and efficiency. A good squadron commander knows exactly how much direction to give his subordinates, and how far to trust them to do their jobs.

## SHIP CAPTAINS

In this context, Captain (or to use the more archaic term, Master and Commander) is an appointment rather than a specific rank. The “Captain” of a vessel may actually hold any commissioned rank. Normally, the rank of the commanding officer is appropriate to the importance of the vessel. Thus capital ships are usually commanded by full Captains, cruisers, tankers and monitors by Commanders and escorts and destroyers by Lieutenant-Commanders. Non-jump vessels and small escorts are often commanded by experienced Lieutenants. Lower ranks do not normally receive a command. Except in dire emergency, any officer offered a command will have first been sent to command school and transferred to the Line branch.

The ship's Captain is its master, no matter who else is aboard. Even a mere lieutenant, the Acting Master and Commander of a vessel, is in theory the sole master of that ship. In practice, it is rather hard to ignore the influence of a commodore, admiral or senior noble and a working balance must be established. The commanding officer of an admiral's ship is termed the flag-Captain. This is an honorific with no rank associated with it, but many Captains undergo special flag-Captain training, the better to work with any flag officer who may be aboard.

Whether the commanding officer is a senior Captain or a Sublieutenant thrust into the job by a crisis, he or she is the ultimate authority aboard the ship (subject to certain Imperial regulations) and is personally responsible for the ship and her crew in all matters. Whoever else is aboard, however lowly or inexperienced the officer, the buck is firmly nailed to the Captain's desk.

## FLEET STRUCTURE

The Imperial Navy is huge. The Emperor has (indirect) command of thousands of fighting ships, and many times more auxiliaries, support vessels and scouts. Command of such a vast and

dispersed entity is not a possibility for any single individual. For this reason, the Imperial Fleet is not a single entity. It is divided up into a complex but flexible command structure with responsibility devolved at various levels.

In the Imperial Navy, the term “Fleet” has three specific but very different meanings. The term can refer to a “Numbered Fleet”, which is a grouping of several squadrons, to a “Named Fleet”, which is an assembly of two or more Numbered Fleets. It can also refer to a force created for a specific task, e.g. a Battle Fleet sent across the border to attack an enemy. Other, less formal, meanings of the term can apply to the entire Imperial Navy (the Fleet, or The Grand Fleet), or to any naval force larger than a single task force.

To understand the structure of the Imperial Navy, it is necessary to appreciate the feudal nature of the Imperium itself. The Grand Fleet must cover a vast area, and communication suffers from immense lags. Central control is simply not possible. For this reason, discretionary control is exercised at the Subsector, Sector and Domain levels by trusted subordinates. Reserves can be called from the core, but the forces of each sector and domain must be able to handle most troubles by themselves.

## THE REGULAR NAVY

Most of the naval assets of the Imperium belong to the Imperial Navy proper; the ‘regular navy’. These forces answer through their officers and admirals to the Emperor himself and are available full-time to perform their duties. When not on combat operations, deployed to a region on one of many possible missions or in port conducting essential maintenance, the ships of the Imperial Navy train and exercise, maintaining and upgrading the skills that will hopefully never be put into action.

The regular fleet is maintained in a high state of readiness, though obviously its competence varies from region to region. Some areas have not seen anything worse than an orbital traffic violation in decades. Others have near-constant border incursions to deal with. For this reason, ships and even whole squadrons are regularly rotated from ‘safe’ core sectors to the more troubled borders in order to keep experience current.

Despite the best efforts of the Grand Fleet's ‘adversary’ squadrons and training officers, complacency can be a problem. Less serious, though worthy of note, is the considerable regional variation that exists within the Grand Fleet.

### The Imperial Core Fleet

The Imperial Core Fleet follows the general Imperial Navy model in most ways. As the fleet of the Emperor's own Domain, this fleet has extra responsibilities.

The Core Fleet provides personnel for ceremonial detachments and the Grand Admiral's Escort. It also provides the Bodyguard Squadrons, which form the close escort and heavy support for the Emperor's ship and those of his immediate household. Bodyguard vessels are liable to sudden visits from dignitaries from the Imperium and foreign states. Ships and personnel are thus maintained in a parade-ground state of shine and polish at any time they are not actually under fire. Bodyguard duty is extremely prestigious, and positions are hotly competed for.

The Core Fleet is far from the borders, and gains little combat experience. For this reason, vessels are temporarily assigned to other fleets in a never-ending rotation. Fully 20% of the nominal strength of the Bodyguard Squadrons will actually be serving with other fleets at any given time.



### **Ftahalr Enforcement Fleet**

The Imperial fleets along the Aslan border are augmented by a special force created solely to enforce the Peace of Ftahalr. This fleet, which consists mainly of patrol ships and light cruisers, is manned by personnel who have received special training in diplomacy, and dealing with Aslan in particular. All ships carry a team of negotiators and diplomatic advisors.

The Fleet has a difficult job on its hands. It must deal with Aslan *Ihatei* forever attempting to grab new territory, human commercial interests expanding where they should not plus small groups on both sides seeking revenge for casualties in the last skirmish, trying to redress a perceived slight, or just out looking for a fight.

The region is a hotbed of incidents, each with the potential for escalation into a serious conflict, and matters are not helped by the pride and sensitivity of the Aslan. The Enforcement Fleet's duties take its ships – often without backup of any form – into dangerous situations on a daily basis. Captains (and their diplomatic advisors) must resolve each crisis as it happens, then rush to the next. Sometimes this means firing on Imperial-registered vessels, at other times attempting to face down a flotilla of *Ihatei* intent on claiming everything in sight no matter who is already in residence. The Enforcement Fleet's personnel and vessels are veterans of many close scrapes, diplomatic incidents and live-fire incidents.

Thus far, the Enforcement Fleet has done an admirable job of maintaining the peace and has won the respect of many Aslan clans, some of whom even supply advisors, for its even-handed and honorable treatment of both sides.

### **Vegan District Fleets**

At the end of the Solomani Rim War in 1002, the Imperium had not managed to absorb or pacify the Solomani Confederation, which remained a real military and economic threat. In addition, those areas of the Confederation which had been absorbed into the Imperium included many which remained quietly defiant and could now exert influence from within the Imperium. To counterbalance this situation, the Imperium created the Vegan Autonomous District. While the Imperial Navy still defends this region, there is no Colonial Fleet. Instead the worlds of the Vegan Autonomous District are protected by a *tuhuir* whose name translates as "Guardians of our People". To a human, this *tuhuir* is the Vegan Navy.

Vegans are calm creatures whose aims are aesthetic rather than acquisitive. They are basically pacifistic. However, many years of mistreatment by the Solomani has taught the Vegans that they must protect themselves. The Vegan Navy uses the huge Vegan economy to produce a very alien fleet to that of the Imperial Navy. A large percentage of vessels are dreadnaughts and battleships, which tend to be very heavily armored with a variety of defensive systems to protect the Vegan crews. Vegan vessel designers favor oversized spinal weapons in the hope of creating a deterrent effect.

The Vegans also produce a lot of escort craft which constantly patrol the trade routes of the District. Vegan escorts tend to be larger than their human equivalents, as they are heavily armored. Armament is a usually a mix of missile and sandcaster turrets. All Vegan escorts carry nuclear-tipped missiles, which are used as a matter of course. Care is taken to ensure that every Solomani raider understands this.

The Imperial Navy considers Vegan forces as Colonial Navy vessels and plans to use them in any future conflict with the Solomani.

### **The Vilani Sectors**

The Imperial Vilani fleets more or less follow the Imperial model (in fact this model was developed by the Vilani during the First Imperium period). The main differences between the Vilani forces and the standard Imperial model are the command structure, traditions and engineering considerations.

Command aboard Vilani ships is more akin to a corporate board of directors than a traditional military command structure, so Vilani vessels have large officer meeting rooms. In these rooms, the Captain holds numerous meetings with his senior officers and department heads, with everyone receiving a fair hearing before decisions are made. Day-to-day running of the ship is a matter for the Ship's Council led by the First Officer, and the meetings mean that everyone knows what is expected of them. Contingencies are discussed and planned for so that anyone reacting in an emergency knows what others will be doing, and can co-operate more effectively with them. However, This does not mean that the Captain does not have full command of the vessel. The ultimate authority is his, allowing decisive orders to be given in a crisis. The role of the Ship's Council is to ensure that most officers already know what those orders will be, and be ready to implement them.

It is traditional aboard Vilani ships to "Jump-dim". The practice comes down from the First Imperium, a time when ships needed every scrap of power for the Jump engines. This has not been necessary for millennia, but the practice remains.

The design of Engineering sections aboard Vilani vessels are affected by the Vilani view of technology. Since the Vilani view an interest in how things work as the sign of a pervert, Vilani starship engineers learn how to operate their systems, and even to tell when they are broken, but not how they work. Engines are viewed as a single item to be replaced in the event of a malfunction. Vilani ships have many multiply-redundant systems, plus several diagnostic computers to assist the technician in finding the fault in a system. The 'engineers' are merely there to feed requested data to the diagnostic system and undertake the instructions of the diagnostic system in order to complete the repair. If the repairs detailed by the diagnostic system do not fix the problem, then the entire 'broken' system is pulled and replaced.

## **THE COLONIAL FLEET**

The Pacification Campaigns and the policy of Emperor Artemus of creating a vast number of fleets under the command of the Archdukes had several side effects. One was a sharp increase in the number of starships constructed. In time, this led to a large number of obsolescent vessels. Originally, these older, less capable ships were expended as targets, scrapped, or retained at depots as training vessels.

The spectacular rampages of the Star Legion through Imperial Space during the Julian War prompted a shift in this policy. First-line fleet units had to be withdrawn from the front to defend the interior of Imperial space, weakening the main combat forces to the point that the invasion of the Protectorate became bogged down and the recapture of the Antares Cluster failed entirely.

After the 191 peace treaty with the Protectorate, Emperor Martin I was determined that the events of the war would not be repeated. To this end he proposed a reform of the Navy to create suitable forces to defend the interior. However, the Navy fiercely resisted these moves until the Emperor's death in 195.

Martin II, who succeeded his father, was determined to exploit the new territories available in the Deneb and Spinward Marches

sectors. This required a campaign to clear Corridor sector and keep it that way, but the security of existing territories had to be guaranteed first. To this end Martin II created a new fleet structure, leaving the Imperial Navy untouched. This new fleet was created for local defense and to be a reserve for the main Imperial fleets. It became known as the Colonial Navy, and comprised 320 numbered colonial fleets; one associated with each numbered fleet of the Imperial Navy. The vessels to arm these new fleets were drawn from the obsolescent ships lying at their moorings at naval depots across the Imperium. This practice has continued to this day, though some of the details have changed over the years.

Technically, the vessels of the Colonial Fleet are owned and operated by individual world governments (though very few worlds of the Imperium are colonies by any rational definition) and by corporate concerns, or held in readiness by the Fleet Reserve. Any world is entitled to own and operate a star-faring navy, though the operations of this navy are subject to regulations laid down by the Imperial Colonial Office once beyond the immediate vicinity of the parent world.

The Colonial Office operates a “shadow admiralty” which keeps track of the Jump-capable warships belonging to the member worlds of the Imperium. Some of those ships are placed at the disposal of the Imperial Navy for patrol, anti-piracy and interdiction operations (this is a source of operational experience and national pride for the donating world), but most pursue the agendas of their owners. This usually means reinforcing the system squadron (jump capability is useful for patrolling the outer reaches of the system) or engaging in maneuvers to maintain readiness.

In addition to vessels maintained by member worlds, the Colonial Fleet gets its ships from two other sources. Squadrons of obsolescent battleships, which are beyond the means (and the needs) of most worlds, are maintained at naval depots and manned by crews drawn from the Fleet Reserve and Colonial Fleet. These Colonial BatRons are an important part of the Colonial forces. Other ships come from the Corporate sector, provided by major shipping lines and mercenary forces.

In time of war, control of colonial warships passes from the Colonial Office to the Navy. Non-jump-capable warships remain under the control of their home system defense command, of course.

## THE FLEET RESERVE

In order to be able to secure territory against a major threat, the Sector and Subsector fleets need major warships. However, it is very rare for even major worlds to maintain capital units and heavy cruisers as part of their planetary forces – the cost is simply too high. Thus, most of the battleship and cruiser strength of the Colonial Navy is held at naval bases and depots by the Fleet Reserve. Skeleton crews maintain these ‘mothballed’ ships which can be crewed by reservists when needed and sent to join the Sector and Subsector fleets.

Occasionally major ships are brought out of Fleet Reserve status as training platforms for reservists, or to be converted for another role. Activation of this sort is rotated through the available ships to prevent serious deterioration, but the state of many Fleet Reserve warships is not good. Eventually these old warriors quietly die at their moorings and are broken up or salvaged for parts to keep their squadron mates alive for a few more decades.

## NAMED (SECTOR) FLEETS

The Imperial Navy has 28 Named Fleets. These are titled for the sector to which they are assigned. The composition of these fleets

varies considerably from region to region. As a rule, any given Sector Fleet has three roles:

- To defend the sector for which it is named
- To supply vessels to special fleets operating outside the sector
- To reinforce its subordinate Subsector Fleets as necessary

The most important task of the Sector Fleet is to repel (or better, deter) and assault by a major enemy force. To this end it maintains a fighting force of heavy warships such as battleships, dreadnoughts and battle rider/tender units. These are usually concentrated at the sector Depot, with Battle Squadrons (BatRons) assigned to some but not all of the sector’s naval bases. The BatRons are backed up by heavy cruiser squadrons and support vessels to create an effective and powerful fighting force.

In the event of a major war, other Sector Fleets away from the immediate battle area will be ordered to provide a number of ships and squadrons to serve in one or more Special Fleets or to reinforce the Sector Fleets of the embattled region. Most commonly this means that up to half the sector’s heavy cruiser and capital ship strength may be drawn off to create one or more Battle Fleets to take the war to the enemy. The usual model for such a conflict is that the Sector Fleets defend their territory and resist the enemy advance, perhaps counterattacking if there is an opportunity, and then battle fleets are moved up from elsewhere to take the offensive.

Sector Fleets are thus defensive in nature. It is rare for one to leave its named Sector. While Sector Fleets may send assets outside the sector boundaries to attack an enemy where this represents good strategy, and may give up part of their strength to an offensive fleet, it would be foolish to strip the border region of heavy defenses in order to attack an enemy. Sometimes, as the initial weight of an enemy assault is absorbed and the initiative shifts, it is possible to undertake offensive action with the Sector Fleet, especially if it has been reinforced by forces from the Colonial Fleet and the Fleet Reserve. This tends to happen in relatively minor conflicts however. In a major war the stakes are too high to risk leaving the border sectors weakly defended so offensive forces are drawn exclusively from sectors away from the battle area. This can make the Imperium slow to react, but reduces the chances of an enemy masterstroke whilst simultaneously ensuring that the Imperial response is irresistible.

Sector Command also provides ships to Subsector Fleets. What ships are assigned where, and in what numbers, is decided at the Sector level. In the event that a subsector fleet cannot deal with a problem, the Sector fleet can do one of two things. It can transfer more ships to the subsector fleet on a permanent or duration-of-crisis basis, or it can assign vessels to the troubled area which remain under the command of the Sector Admiral. The former solution dilutes the Sector Fleet’s strength and makes it difficult to recall vessels to Sector-level command; the latter is usually less efficient as the Sector Admiral tends to be more removed from the scene of any trouble.

It must be remembered that Sector Fleet assets are (obviously) based and operate within the subsectors of the sector, so some mission overlap is common. However, it remains a fact that the Sector Fleet is tasked with dealing with major threats to the sector; the subsector fleet deals mainly with the security of its subsector.

## NUMBERED (SUBSECTOR) FLEETS

Most Imperial citizens think of a Numbered Fleet when the unqualified term “Fleet” is used. The Imperium has almost 320 active Numbered Fleets, which is approximately one per subsector. This expensive doctrine was first instituted by Emperor Artermus to back his politically sensitive Pacification Campaigns. The one-fleet-per-subsector system allowed the Archdukes of the new Domains to have forces ready at hand to protect the worlds within their region, to ensure free trade and to stamp on unrest.

In more recent times, the balance has shifted somewhat. Many core subsectors have little more than a token ‘internal security’ presence, while troubled regions occasionally have more than one Numbered Fleet, or more commonly a fleet which is overstrength.

Subsector Fleets are tasked with maintaining the security and stability of their subsector. As such, their forces are mainly light patrol ships and destroyers, with the fleet flagship usually being a heavy or light cruiser. The presence of a handful of heavier ships allows the Subsector Admiral to deal with most problems without distracting the Sector Fleet from its assigned role of defending against a major threat.

In wartime, the assets of the Subsector Fleet are mainly responsible for protecting commerce and patrolling the systems of the subsector. The Subsector Fleet is expected to respond to relatively minor threats but cannot deal with a major assault. What it can do is provide timely information to Sector Command about where enemy raiders are – and are *not* – and prevent the enemy from smashing up the subsector’s economy ‘on the cheap’.

In such times of crisis the Subsector Fleet is reinforced by ships from a variety of sources, most of which come under the banner of the Colonial Fleet. Lighter assets are augmented with ships from the Scout Service, mercenary units, corporate forces and the ‘Colonial’ navies of member worlds. The latter also tend to provide a handful of cruisers and even the odd capital ship but it is a rare planetary navy that deploys anything bigger than a light cruiser.

The Subsector Fleet’s (rather insignificant) cruiser and capital ship complement is augmented by reactivated vessels from the Fleet Reserve. These are older ships retained at depots and bases to be crewed by reactivated reservists and personnel recalled from other duties (such as depots, recruiting duty and so forth. The best of the Fleet Reserve battleships and cruisers go to the Sector Fleet. Second and third-line vessels are assigned to the newly-constituted BatRons of the Subsector Fleets. Many ships fail the reactivation process and are eventually broken up or gutted as monitors to defend the depot.

The Subsector Fleets answer (through their Subsector Admirals) to the admiral commanding the Sector Fleet. Transfers of ships up and down the chain of command are not uncommon. For example, a Sector Admiral may decide that a quiet subsector does not need so many patrol ships and transfer some to his own command, perhaps then transferring some of them back down to Subsector command in a different, more troubled subsector.

A Subsector Admiral who has serious problems can ask for help from the Sector Admiral. If ships are available, they may be transferred to Subsector control (in which case the Subsector Fleet gets to ‘keep’ them until they are recalled, if ever) or they may be sent into the troubled region but retained under Sector command. In the latter case, the Subsector Admiral cannot give orders to these assets directly, though they will have been ordered to cooperate with Subsector units. Which option is used depends greatly on the

situation. A Sector Admiral can recall or retask his ‘own’ assets at any time but those transferred to Subsector command must be reclaimed by an order to the Subsector Admiral, who then transfers them, or retasked by an order sent via Subsector command. Both options have advantages and drawbacks; it is up to the Sector Admiral to decide which offers the greatest short and long-term benefits.

One Subsector Fleet deserves a special mention. The 1<sup>st</sup> Fleet is based at Capital/Core and is the oldest naval force in the Imperium. It is known to many citizens as the First Sylean Fleet, a title dating back to the years before the founding of the Imperium. The Emperor is honorary Fleet Admiral of this force.

## SYSTEM SQUADRONS

Each world of the Imperium is responsible for its own defense, and makes whatever provision it can afford. However, some systems (such as Navy Depots) are owned by the Imperium and therefore defending them is the responsibility of the Imperial Navy. In addition, some systems are critical to the security or economic well-being of a region yet cannot make sufficient provision for local defense due to a weak economy or low tech level. In this case the Imperium either assigns a system defense force of naval assets (normally crewing non-Jump capable ships just like any other system defense force) or provides support in the form of tax breaks or actual funding.

Whatever the source of such forces, they are known as ‘System Squadrons’ to the Imperial Navy, though some are more properly flotillas or even full fleets. The system squadron of an Imperial member world has jurisdiction to enforce Imperial Law throughout the system just like any Navy unit would, and can also enforce its own world’s laws close to the world itself. This is normally defined as within the 100-diameter shared jurisdiction zone, but in many cases a system squadron is granted the courtesy of being allowed to conduct customs checks and so forth at greater distances from the homeworld.

System squadrons are not part of the Sector or Subsector command chain unless they are regular Imperial Navy units – and not always then. For example, the Subsector Admiral is not automatically permitted to transfer fighters from the security force assigned to a naval base within his jurisdiction to replace losses among his carrier force. He can request such a transfer and *may* receive it if he can persuade the base commander of the necessity. The Sector Admiral could also order such a transfer since he has jurisdiction over all naval forces in the sector. Yet even he could not order the Planetary Navy of Ohasset to hand over its fighter squadrons to serve aboard his carriers.

## SPECIAL FLEETS

At various times, political or military requirements have prompted the creation of special fleets. This is common in time of war, but also for coronations and other major events. Some special fleets draw ships from many sources, to which they are returned once the need has passed, while others are Numbered Fleets upgraded by the addition of extra squadrons. In this case, the Numbered (Sector) Fleet leaves behind a local defense contingent composed mainly of reactivated reserve and colonial vessels when it goes off to carry out the mission it was augmented for.

Most commonly, a special fleet is created to perform a specific function and is named for their role. For example, during the Ilelish Revolt of 418 to 435, Emperor Martin II massed the loyal Imperial Fleets into the “Enforcement Fleet”, which blockaded the rebel worlds and in 435 blasted the equatorial region of Ilelish.



Certain types of special fleet occur repeatedly:

**Assault Fleets** are created to carry surface forces to a world and land them there in the face of heavy opposition. They are well equipped for orbital bombardment and fire support.

**Battle Fleets** are the massed “hammer” of the Imperial Navy, created to take on and destroy any and all enemy vessels or forces.

**Interdiction Fleets** are created to stop all traffic accessing and egressing a world. They can carry out bombardment if necessary.

**Penetration Fleets** are intended to raid deep into enemy territory and attack specific objectives such as bases and industrial worlds.

**Reinforcement Fleets** are temporary fleets of mixed squadron types, created from squadrons of “safe” sectors in wartime. Upon reaching the war zone, they are usually broken up into squadrons and integrated with local forces of the same type.

**Strike Fleets** are specialized Battle Fleets optimized for maneuverability and firepower. They can range ahead of the main battle fleet, clearing light opposition and attacking targets of opportunity, or make fast strikes against a specific objective.

**Glory Fleets** are simply fleets which have been given a descriptor as an accolade from the Emperor. An example is the 213<sup>th</sup> Victory Fleet. The title was awarded in 1118 when the Fleet Admiral was promoted to Sector Admiral, and was a reward for the services to the Imperium rendered by fleet and admiral in defense of the Lunion subsector during the last Frontier War.

## SQUADRONS, FLOTILLAS AND TASK FORCES

All the fleets of the Imperium are organized into squadrons, and it is the squadron, not the fleet, that is the workhorse formation of the Imperial Navy. A squadron consists of two or more ships of the same type, plus any required support or escort vessels. The main vessel type of the squadron dictates its designation, and its role within the Grand Fleet. Colonial and other fleets use a similar squadron system to the Imperial Navy, as do most foreign powers. The system is tried and trusted.

Squadrons are generally of a similar size and uniform composition. However, sometimes it is necessary to field ad-hoc formations which do not fit the standard fleet/squadron model. For a group of smaller ships (which may or may not be of the same type) the term Flotilla is used. A flotilla may be commanded by the senior captain present, or may have a commodore assigned if it is large enough. Sometimes the mass of escorts or destroyers assigned to a fleet is grouped into a Destroyer Flotilla or Escort Flotilla, which may have several squadrons or part-squadrons within it.

Task Forces (or Task Groups) are simply a group of ships working together to get a particular job done. A light carrier and her escorts might be a task force, as might a destroyer and a gaggle of small patrol ships. Another task force might be almost large enough to be considered a fleet – for example a couple of heavy cruisers, a carrier and several assault ships sent to deal with a major uprising. The term is deliberately vague and left that way to allow its use for any group of ships temporarily assigned to work together.

## SQUADRON CLASSIFICATION

Squadrons are classified by their position in the hierarchy of the Imperial Navy. They are divided into several broad types:

**Imperial Squadrons** belong to the numbered fleets and are equipped with the best ships and personnel available. Imperial squadrons are stationed at Naval bases. They carry the title “Imperial”, for example Imperial BatRon 32.

**Colonial Squadrons** are assigned to the Colonial Fleets of each subsector. They are based at worlds that can provide personnel and technology to maintain them. Colonial Squadrons are equipped with third-line but serviceable ships and levels of personnel training are lower than in the Imperial Navy. Colonial squadrons carry the designation “Colonial”. Unlike the Imperial Navy, whose squadrons comprise identical ships, Colonial squadrons often have somewhat different vessels of the same general class. For example, Colonial CruRon 3205 is equipped with Heavy Cruisers, but only two are of the same class.

**System Squadrons** are made up of non-jump-capable warships such as system defense boats and monitors. They are staffed entirely by local personnel, other than a few advisors. System squadrons are not part of any fleet but are owned by a single world and controlled by that world’s Colonial Command or System Defense Command (the term varies from world to world; Colonial Command is the official one even though it is essentially meaningless), which acts in close conjunction with Close Orbit and Airspace Control Command (COACC) to ensure a seamless defense of local space.

System squadrons are far more common than jump-capable colonial squadrons. Vessels are mixed, and can include anything from large custom-built monitors and obsolescent battle riders, to fighters and armed inspection cutters. System Defense boats of 200-1000t are the commonest components of system squadrons.

System squadrons are named for their owning world, such as DefenseRon Regina. Systems with several squadrons use numbers as well as a name.

**Huscarle Squadrons** are the private household forces of Imperial Nobles. Huscarle squadrons tend to be very small but equipped with the best ships that credits can buy. Most comprise nothing more than an armed yacht and two or three escort vessels. Such tiny forces have no real military value and rarely join naval operations unless accompanying a liege who is an admiral or other senior officer in the Imperial Navy.

In time of war or other emergency, the Huscarle squadrons come under the command of the Colonial fleet unless their noble is personally attached to an Imperial Fleet. In this case the Huscarle Squadron becomes a squadron of the named or numbered Imperial Fleet.

**Corporate Squadrons** are owned by the Megacorporations, some of whom are notorious for operating small but well armed and equipped naval forces. Corporate Squadrons are almost always tailored for the escort mission, as the main reason for their existence is to protect the trade ships of the Megacorporation. In time of war Corporate squadrons come under the command of the local Subsector Admirals but are usually retained in their accustomed role of commerce escorts except in utmost extremity, thus freeing colonial vessels for other roles.

**Mercenary Squadrons** rarely exist in peacetime. In time of war, many regional commanders choose to hire all the available mercenaries and form them into ad-hoc squadrons to augment the colonial forces. This has the side-effect of removing many potential corsairs from the equation, though it can occasionally backfire.

## SQUADRON TYPES

While squadrons are classed by their position within the hierarchy of the Imperial Navy, squadrons are designated according to their role. A squadron typically consists of two or more vessels of the same type, plus auxiliary and supporting vessels.

There are many types and classes of ship, but the Imperium only maintains five major squadron types. Any squadron type may be in any fleet, depending upon the mission envisaged for the fleet.

### **BatRon (Battle Squadron)**

Battle squadrons are intended to engage and defeat enemy forces. Primary ship types are dreadnaughts and battleships, normally supported by a number of couriers, escorts and tankers, and possibly one or more cruisers.

### **CruRon (Cruiser Squadron)**

As the most common and versatile squadrons available to the Navy, CruRons have several roles. They are intended to support the BatRons and not to engage enemy capital units directly. Additionally, CruRons support assault forces, form the mainstay of interdiction fleets, and operate independently on a variety of missions.

CruRons are often supported by fighter carriers, tankers, transports and fleet couriers. Every CruRon is assigned a bulk ordnance carrier which resupplies the squadron with missiles and other munitions. It is always kept well back, and assigned its own fighter screen.

### **AssaultRon (Assault Squadron)**

AssaultRons are fall into two types:

**Transport Squadrons** are equipped for troop transportation and supply. They consist of transports supported by tankers, fleet couriers and a screen of escort vessels.

**Invasion Squadrons** are intended for direct assault on defended worlds. They contain a mix of assault tenders, bombardment cruisers, troop carriers, fleet couriers, tankers and escorts.

Both types of AssaultRon work closely together within the Assault Fleets, which are capable of carrying hundreds of battalions of ground troops into action.

### **TankRon (Tanker Squadron)**

While most squadrons contain one or more tankers, TankRons are specialist units intended to increase the mobility of the Imperial Fleets. A TankRon consists of several tankers, plus a cruiser acting as flagship for a group of escort vessels, transports, couriers and auxiliaries.

### **ScoutRon (Scout Squadron)**

ScoutRons are composed of ships on secondment to the Navy from the Imperial Interstellar Scout Service. ScoutRons are composed of a wide variety of vessels and act mainly as a holding unit for scout assets, which are detached and assigned wherever they are needed. For example a scout vessel may leave BatRon 12 for resupply and repairs, during which time it is assigned to ScoutRon 48. It may then carry dispatches to CruRon 9, becoming part of that squadron until it is sent on a new mission.

## SQUADRON NUMBERS

Squadrons are assigned an identification number within their Domain. Thus in the entire Imperium there are 7 118<sup>th</sup> CruRons

(there being 7 Domains). The number may precede the squadron name (e.g. 219<sup>th</sup> CruRon) or may follow it (e.g. CruRon 219). Both systems are interchangeable.

## IMPERIAL NAVY DEPOTS

The Grand Fleet of the Imperium requires an effective bureaucratic and logistical network to support it. Across the Imperium the many Naval bases and Colonial bases provide the fleets with many of their day-to-day logistical needs. However, the focus of the Imperial Navy's support network is the chain of 19 Naval Depots throughout Imperial Space. Each of these depots is so large that they occupy an entire star system.

The entire population of these megabase systems are either naval personnel, their dependents, or workers in companies supporting and serving the depot. A typical depot has effectively unlimited capacity for starships and offers five distinct services, which are:

- Maintenance and Repair
- Wargames
- Personnel Services
- Training
- Research and Development

## DEPOT SERVICES

Naval depots undertake a wide range of duties in addition to the obvious one of refueling and rearming warships.

### **Repairs and Maintenance**

A major task of the depot is to keep the ships of the fleet at top operational capability. Fleet vessels are constantly rotated through the yards for annual overhauls, inspections and upgrades. Vessels requiring repair after hostile encounters are also brought in. In wartime, the yards may resemble a MASH unit, with vessels in various states of damage being patched up and sent back out, sent to the yards for major work, or towed to a holding station and left there as too crippled to be worth the time to save.

Depots keep a huge stock of spares on-hand, and have capabilities to fabricate or even invent required components if the need be.

### **Wargames and Strategic Studies**

The Naval depots have exclusive use of an entire star system and its planetary bodies. This space is used for wargames and exercises, conducted well away from prying eyes. Each depot maintains a training fleet. Many of the ships of this fleet are specially-equipped training vessels, while others are entirely standard vessels identical to those in line service.

While many exercises are competitive, conducted between squadrons of Imperial Navy vessels assigned to one side or the other for the purposes of the exercise, the Adversary Squadron forms an important part of the training facilities. As well as crewing specialist "hare" and "hunter" vessels, the personnel of the Adversary Squadron are trained in the procedures and tactics of potential foes. These OPFORS (Opposing Forces) units use converted or custom-built vessels to closely mimic the capabilities of foreign warships likely to be encountered in the sector. For example, close to the K'Kree border the Adversary Squadron operates a mix of K'Kree ships plus a mix of corsairs, commerce raiders and unusual designs intended to keep the opposition guessing.

The Adversary Squadrons provide opposition for almost every exercise. As a result they are among the most experienced and skilled crews in the entire Imperial Navy. Adversary personnel often

rotate out for a time as advisors to Colonial and Imperial naval commands.

Adversary forces have another function, which is downplayed by the authorities. The advantages of having a squadron able to duplicate the ships and tactics of a hostile state are obvious. In 1110, the Lishun Adversary Squadron launched a highly successful strike mission against the headquarters of the Akhorgh Separate's navy and prevented a major raid into Imperial space from taking place. Other missions of this nature, including some intended to sow discord between hostile states, are rumored but not confirmed.

Finally, the Adversary Squadron is available to defend the depot if the need arises.

#### Personnel Services

By their very nature, the Fleets of the Imperium require large numbers of naval personnel with a wide range of skills. A Depot handles the personnel requirements of the fleets and the depot itself, providing replacements for ship crewmembers as well as all the technical services, dependent housing, recreation, sanitation, administration, courts, brigs and other support services required to keep the fleet in operation.

Depots serve as holding pools for unassigned personnel. Officers and ratings being reassigned usually report to the regional depot to receive their orders.

#### Training

The depots provide initial, advanced and development training to naval personnel, and maintain extensive training facilities for the purpose. Many R&D researchers, strategic analysts and unassigned officers teach at the depot's training facility in addition to their normal duties.

#### Research & Development

The R&D facilities of a naval depot are impressive, to say the least. New ship and system prototypes are constantly being built and tested, and research is also carried out into determining the capabilities of foreign equipment. All research is tied directly to the needs of the Navy, so not only will development teams create a new passive sensor array but they will look into its tactical employment and integration with existing systems.

While the Navy uses the resources and skills of many scientists on many worlds, it is only the development teams at the depots who ever get to see the whole project blueprint. The others are assigned carefully compartmentalized projects which are put together at the depot. While costly and a little inefficient, this procedure means that the most sensitive projects are always assembled in the security of the depot, well away from foreign and corporate spies. All researchers are given a position within the Technical Services branch of the Navy and are subject to Navy Law. Leaking military secrets is not a sackable offence but High Treason, and under Navy Law this is punishable by death. Breaches of security are rather rare.

#### The "Mothball Fleet"

Since the reign of Artemsus, depots have been used for the storage and disposal of surplus or obsolete vessels. Martin II's creation of the Colonial Fleet changed this role somewhat, in that depots became a clearing-house for ships destined for the Colonial Navy.

As vessels are retired from the Imperial Navy or are judged too damaged for repair and reintegration with the fleet, they are brought to the depot for disposal. The term implies that the ships are scrapped, but this is rarely the case. Disposal takes several

forms.

The majority of vessels undergo a minor refit (and sometimes removal of sensitive weapons and systems) before being made available to the Colonial Fleets. Some are converted to other roles (such as experimental testbeds or non-jump-capable monitors) or refitted for sale to the Scout Service or friendly foreign powers.

Some ships would require too much work to be worth transferring, or may be surplus to the requirements of the Colonial Navy. These vessels are assigned to the Mothball Fleet. They are given a preservation treatment and taken out to holding berths. In theory, mothballed vessels can be returned to service in 14-21 days and provide a "war reserve" of warships. Wars have been won by such measures, though reactivation of mothballed ships can present a few surprises and of course the ships were not in such great shape to start with.

Those vessels too damaged or decrepit for mothballing are passed on to the Cannibalization Squadrons, where they are slowly stripped of useful parts to provide spares for vessels still in service. Finally, the stripped hulls are expended in weapons tests or as targets in live-fire exercises.

The Mothball Fleet maintains a Refit Squadron which includes many types of boat to carry the technicians about their various tasks.

#### Security Fleet

Every depot has a security fleet, whose mission is to protect the depot from all possible dangers. While all depots are located well back from the Imperial borders, they are far too important to be left undefended.

The security fleet is equipped to handle any threat, from covert infiltration by spy ships to a massive hostile assault by dreadnaughts and cruisers. Vessels include early warning ships, system defense boats, static defense stations, and squadrons of battleship-sized monitors. While most laymen associate patrol and police work with the term "security fleet", the fact is that the security force is intended to make an active defense of the depot, under the age-old Naval axiom, "Attack Effectively First".

Jump-capable warships stationed at the depot are also available to back up the security fleet.

## NAVAL BASES

Naval Bases are much smaller than the vast depots, but duplicate many of their functions on a smaller scale, such as routine maintenance and personnel transfer. Bases usually have extensive training facilities. They are often co-located with a major Starport and form part of the defenses of an important world. Sometimes the Naval base is part of the Starport, sometimes it is located some distance away, even in a different part of the star system.

Bases have heavy static defenses and maintain powerful forces of monitors and SDBs. However, the scale is nothing like that of a depot. Each naval base is home to part of a Numbered Fleet, with some subsectors having several bases of varying magnitude. Generally the battle squadrons are concentrated at a single main base, while cruiser and escort squadrons can be found at all the bases in a subsector.

Some naval bases are specialist installations with a single function. Most are general-purpose installations capable of supporting a fleet in combat operations. To this end, bases usually have large stockpiles of missiles and other munitions ready at hand.



## **CHAPTER 4: PERSONNEL**

The Imperial Navy is made up of ships and hardware and bases – and people. Its personnel are probably its most critical asset.

### **THE IMPERIAL NOBILITY AND THE NAVY**

The Navy is a route into the nobility for commoners, and the career of choice for the nobility. Many noble families put their children through Naval Academy and a single term in the Navy as an essential part of their education. For some, a Naval career is seen as a duty, for others it is a pleasure and a reward. For yet others a period of service is a prerequisite for a career in diplomacy or administration. And for some, the Navy is nothing more than a day job taken on while waiting for some aged relative to die and bequeath a title and stipend.

#### **RECRUITING AND TRAINING**

The Imperial Navy has no problem attracting young people from good families to serve aboard its ships. However, many young nobles are arrogantly convinced that fast promotion to command or prestigious staff duty is their right. Such people are in for a rude awakening once they have signed up.

Nobles enter the service with certain advantages. Many have commissions received through naval academy, or relatives already serving in the fleet. This is an accepted situation. However, the noble recruit gets no special treatment. Indeed, nobles are expected to lead the way for their peers. They can expect to be pushed hard and if the rewards of success are greater, they get no more slack than a commoner in the same position.

Some nobles do manage to use their influence to make the training period easier or to improve their grades, but the Navy is wise to such corruption, and while training officers are often of lower social rank than the men and women they instruct, the commanders of training institutions tend to be of high noble rank, and well able to resist the influence of a noble family. Matters tend not to be pushed too far, since the Navy has a special charge – Improper Use of Noble Influence – to bring against those who try to use their family name instead of their talents. Such charges are investigated under the Admiral-of-the-Fleet's Warrant, and are grounds for instant dismissal (and the associated disgrace) from the navy. A certain amount of social and tacit influence is inevitable and considered acceptable so long as the noble recruit meets the standards required of his post.

#### **BRANCH SELECTION AND PROMOTION**

Noble recruits tend to select the Flight or Line branches and, given their educational advantages, most gain entry. Some do select or are assigned to specialist branches, but this is the exception rather than the rule.

Promotion is faster for nobles. The Navy is biased towards people "of name" in command positions, and influence does play its part – but only up to a point. The Navy (and the Imperium in general) believes that members of Noble families have already proved their loyalty and have competence "in their blood". Both of these factors refer more to the traditions upheld by the Imperial nobility and the special upbringing its scions receive than to any abstract principle.

Generations of nobles have willingly shed their blood in defense of the Imperium and its ideals. Having people brought up with that sort of tradition in command positions is highly desirable to the Navy, so Noble recruits who perform well can expect to be promoted quickly. Those who do not come up to scratch are not cut any slack. Indeed, they are seen as "letting the side down". Being a failure as a naval officer is a great social stigma. This is another reason to want nobles in command positions.

#### **SPECIAL DUTIES**

All nobles in Imperial service have a special duty above and beyond those expected of ordinary officers and personnel. Nobles are expected to lead the way, to solve problems and smooth over disputes among their fellows. They are expected to be a shining example of what the perfect naval officer should be. Class spokesmen, expert sportsmen, team leaders, diplomats and problem-solvers should come first from the ranks of the nobility. There is never any stigma attached to being outshone by a talented commoner, but the noble recruit has a duty to push the limits and give the others something to live up to.

#### **TITLES**

Nobles are permitted – actually required by regulations – to use their noble titles with their rank. Such titles usually take the form of (naval rank) (noble title) (name), (noble rank). Examples include Captain Sir Amanda White or Ensign The Lord Matthew Urkiissi, Baron Micherrey.

Those with very long titles just use a part of them, except for formal introductions. However, naval personnel are addressed only by their naval rank when on duty. Baron Micherrey may be "my lord" at a social occasion or upon a chance meeting in the recreation commons, but on duty he is Ensign Urkiissi, or Sir, depending upon who is addressing him. Among his fellow junior officers he might be Baron Micherrey, Matt, or even Bonehead, depending upon his relationship with his peers and how full of himself he feels.

### **FILLING THE RANKS**

The Imperium does not rule the thousands of worlds within its boundaries, but instead controls the space between. In return for payment of taxes and the provision of sophonts to serve in the Imperial military and bureaucracy, the Imperium undertakes to support free trade, to suppress piracy and raiding, to protect the member worlds from aggression and to maintain a state of peace within the Imperial borders. The main responsibility for these tasks falls upon the Imperial Navy.

Across the Imperium, the navy maintains its readiness with constant recruiting, training and maneuvers. This is a mammoth task, considering that the Grand Fleet comprises some 348 Imperial Fleets, 322 Colonial Fleets plus innumerable Huscarle, allied and auxiliary forces. Finding people capable of fulfilling all the requirements of the Navy is a constantly-ongoing and extremely demanding task. The great majority of Naval personnel (and indeed, naval officers) are non-nobles.

#### **RECRUITING**

The thousands of naval recruits needed each year must come from somewhere. How they get from the streets of their home town to the weapons stations of a dreadnought involves a process of selection and targeted transformation known by the innocuous name of "recruitment and training".

**Imperial Recruitment Office**

The typical potential Naval officer or crewman starts his or her career at the Naval Recruitment Office. Recruitment Offices are very common across the Imperium; they can be found at the Starport of almost any world with a population over 10,000. They are typically small, consisting of an advertising and information area and an interview room. The former is easily accessible to the public and is filled with exciting, colorful leaflets, with promotional video footage constantly running, plus an interactive information center allowing the potential recruit to find out more about the service – or simply to watch a favorite vid clip over and over again. The office is usually manned by a line officer or petty officer and a couple of ratings. Often these personnel are nearing the end of their service hitch and becoming a little old for active duty.

Any would-be recruit is interviewed and his Imperial ID checked to ensure he is not wanted for any Imperial crime. Local misdemeanors are not considered particularly important, but major crimes such as rape or murder are against Imperial laws on the rights of sentient beings, and will debar the recruit from enlisting, whatever other consequences may ensue.

After interview, the recruit is given a set of intelligence and reflex tests while the recruitment officer examines his or her educational history and any weapon or equipment permits he may have. If the recruit scores well enough in the tests and has a reasonable educational background, he is offered a place at the Naval recruitment camp.

**Naval Recruitment Camp**

Imperial Navy recruitment camps are always associated with a naval base. Most sectors have at least 4 such establishments.

The newly signed-up recruit is given an enrolment date and a middle-passage ticket to their assigned naval recruitment camp (NRC). The recruit must get to the camp by his enrolment date or the navy will withdraw the offer of a place. In this case, the recruit has 30 days to pay back the middle passage plus administration costs or become subject to legal action.

Recruits are given a suitable period to reach the camp, and – barring wars and major catastrophes – anyone who actually wants to join the navy has plenty of time to get there. Those who do enter a typical military basic training camp. The recruit is assigned to a training squadron; typically this is a group of 12 individuals.

The first stage is a series of medical and psychological tests. Failure means immediate dismissal from the navy, without appeal. Success allows the recruit to begin a 7-week basic training course which concentrates on physical tasks and instills military discipline. Recruits are carefully observed and their performance recorded. Any recruit who does not meet the standards is dismissed from the navy. Recruits may voluntarily withdraw at any time. “Honorable failures” are assigned passage home; withdrawees must make their own arrangements. In either case, the recruit does not pay for his or her passage to the NRC. They made the effort; they owe the navy nothing.

At the end of the 7 weeks, the successful recruits formally join the navy with the rank of Spacehand Apprentice. They swear an oath of allegiance to the Emperor and the Navy, and are henceforth part of the service.

**Naval Training Center**

From the NRC, the new Spacehand Apprentices are taken by naval transport to the Naval Training Center (NTC) situated at a naval

base or depot, to undertake the next stage of their training. Here, the new personnel undertake basic training in vital skills: vacuum suits, naval procedures and equipment drills. This program is 14 to 16 weeks long, depending upon the recruit's performance.

Once training at the NTC is completed, the recruit joins the “Crew” branch of the navy for the remainder of his first term of service. At the end of this term, he will be informed of his new assignment. Some degree of choice is available as to which branch the spacehand goes to. Some remain in Crew, but most go to whatever branch best suits their aptitudes.

The recruitment of ratings and officers is identical until the end of NTC. At that point of NTC, those candidates with suitable educational background and aptitudes are sent to Officer Candidate School for the next year. If successful at OCS, the candidate gains the rank of Ensign and is given training in leadership, naval tactics and basic diplomacy.

This is the route most naval officers take: straight As in NTC and a term at OCS. It is also possible to take Naval Officer Training at College, though pass rates are low. However, many naval families see a commission in the navy as part of a young noble's education, and send their children to a naval academy. This offers a fast-track entry as an officer for those with the right background.

**Naval Academy**

Throughout the Imperium, the Navy operates Naval Academies for the recruitment and training of officers. These academies are very selective. Candidates are normally recommended by a noble patron who holds either an active or a reserve naval commission. This requirement means that only the upper echelon of Imperial society can routinely gain entry to the naval academy. However, exceptional academic performance, a family history of naval service and other factors may be considered.

The Academies work with local education establishments to offer their candidates a good education, but their main purpose is to create officers. Over the four-year course the candidates learn basic shipboard skills as well as gaining specialized training in the branch of their choice during the final year. This choice is made with guidance from the academy staff. At the end of their training, graduates are assigned the rank of Ensign and join their chosen branch.

Honors graduates in Flight or Medical branch are allowed to stay on at the academy and attend Flight or Medical school, as appropriate. Flight Schools are based at Naval depots and are seen as the most prestigious of all assignments. The officer gains advanced training in starship piloting, astrogation and small craft operations. Flight school also places the officer in line for rapid promotion in the Flight branch.

Medical school is generally non-military and undertaken in conjunction with local medical training facilities. Potential navy doctors are given advanced training in the treatment of combat- and space-related injuries. At the end of four years' training, the new Navy Doctor enters service with the rank of Lieutenant.

**COLONIAL NAVY RECRUITMENT**

The Imperial Colonial Office (ICO) is charged with the responsibility of administering the colonial fleets as a reserve force for the Imperial Navy.

The colonial fleets get their personnel in a variety of ways. Some are reservists with training gained at college or during merchant

service. Some are on secondment from the Imperial Navy, often serving at a higher rank than their own to gain experience. Some personnel transfer to a colonial navy upon retirement from the Imperial Navy. But by far the most are recruited locally by the Colonial Navy. The actual method of recruitment depends upon the world. The following guidelines show the commonest means of recruitment used by various governments.

<b>Government Type</b>	<b>Typical Recruitment Type</b>
0. Anarchy	ICO office can be found at the Starport, though Anarchies rarely have a navy.
1. Corporate	Corporate recruitment system recruits for corporate squadrons
2. Participatory Democracy	Voluntary National Service is encouraged among citizens.
3. Oligarchy	Enforced National Service program enlists personnel for the benefit of the rulers.
4. Representative Democracy	Recruitment offices in all major cities.
5. Technocracy	Skill evaluation allocated citizens into the navy.
6. Colony/Captive	May have recruitment offices in the main cities. Often has no recruitment at all.
7. Multiple Societies	ICO office at Starport. A few worlds operate a combined defense force.
8+9. Bureaucracy	Recruitment offices in major cities and towns.
A+B Dictatorship	Elite recruitment centers open to a social minority. Most personnel conscripted.
C+F Oligarchy	Ruling group selects recruits for ability, or may use conscription.
D+E Theocracy	Religious rulers select officers from church officials. Crew are conscripted.

These are simply the commonest models. Other systems and variants of these are in use throughout the Imperium. Conscription and national service can be selective, total, or subject to government influence. Generally speaking, a voluntary system produces the best results, but only if enough personnel are willing to sign up that the cream can be skimmed off. Mass conscription is the hallmark of navies using relatively unsophisticated vessels in large numbers.

No matter what process is used to obtain recruits, new personnel are processed at the local equivalent of a Naval Training Center. These establishments are usually located at the world's Starport and provide the same type of training as an Imperial NTC, including similar medical and psychological requirements. The standard is generally a little lower than for the Imperial Navy, but in a few cases may actually be higher. In many cases, failing recruits are dropped back into the next class and begin their training over again. This practice is often extended to recruits failing Imperial Navy basic training, many of whom go on to successful careers in the less prestigious colonial navy. Hopeless cases are eventually discharged.

After the 7-week basic training period, the recruits swear allegiance to the Imperium and the world government, and proceed into specialist training for whatever branch they have been assigned, holding the rank of Spacehand Apprentice. 16 weeks later they graduate to full status as naval personnel. Most enter service with the rank of Spacehand, though it is possible for a poor conscript to spend his or her entire career as an unqualified Spacehand Apprentice. States using mass conscription are burdened with many such in their navies.

Officers in the Colonial Navies are recruited in the same manner as other recruits. Some transfer into the colonial navy as reservists after college or a hitch in the Imperial Navy, but most are trained through the normal colonial fleet procedure, holding commissions earned through the colonial Officer Training School. Dictatorships, Theocracies and similar government often limit their officer corps to a select group such as Party Members, Landholders or the Priesthood, with predictably poor consequences for leadership and tactical ability.

Retired Imperial Navy officers often hold high rank in the colonial navy.

## HUSCARLE RECRUITMENT

Huscarles are the private household forces of the Imperial nobility. While many nobles have no forces beyond a couple of bodyguards, some maintain powerful private armies recruited and operated in a feudal manner.

Officers and senior NCOs are recruited, if at all possible, from loyal retainers who have gained experience in Imperial service. Many noble families sponsor members of loyal retainer families through naval academy or a hitch with the Grand Fleet, purely to gain their experience as part of the Huscarle force afterward. Such retainers leave Imperial service after a term or two and join the Huscarles in a position above that in which they served in the Imperial Fleet.

Crews are recruited in the same manner as mercenaries. Noble families may have their own recruitment experts or may hire a consultant to acquire the right personnel. Personnel mustering out of service with the Imperial Navy (or in some cases, the colonial or merchant fleets) are headhunted to create an effective and efficient Huscarle navy.

Prospective crewmembers are vetted for personal and medical suitability. This tends to be even more important to the Huscarles than the Imperial Navy, due to the close "family" nature of the force. No matter what the individual's credentials, unless he comes from a sponsored place in the Imperial Navy, he must complete a 6-month "Apprentice" period in which his performance and attitude are carefully monitored. If the Huscarle-Apprentice is deemed suitable, he is given a "bloodtie" which amounts to a salary hike of up to 50%, making some Huscarle units the best-paid of all naval personnel.

Huscarle navies are normally small and made up of hand-picked officers and ratings. As a result they are extremely well organized and efficient. There are exceptions, however. A force which has grown too large for its recruitment base, or which prizes loyalty too far above competence, can become ineffective in the extreme.

## NAVAL BRANCHES

The personnel of the Navy belong to various Branches, which indicate their specialist areas of responsibility. All personnel are trained in basic skills and can carry out or assist in routine tasks.



Certain emergency procedures, such as small-arms handling, damage control and firefighting, are the responsibility of every crewmember. Specialists exist, but everyone must be at least borderline competent.

However, given the highly complex technical nature of starships, it is impossible to expect that any individual can be competent in all operations. Thus the Imperial Navy is subdivided into several operational specialisms, known as "branches". These follow a logical structure dictated by the nature of the skills required for particular operations, with the result that the branch structure of the Imperial Navy would be recognized by a Solomani or an Aslan, and is used almost without variation by the Colonial, Huscarle and System navies.

## THE LINE

The Line is a nonspecialist branch for officers. It is sometimes referred to as "command branch", since officers of the Line are not members of an operational specialism but instead are in the command chain of their ship, base, depot etc. Officers coming into the Navy from OCS spend a year in the Line as an Ensign, undertaking what amounts to an apprenticeship before joining their specialist branch. During this time, the Ensign is given command of all manner of minor tasks to broaden his or her experience. Most officers then transfer into a specialist branch, but some remain in the Line as "salt horses" on the fast track to command, or as officers in charge of Crew departments such as food preparation or security aboard ship.

Commanding officers of starships and bases belong to the Line, whatever their previous specialism. In the case of a junior officer holding a temporary command, the transfer is honorary and the officer reverts to his or her old department when the command is relinquished. Officers destined for permanent command of a starship or installation transfer to the Line and undertake special command training before commencing their duties. All admirals (other than those serving as heads of branch) belong to the Line.

"The Line" is also a phrase used to differentiate starship and combat officers from their counterparts in Staff positions.

## CREW

Crew branch is the equivalent of the Line for non-commissioned personnel. All enlisted personnel serve for a time in Crew, undertaking general duties and assisting the specialists while their superiors decide what branch they are best suited to.

Many naval personnel remain in Crew branch, which has general and specific duties. Crew branch undertakes many of the "facilitating" tasks required to make a navy run. Thus Crew personnel may specialize as clerks, chefs, or cargo handlers. The Crew also provides a pool of personnel aboard every ship who have a broad range of basic competencies. These personnel can assist their specialist crewmates wherever needed, replace casualties and undertake the vital tasks of shipboard security and damage control.

Crew branch personnel are commanded by junior officers of Line branch. Their uniform bears a simple Starburst emblem.

## FLIGHT

Flight (or Bridge, as colonial navies tend to call it) branch is perhaps the most prestigious of the navy branches. Its officers pilot and navigate starships and are the most likely to gain a command position. Flight personnel are responsible for communications, sensors and small craft operations (including fighter direction) as

well as the more obvious flight operations.

Flight is subdivided into two duty branches. The first is termed "Boat Branch" and provides the pilots for all subordinate and small craft including fighters, shuttles and even g-carriers. The second, Flight Branch proper, provides bridge officers for all vessels. Boat branch personnel wear a yellow starburst surmounted by a wing motif. Flight personnel wear the same emblem, but in gold. Enlisted personnel serve in Flight branch as shuttle pilots, comms and sensors operators and so on. Pilots aboard many small starships are petty officers, but astrogators are always officers. This reflects the critical nature of the post.

## GUNNERY

Gunnery branch are responsible for the navy's direct combat operations, and for the maintenance of combat capability. Personnel are qualified on up to three different weapon systems, though all have a primary system specialism and will refer to themselves as Fusion Gunners, Meson Gunners, etc.

Gunnery crew also undertake advanced small-arms training, beyond that required of all personnel. Aboard small vessels they are usually responsible for providing boarding parties and security detachments, often with assistance from Crew personnel. Gunners thus are trained in zero-g combat, gun combat and similar skills in addition to their main weapons proficiency. In some rare cases, Gunnery personnel have gained entry to Imperial Marine Commando special forces units. Gunners wear a canon emblem in yellow as their branch insignia.

## ENGINEERING

The second most powerful branch in the Imperial Navy is Engineering. This branch provides the officers and ratings who operate and maintain the ship's powerplant, maneuver and jump drives. Engineering personnel are also responsible for maintenance of systems throughout the ship.

The Chief Engineer of a starship is a very important individual, in whose hands the fate of the crew often rests. Only the Captain can overrule the chief engineer (whatever his or her actual rank) on matters of jump or maneuver procedure or safety. Wise Captains would only consider this in the direst emergency.

Within Engineering, there are four sub-branches:

**Jump:** Provides jump engineers and drive hands specializing in the operation and maintenance of Jump engines.

**Maneuver:** Provides engineers and hands who operate and maintain the maneuver engines, deck plates, contragrav lifters and docking thrusters.

**Electronics:** These engineers maintain the many electronic subsystems, from desk lamps to gunnery computers.

**Mechanical:** The mechanics' role is to maintain the hull and other "hard" systems, from unjamming iris valves to repairing the landing struts. They are also the primary damage-control personnel, making crude quick-fixes to enable the ship to survive.

Engineers are found wherever the Navy may be, from a patrol cruiser to a naval depot. Their emblem is a yellow spiral, representing movement into Jumpspace.

## MEDICAL

The Medical Branch exists to look after the health and well-being of personnel. Medical personnel of course include the "ship's surgeon", but also a vast array of porters, nurses, dentists, doctors, surgeons and psychologists.

At depots and bases, large Naval Hospitals can be found, complete with research and training facilities. Aboard ship, the “surgeon” may be a lowly Able Spacehand with basic paramedic training, though larger ships tend to have one or more doctors plus support staff. Large cruisers and dreadnoughts carry a full medical staff, organized like a small hospital.

Any member of medical branch who has qualified as a doctor is referred to by that title, regardless of rank. Surgeons (male or female) are known as “Mister”, but the sense is very different to that in which a junior naval officer may be referred to as “Mister.”

Medical branch personnel wear the ancient Terran emblem of a serpent wrapped around a sword. They are usually considered non-combatants and exempted from sidearm regulations.

## TECHNICAL SERVICES

Technical Services branch is responsible for looking after complex state-of-the-art equipment. Normally associated with computers and their software, Tech Services also maintains sophisticated department-specific systems such as Electronic Warfare systems, medical equipment, avionics and communications gear. Personnel often specialize in the systems of one department and have titles such as Medical Systems Technician or Gunnery Systems Technician. However, they are expected to maintain a broad base of competence and be ready to fix anything that anyone, of any department, has managed to break. Tech services personnel are often included in follow-up damage control teams. After the engineers have dealt with the life threatening crisis, the technical people move in and restore functionality.

Tech services also conducts research and development work into new systems, or attempts to reverse-engineer equipment obtained from other powers. Many Tech Services personnel are highly respected scientists who have never been aboard a warship.

Tech services personnel work with classified systems and tend to be secretive about their knowledge. They are also prone to be a little arrogant and offhand with other branches. Their badge is a yellow torch signifying knowledge and research.

## THE NAVAL REGIMENT

The Naval Regiment has its origins in the Naval landing parties deployed by the Sylean Federation. It has always remained a secondary organization, thoroughly eclipsed by the Imperial Marine Corps.

While the Marines provide most of the Navy's requirements for shipboard troops, the Naval Regiment remains in existence for other purposes.

Training detachments exist at all depots and naval bases, where regiment personnel are trained, and more importantly, members of the Gunnery Branch learn the skills they need to form part of a boarding party.

Regiment personnel also form part of the security forces of the depot or base where they are stationed, freeing Marines for other duties. They are often despised by ship crews for this role, as the “Shore Patrol” is responsible for ending brawls and other unruly behavior ashore, and does so in a brutally effective manner. For this and their related role as security at naval penal installations, they are sometimes referred to as “brig troopers”.

The second purpose of the Naval Regiment is to provide admirals and high-ranking officers with bodyguards and guards of honor.

While such operations are often for show, the Admiralty likes to see its officers protected by troopers dressed in the yellow battledress of the Navy.

A few battalions of the Imperial Army are drawn from the Naval Regiment. These are descended from scratch formations thrown together in desperate circumstances during long-ago wars, and remain in being as a matter of tradition. Most are light infantry, though a Naval Artillery battery exists, as do several Naval Engineer formations. While personnel are drawn from the Navy, these forces are now indistinguishable from other units of the Imperial Army except for their insignia.

The Naval regiment wears a yellow starburst crossed by two naval cutlasses.

## THE STAFF

The Imperial Navy has a large Staff contingent in addition to its ship and base crews. The Staff has many functions, of which two, Naval Intelligence and the Attaché Corps, are considered separate branches.

Officers and enlisted personnel can be transferred to the Staff on a temporary or permanent basis. For enlisted personnel, appointment to the staff usually means a clerical job in a major installation, keeping track of the innumerable “boots, shoots and recruits” that the navy must move around in order to keep functioning. An alternative is a clerical job on an ambassador or admiral's staff. The task is much the same. A few enlisted personnel assigned to the staff become personal stewards, drivers, shuttle pilots or bodyguards to senior officers. The latter are all drawn from gunnery or Naval Regiment personnel, usually on a secondment.

For officers, the Staff can be a dead end or a route to fast promotion, depending upon the assignment. Several common Staff appointments exist:

**Aide:** The Staff provides junior officers to act as assistants to senior officers. A period as a “Flag Lieutenant” to an admiral or commodore is seen as part of the education of a future flag officer. It can also be a good way to make influential friends and further the officer's career or social standing.

**Board of Ordnance:** A small body is maintained by each Sector Fleet to discuss and advise on the nature of weapons (and other systems) that the fleet needs to maintain its technological edge.

**Courier:** While the Navy maintains many Naval Courier vessels, information of a sensitive nature is often placed in the charge of a Naval Courier; a reliable officer trusted with the protection of his charge and its safe delivery. Such an officer may travel by Naval Courier ship, or may use other means to reach his or her destination.

**Legal:** The Imperial Navy maintains a large legal establishment to deal with internal troubles and friction between naval personnel and local authorities.

**Liaison:** Officers may find themselves acting as naval liaison with local governments, army units or Imperial “shore” installations (i.e. Starports or bases). Other liaison duties include membership of the development boards of weapons-development companies and as advisors to shipping concerns.

**Logistics:** The Naval Logistics Corps is absolutely vital to the operation of the Navy, and thus the defense of the Imperium.

Because of its humdrum reputation, the Logistics Corps attracts few volunteers and thus has trouble getting good personnel. To offset this, the Admiralty has recently stated that it views a stint in the Logistics Corps as a plus in any prospective flag officer. Many young officers now volunteer for a year in the Logistics Corps as part of their fast-track plans.

**Public Relations & Recruitment:** The Navy needs to maintain a positive image and to attract good-quality recruits. The personnel of this department see to it that Naval service is a popular career choice. Not merely the preserve of ageing veterans, the PR&R corps has more than its share of highly-decorated, attractive, dashing young officers and nobles crewing recruitment offices or undertaking recruiting sweeps aboard shiny new patrol ships.

**Research & Development:** Much of the Navy's new technology is developed by Technical Services branch, but some comes in from private companies, and all construction is the work of civilian yards. R&D officers liaise with those private concerns, advising on suitable modifications or changing Navy requirements and seeing to it that adequate security is maintained. R&D officers usually accompany new ships on their trials, acting as liaison between the builders and the navy.

**Security:** Staff officers often undertake security assignments at bases or depots, commanding guards or shore patrols. They also oversee penal installations.

**Tactical Studies Units:** The Imperial Navy maintains several think tanks devoted to developing new tactics and predicting enemy responses. These Tactical Studies Units take the best and the brightest from the Naval Academies, and serving officers may attend one on secondment during their career.

**Training:** The various training establishments (Naval Academies, OCS, Naval Training Camps etc) all need experienced personnel to pass on their skills. A training assignment need not be classroom lecturing, however. Many training officers (and petty officers) are assigned to warships to give training during deployment. Training offered varies from branch-specific (e.g. Advanced Gravitic Theory for engineers) to advancement tailored (e.g. a voluntary course in Ship Tactics). Some ships offer education of a civilian nature to offset the boredom of long deployments. A training officer may deliver a general-interest course on Imperial History or Xenobotany.

**The Staff Pool:** The Staff Pool is a collection of unassigned staff officers, usually of ranks between Sublieutenant and lieutenant commander. These officers, sometimes known as the "odd-job squad", can be assigned any necessary task by fleet command. They may act as couriers, clerks, emergency replacement officers for ships of the fleet, liaison officers, personal envoys or extra training officers. The Staff Pool exists simply to ensure that if something needs doing, there is a reliable someone on hand to do it.

## NAVAL INTELLIGENCE

Naval Intelligence is a large organization, seen by many as being separate from the Imperial Navy. Its remit is to ensure that the Imperium is secure from threats both internal and external. As the premier intelligence agency in the Imperium, its role goes beyond merely naval matters. Naval Intelligence is subdivided into three offices.

The Operations Office has perhaps 70% of the total NI manpower tasked to it. Its function is to handle the mundane parts of intelligence work – information collation and distribution, analysis,

staff briefings, liaison and so on. This represents the bulk of intelligence operations, and the work is vital to the security of the Imperium. More vital information has been deduced through careful observation of non-secret actions, monitoring of communications and so on than by daring spies, though the latter are more glamorous.

The Observation Office has about 25% of the available manpower at its disposal. Many of its personnel are "sleepers" living out normal lives on member worlds or working for corporations within and outside the Imperial borders. Other personnel are members of embassy staff. This surveillance of foreign states may be open and overt or under cover of normal diplomatic activity. Only legitimate overt surveillance is undertaken in Zhodani space, for obvious reasons.

The main function of the Observation Office is to warn the Imperium of unrest on member worlds, and to identify ways that the trouble can be headed off with a minimum of fuss. This may take the form of a sudden arrest or the precise arrival of drop troops; the information gathered by the Observation officer is of similar value in either case. The contribution of this office to the stability of the Imperium is incalculable. The Observation Office also attempts to uncover and eliminate, expel or "turn" agents of foreign powers.

The smallest office of Naval Intelligence is the Enforcement Office. Its personnel are all commissioned officers trained as assassins and undercover agents. They sometimes undertake covert missions to gather information leading to a legal action against a member world or corporation, but are far more often employed in shadowy "black ops" aimed at removing a threat to the stability or security of the Imperium. Enforcement officers are skilled in unarmed combat and with blades, guns and explosives, as well as infiltration and escape & evasion techniques. The Navy does not acknowledge the existence of this office outside a select group which specifically does not include most naval personnel.

Overt Naval Intelligence personnel are part of the Staff, and wear the normal Staff Sunburst. Observation Office agents and all Enforcement Office personnel will never wear uniform while active. Once retired from covert service, they either return to whatever branch they came from or are integrated into the Staff.

## ATTACHÉ/DIPLOMATIC

The Imperial Navy is a political tool as well as a war machine. It must be able to use diplomacy as well as meson guns, and it is the attaché corps that specializes in that softly-with-a-big-stick role.

The officers of the Attaché Corps are trained diplomats, while enlisted personnel are trained as assistants and staff members. All personnel are carefully selected and vetted before commencing their training. The corps operates the many embassies maintained by the Imperium on member worlds and in foreign states. The Attaché corps also provides naval officers as liaison or advisors to friendly powers and colonial navies. Many such are in fact ordinary naval officers on special duty with the attaché corps, though liaison officers tend to be experienced diplomats and may in fact be permanent members of the corps.

As might be expected, the Attaché Corps has a very ornate and splendid uniform which closely resembles the Imperial Navy dress uniform. An even finer version is worn for major functions. High ranking officers wear a noble's cape, and indeed many are ennobled to further enhance their status.

While part of the navy, the attaché corps has few personnel with



the skills required to man a warship, though the corps has some officers have changed career paths at some point. The attaché corps maintains a fleet of couriers and diplomatic transport vessels manned by personnel on secondment from their normal duties.

The emblem of the attaché corps is a yellow starburst surmounted by an open hand, symbolizing a greeting. It is rumored that Naval Intelligence has operatives hidden among the personnel of every embassy and diplomatic courier vessel. It would be very surprising if this were not the case.

## THE IMPERIAL MARINES

The Imperial Marine Corps and their elite special forces unit the Marine Commandos are not part of the Imperial Navy, but often operate in close conjunction. IN a naval context the Marines fulfill a twin function. Firstly, they provide security for the vessels and installations of the Imperial Navy. They also may assist with shipboard discipline, damage control and may even man some of a vessel's weapons. Secondly, the Marines are a hard-hitting strike force capable of taking on any foe, anywhere.

The Marines wear a maroon starburst as their official badge. The Commandos, who recruit from the Marines and the Naval Regiment, wear the famous green beret embossed with a golden starburst.

## RANK STRUCTURE

The rank structure of the Navy is very rigid, with the first nine grades being referred to as "enlisted personnel". Of these, six are further defined by the term "petty officers". The next ten grades are termed "commissioned officers" with the last three of these being known as "flag rank".

## PROMOTION

The commanding officer of any ship is considered to belong to the Line branch. This is a temporary "courtesy transfer" in the case of specialist officers holding a temporary command. The branch transfer is accompanied by a period of command training, and is a requirement for permanent command. This is seen as necessary by the Navy as a way of avoiding favoritism to any one department aboard a ship.

## ENLISTED PERSONNEL

The vast majority of naval personnel are enlisted. They are the workers, the technicians and the gunners who carry out orders and keep the navy running but have little or no say in policy or command decisions.

### Spacehand Apprentice

This is the rank awarded to new recruits at the NTC. It is held by spacers in their first term, after which promotion is common. Most personnel with this rank are simply referred to as Apprentice.

### Spacehand

Most enlisted spacers gain this rank after their first term, when they are transferred to their specialist branch. Many hold this rank throughout their entire naval career.

### Able Spacehand

An Able Spacehand is simply a steady, dependable and well-qualified spacer who can be relied upon to perform his or her duties well, even under pressure. Personnel are encouraged to aspire to Able Spacehand status (and pay). In the Imperial Navy, which invests vast sums in personnel development, the bulk of enlisted personnel hold this rank. The vast majority never progress

any further up the promotion ladder.

### Petty Officer Third Class

Petty officers are responsible for leading teams within a crew. While they do not hold an Imperial Commission, they are vital to the running of a ship or base, often knowing more about their area of expertise than their superiors. A PO3 is responsible for leading a small team such as a damage control squad or a gun crew, or for personally undertaking a complex or important job such as shuttle pilot, maneuver drive technician or sensor array operator.

### Petty Officer Second Class

A PO2 has exactly the same role as a PO3, but has been promoted for long or exemplary service and is thus more likely to be given a sensitive job to carry out.

### Petty Officer First Class

In general, PO1s undertake the same duties as their second or third-class brethren. They often lead slightly larger teams, often with a PO2 or 3 to assist them. As specialists they handle sensitive or highly complex tasks requiring flexibility and discretion, having proven themselves time and again.

### Chief Petty Officer

A rank generally encountered aboard larger ships, a CPO or "chief" is usually responsible for 2-3 teams led by more junior petty officers, formed into a Watch. For example, the engineering department aboard a particular ship may be organized as two watches, each led by a CPO, of which one is on duty while the other stands down. A CPO may also be assigned a specific job such as security chief or shore liaison. This is particularly likely aboard mid-sized vessels, where spare officers are not available to fill sensitive posts.

### Senior Chief Petty Officer

Where there is more than one watch in a department, the SCPO is senior man and forwards orders to the other watches. He or she is in overall charge, assisted by the other watch leaders.

### Master Chief Petty Officer

The MCPO is usually only encountered aboard large commands, or in staff functions. He or she is the department commander's aide and executive officer, and has a unique status as "almost an officer". MCPOs aboard smaller vessels are simply highly qualified personnel who have been promoted for their exemplary service. They perform the normal duties of whatever post they are in, usually a CPO slot. Very rarely, an MCPO of long and exemplary service may be awarded the special rank of 'Fleet Chief Petty Officer'. Addressed informally (by those who dare) as 'Fleet' and as 'Sir' (like an officer) by most others, these individuals are walking repositories of the Wisdom Of The Ages and are treated with utmost respect by everyone – even admirals.

FCPOs are rare and usually perform some special function, such as assisting an admiral on a special task or leading the enlisted personnel of a fleet flagship.

## COMMISSIONED OFFICERS

Officers hold a commission from the Emperor, and are charged with acting for the good of the Imperium, its people, and its Emperor. Even very junior officers are expected to be able to step into a higher command slot at need, and to act in accordance with the political as well as the military needs of a situation. An Imperial Commission is a weighty thing, and not given lightly.

### Ensign

Ensign is the lowest commissioned rank. It is held by graduates

of the Officer Candidate School. The rank is often viewed as meaning “apprentice officer”, though many officers remain Ensigns for several years and can be quite experienced. New Ensigns are often assigned to work with experienced petty officers. On smaller ships, Ensigns can (sometimes) be found as department heads.

#### **Sublieutenant**

Most Ensigns quickly gain promotion to Sublieutenant, which on a small vessel can give them command of a department. Sublieutenant is the commonest commissioned rank. In the case of small non-jump vessels such as System Defense Boats, the commanding officer may be a Sublieutenant. This is commonest where the boat is part of a squadron commanded by a more senior officer.

#### **Lieutenant**

A lieutenant has the same general duties as a Sublieutenant, but has been promoted to greater seniority. A lieutenant will usually command a department aboard a small to mid-sized ship, or may be the commanding officer of a small jump-capable vessel such as a Close Escort which is intended to function as part of a task group.

#### **Lieutenant Commander**

This rank is generally considered the most junior of the “command ranks”. No officer below this rank will be assigned command of a significant vessel. In practice this means that any ship of 1000t or over, or which is intended to operate independently for any length of time, will be commanded by a Lieutenant Commander or more senior officer. Many officers with this rank are undergoing or have already taken special training to prepare them for command.

Aboard larger ships such as cruisers, departments are commanded by an officer holding the rank of lieutenant commander. Squadrons of SDBs are often led by a Lieutenant Commander aboard one of the vessels.

#### **Commander**

The rank of Commander may be conferred upon successful Lieutenant Commanders, whose status increases but whose duties may or may not change. However, this very senior rank usually carries with it some weighty responsibilities. Promotion to Commander is associated with fitness to lead a department aboard a capital ship such as a dreadnought, or to be the commanding officer of a large vessel such as a cruiser or battle rider. A Commander is often assigned as the Executive Officer (or First Officer) of a major warship. This is a very responsible post, and helps prepare an officer for a command of his or her own. A similar arrangement exists aboard naval bases.

#### **Captain**

Captain as a title means the commander of a ship; that officer might be a lowly Sublieutenant, but aboard his command he is the Captain. However, the rank of Captain has various meanings.

Captain is the most senior of the command ranks. Holding this rank implies fitness to command any ship. While vessels of up to cruiser size may go into space with a Commander or other officer as their skipper, battleships, dreadnoughts, fleet carriers and other capital ships are assigned a full Captain in all but the most unusual of circumstances. Smaller naval bases are also normally commanded by a Captain.

Most officers who reach the rank of Captain transfer to the Line branch and become “non-specialist” officers after a period of special command training. Such non-specialists are referred to as “salt horses” in keeping with an ancient Terran custom. In the case

where an officer is promoted to Captain and remains a specialist, he or she usually leaves shipboard duty and joins the Staff as an expert or training officer. A few large warships do have Captains in charge of each of their departments. This is the practice aboard some very large Dreadnoughts assigned to the Imperial Bodyguard Squadron, for example.

Captains also undertake staff duties (as do officers of all ranks). A Captain is assigned to be second-in-command of each Naval Depot. Despite not being a starfaring commission, this is a very prestigious posting.

#### **Commodore**

Most Imperial squadrons (other than small ad-hoc task groups and SDB squadrons) are commanded by a Commodore, who is also the Captain of the squadron flagship. Some Huscarle squadrons use the term “Squadron Captain” instead. The rank of Commodore is the highest rank possible in system defense squadrons. This officer usually commands from a base in the system, and is not a ship Captain. Large or sensitive naval bases are also commanded by a Commodore.

### **OFFICERS OF THE FLAG**

Admirals are known as Flag Officers. The term is archaic, dating from a time when the admiral flew his own flag on the masts of whatever ship he was aboard (hence “flagship”) to identify it as the command vessel of a squadron. Flag Officers are almost always Imperial nobles. Whether this is due to elevation for naval service, or because the admiral comes from a noble family (sometimes both), the fact is that the handling of naval forces is a political task as much as a military one. Admirals have other concerns than winning battles with the enemy, and a grasp of politics is vital for so many reasons.

Flag officers no longer really belong to any branch of the navy; their special position and training place them beyond such considerations. Their affairs are administered by the Line branch.

#### **Fleet Admiral**

The Imperium has 320 numbered (subsector) fleets and an equal number of colonial fleets. In charge of each of these fleets is a Fleet Admiral. Additionally, Naval Depots are commanded by an officer who holds a rank equivalent to a Fleet Admiral. These officers are titled Depot Admirals for the duration of their command. Transfer between Depot and Fleet is possible, though Depot command is often given to admirals more suited to administration than decisive action, or those who are a little old for active service. If the Admiral of a Numbered Fleet is at a depot, he defers to the Depot Admiral, as the depot is the latter’s command and the Fleet Admiral merely a “guest”. Fleet Admirals also hold important posts such as head of Naval Intelligence in a sector.

Fleet Admirals also command fleets raised for specific purposes, for example a battle fleet or a planetary assault fleet. A fleet-commander operating in a given subsector holds equal status with the subsector admiral (both will likely be Fleet Admirals in rank). Both answer to the Sector Admiral.

The 1<sup>st</sup> Fleet has two Fleet Admirals. One is the commanding officer of that fleet, and the other is an honour-title bestowed upon the Emperor.

In the Colonial Navy, Fleet Admiral is the highest possible rank.

#### **Sector Admiral**

The rank of Sector Admiral is normally associated with command of

a Sector Fleet, or sometimes a very large combined fleet assigned to a particular mission. For example, a force comprising three Battle Fleets, an Assault Fleet and a Raiding Fleet, each under the commander of a Fleet Admiral, might be assigned a Sector Admiral to exercise overall command.

The Imperium has 28 Sector Fleets ("Named Fleets"), each commanded by a Sector Admiral. In theory, the Sector Fleet and its Admiral command all the numbered and colonial fleets within the sector. In practice, the power of the Sector Admiral varies from the borders, which tend to have active Sector Fleets, to the Core, where the Sector Fleet serves mainly in an administrative role.

The role of the Sector Admiral also varies from region to region. In the Core, Sector Admirals are often appointed for political reasons or to offer a loyal warrior a nice, safe job until retirement. At the frontiers, Sector admirals tend to be relatively young and are capable fighting commanders.

The Imperium also has ten officers who hold equivalent rank to a Sector Admiral. These are the overall heads of the various navy branches – flight, engineering, and so on – who make policy for that branch and advise the Grand Admiral.

### Grand Admiral

The most senior rank in the Imperial Navy (other than the Emperor's honor title and the job-specific post of the head of the entire Grand Fleet of the Third Imperium, is Grand Admiral. A Grand Admiral is one of the most politically powerful individuals in the entire Imperium, and will normally be assigned to command an entire theater of war.

## RESERVE OFFICERS AND PERSONNEL

When a spacer swears the oath to the Emperor, it is more than taking on a job. The officer accepts that he or she will belong to the Navy for life, and undertakes to act in the best interests of the Imperium for as long as he or she is able.

Personnel who retire or muster out do not leave the Navy as such. Instead they are placed on the Reserve List, which is administered by the Line branch. The Reserve List is not the same thing as the Scout Service Detached Duty Office. Most reservists never hear from the Navy again, other than to receive pensions. However, reservists are required to keep the naval administration up-to-date as to their whereabouts.

In peacetime, the Reserve List is nothing but an administrative nuisance for the Line branch and a source of highly-respected job references for the ex-Navy officer or rating. However, the List becomes very valuable in wartime, since reservists are a ready pool of experienced personnel who can be recalled for duty at need. If a general or individual-specific recall comes in via the Xboat network, reservists are required to present themselves for duty for the duration of the emergency. Age or ill health, or special circumstances, may allow a reservist an exemption from service.

The Navy sometimes issues a special recall order to individuals possessing special skills (such as familiarity with an obsolete system that current personnel have never used).

Reserve commissions can also be held by personnel who have never been in the Navy. These are merchant service personnel who have undertaken special Navy Reserve training in return for advancement and a pay hike, or those who took Naval Officer Training in College then entered a different career. Such personnel are also subject to "recall" under the standard navy system.

By the time the Imperial Navy had issued the General Recall during

the Fifth Frontier War, over 40% of officers and 22% of enlisted personnel who were eligible for recall had already presented themselves for service. Many were already in uniform, fighting the war. The personnel of the Imperial Navy, and especially its officers, have a strong sense of duty.

## NAVAL SALARIES

The Imperial Navy sets a standard salary scale across the entire Imperium. Colonial and Huscarle fleets also follow this model to some extent. Huscarle units may however offer a "blood tie" in the form of a pay supplement, and Colonial Fleets sometimes offer up to 20% lower pay than the Imperial Navy.

Flag Officers are almost always nobles with independent wealth of their own, but are still paid a large salary in return for their services. The Admiral-of-the-Fleet can live in a style almost on a par with an Archduke on his salary alone, which reflects his political importance and power.

<b>Rank</b>	<b>Monthly Salary (Cr)</b>
Spacehand Apprentice	350
Spacehand	400
Able Spacehand	500
Petty Officer 3 <sup>rd</sup> Class	550
Petty Officer 2 <sup>nd</sup> Class	650
Petty Officer 1 <sup>st</sup> Class	750
Chief Petty Officer	850
Senior Chief Petty Officer	950
Master Chief Petty Officer	1000
Ensign	950
Sublieutenant	1000
Lieutenant	1500
Lieutenant Commander	2000
Commander	2500
Captain	3000
Commodore	4000
Fleet Admiral	8000
Sector Admiral	15,000
Grand Admiral	45,000

To these basic salaries are added supplements for positions. These depend upon the size of vessel in the case of command positions, and the nature of special duties or extra responsibility. Personnel with a skill level above basic competence in certain skills are entitled to wear the relevant badge (e.g. the Small Arms badge, or the Advanced Gunnery Course badge) on their uniform and claim a small pay supplement. Combat pay is awarded for service in a theater of war, or for any mission which presents a clear danger to the personnel involved beyond that encountered in normal naval operations. It is awarded as a matter of course if the personnel become involved in (legitimate) combat activity, whether this was intended by the mission planners or not.

<b>Position</b>	<b>Monthly Supplement (Cr)</b>
Starship or Base Command	500-5000 depending on importance
Non-Starship Command	250-750 depending on importance
First Officer	200-300
Department Head	100-200
Special Duty	Up to 50% of base salary
Enlisted Personnel	50-100
Responsibility Supplement	
Competence Badges	10 (each)



Combat Pay

Up to 25% of final salary

Naval personnel obviously have little in the way of expenses when aboard ship. Those assigned to a base are given appropriate quarters (which they do not pay for). Some luxuries bought from ship or base stores are deducted from salary, but for the most part a serving naval officer or crewmember takes home almost all of his pay.

## **CHAPTER 5:**

# **DEPLOYMENTS AND PROCEDURES**

Naval regulations require that some operations be carried out in a certain way. These procedures are intended to prevent pointless accidents, or to promote efficiency. They are learned by recruits and constantly refreshed. Emergencies may cause variation from the norm, but the main point of established procedure is that personnel know what to do when there is no time to stop and think. This chapter presents naval procedures in general, then shows how they are applied in a specific vessel.

## **TERMS, DEPLOYMENTS AND LEAVE**

Naval personnel sign up to serve in blocks or “terms” of four years. The standard enlistment contract or officer’s commission is for a single 4-year term, though “going career” and signing up for at least 3 terms is viewed favorably by the Admiralty.

At the end of a 4-year term, personnel can leave the service with an honorable discharge, or may sign on for an additional hitch. Major changes, such as switching branch, usually happen at the beginning of a new term. Between terms of service, personnel are entitled to a furlough lasting 100 days plus whatever saved leave they have. Naval personnel receive a personalized travel pass for use during this period, though it is only good for prearranged destinations. Any changes to the pass must be agreed by a naval base (not necessarily the character’s home base). Normally the pass is used to go home for a period, or to take a tour of the sector’s sights and attractions. Furlough is only granted to personnel who have already signed up for at least one more term. Those with long-term contracts are given an extra 15 days for every 4-year hitch they have left to go. Furlough is taken on full pay.

A period of “terminal leave” is granted to personnel leaving the service. This occupies the last 30 days of their hitch.

All Navy personnel are entitled to thirty days’ leave per year, which can only be taken while the ship is in port. At least 20 days of this leave must be taken during the year, but up to 10 days can be saved, to be added to the end-of-term furlough.

In wartime, all furloughs are cancelled, except in cases of great need. Leave may be cancelled, but the benefits of R&R are not overlooked by the Admiralty.

Leave must be taken between operational deployments. Personnel from a starship may receive liberty when in port, but periods of more than 48 hours away from the ship are not permitted during a deployment. The consequences of the ship engaging a corsair while its EW wizard is away on leave are too serious for other considerations to apply.

## **SPECIAL DUTY**

During a term, naval personnel may find themselves assigned to various special duties. These are intended either to broaden the experience of personnel or to fulfill a specific need that the Navy has. For enlisted personnel, the special duty list is as follows:

- Crosstraining
- Specialist School
- Recruiting Duty

- Gunnery School
- Engineering School
- Instructor
- Officer Candidate School (OCS)
- Naval Regiment
- Ceremonial
- Staff Duty
- Secondment

For officers, the list is slightly different:

- Crosstraining
- Intelligence School
- Recruiting Duty
- Instructor
- Command College
- Staff College
- Staff Duty
- Ceremonial
- Secondment

Special Duty assignments normally last for a single year, after which the character returns to his normal duties unless specific notes say otherwise. Personnel who have completed a special assignment are entitled to wear a small badge or insignia to show it, and receive a slight pay bonus similar to that awarded for a proficiency badge. Special Duty always counts in favor of a character when crew selection and promotion are being considered.

#### **Crosstraining**

The Navy sometimes crosstrains personnel in the skills of a different branch, for example a gunnery rating may be crosstrained in basic engineering operations. This has three main benefits. Firstly, co-operation is improved by understanding what challenges other departments face, and secondly crosstrained personnel are often more flexible in their approach to problems. More importantly, crosstrained personnel can provide replacements for casualties. After crosstraining in a particular branch, personnel may join that branch. This is usually done at the start of a new 4-year hitch.

#### **Specialist School**

Specialist School is attended by enlisted personnel, who receive intensive instruction in one or two academic or technical skills. Courses such as Gravitic Engineering or Sensor Systems Engineering are commonly taken, and count towards university credit. However, some specialist courses are rather mundane. For example, Navy chefs have their own specialist school which includes a stint in an upmarket civilian restaurant.

#### **Recruiting Duty**

Enlisted and commissioned personnel are always required to man the offices and recruiting ships that bring in the bulk of Navy recruits. Specialist training in liaison and presentation is taken before being assigned to an actual recruiting station.

#### **Gunnery School**

Navy Gunners who show real promise are often sent on Advanced Gunnery Courses, which train the rating in one or two aspects of sensor operation, electronic warfare, weapons and screens operation.

#### **Engineering School**

Engineering School teaches one or two skills required to be a starship engineer, such as Jump Drive or Powerplant operations.

#### **Instructor**

An experienced officer or petty officer may be sent to one of

the bases, training camps or academies to deliver a course to personnel there. The character must be an expert in a skill worth teaching to qualify. He or she will receive instructor training before commencing this special duty.

#### **Officer Candidate School (OCS)**

Promising ratings may be sent to Officer Candidate School. OCS is a tough place, and washout rates are high. Many OCS failures actually receive a promotion when they return to duty, in recognition of their achievements. Personnel up to the rank of Petty Officer Second Class who complete OCS become Ensigns. PO1s and Chief Petty Officers are commissioned as Sublieutenants, while Senior Chiefs who score highly enough are commissioned directly as lieutenants. OCS teaches leadership rather than specialist skills. Personnel completing OCS normally become officers in their own branch. Those who score highly enough transfer to the Line.

#### **Naval Regiment**

Enlisted and Commissioned personnel may spend a year with the Naval Regiment. This is usually a shore assignment as part of a base's security complement, but can actually mean combat service with a Naval Regiment battalion of the Imperial Army. Personnel come back with improved shore liaison and small-arms skills. Naval Regiment service is a prerequisite for a transfer to the Imperial Marine Commandos

#### **Ceremonial Duty**

Ceremonial duty can mean one of two things. Both are highly prestigious.

Firstly, personnel may be assigned to a vessel of the Imperial Bodyguard Squadrons. This is a much-sought-after assignment, despite the endless polishing and cleaning that goes with it. The Archdukes and Sector Admirals maintain smaller numbers of ceremonial vessels (which are entirely combat-ready) for purposes of impressing foreign and member-world dignitaries.

Alternatively, personnel may be assigned to the ceremonial guard units protecting admirals and certain important sites. In this case, special bodyguard training is interspersed with a great deal of standing around in dress uniform or battledress.

#### **Staff Duty**

Assignment to the various branches of the naval staff is assumed to be part of naval life. Staff Duty here refers to an assignment to the personal staff of a commodore or admiral. Enlisted personnel are clerks and runners, while officers are termed "Aides" or "Flag-lieutenants" and carry out liaison and clerical work for the admiral. A period on an admiral's staff is an important stepping-stone to seniority, both in terms of social contacts and the experience gained. However, there is no special training.

Alternatively, staff officers may be assigned to the "odd job squad" of staff officers held at every naval base, and may spend the year flitting about as couriers, liaison officers and expensively-dressed gophers,

#### **Secondment**

Naval personnel may be seconded to service with the Marines, Colonial Fleets, System Squadrons, Merchant Corporations or friendly powers. In this capacity, most fulfill the same role as in the regular navy, providing expertise to a friendly service or helping with on-the-job training. Officers sometimes act as advisors or liaison officers, in which case they are termed attachés. There is no special training for this role, though an attaché's experience usually counts in his favor when the next assignment comes along.

**Intelligence School**

Enlisted and Commissioned personnel may attend Intelligence School. This is a prerequisite for a transfer to Naval Intelligence. Most personnel are trained as analysts and clerks, with relatively few becoming undercover agents.

**Command College**

Commissioned officers may be sent to command college at any time. Any officer being groomed for command can expect to attend at least once. Command college is a prerequisite for a transfer to the Line, and therefore for permanent command of a vessel. Attendees study tactics, strategy and leadership skills.

**Staff College**

Staff College is for officers only. Attendees are trained in liaison, strategy and administration to make them more effective staff officers.

**LEAVING THE SERVICE**

Personnel leaving the service receive a portfolio of references and testimonials and a place on the Reserve List in addition to whatever benefits and bonuses they have earned during their period of service. Most go straight into a job in a merchant fleet, a Starport authority or a civilian corporation, or take up the duties of an Imperial Noble. Some travel for a while before settling down. Some miss the navy life and re-enlist at their old grade. This option remains open for personnel under 60 years of age, for 1 year per 4-year term of service. Honorably discharged personnel are entitled to wear Naval uniform at formal events, though their insignia is altered to a hollow Sunburst to show their retired status.

Personnel may be discharged at other times than the end of a service. A Dishonorable Discharge may occur at any time in a character's naval career. It usually follows a period of punitive incarceration in a Naval Prison. The character stripped of his naval rank and is not entered on the Reserve List. This process is referred to as "cashiering" for officers. A cashiered officer is disgraced and may not wear Naval uniform at formal events, though some do anyway. Cashiered officers sometimes enter Colonial or Client State service.

A Medical Discharge can be earned at any time. Many seriously injured personnel return to active duty after a period of excellent care at a base hospital. However, major injuries can be traumatic, and the Navy recognizes that many personnel will no longer want to serve, even if their physical recovery is total. Some injuries are too severe for the character to remain in service, and Medical Discharge is mandatory in this case. This is also true where a character is judged to be mentally unsuited to Navy service.

A Special Discharge can be granted for various reasons, always on a case-by-case basis. Normally this occurs when an officer is suddenly required to take up his duties as a noble. Other Special Discharges are granted upon request for personal reasons, such as becoming a single parent or when an officer resigns his or her commission to take up a civilian post. In the latter case, the officer retains uniform privileges, but cannot reenlist in the Imperial Navy.

Personnel leaving the Navy receive a travel pass similar to the one used on furlough.

**DEPLOYMENTS**

The ships of the Imperial Navy normally rotate through three stages of readiness: Stand-down, Readiness and Deployed.

When a ship is on Stand-down, leave is granted, personnel attend

training schools and maintenance is conducted. New officers and crew come aboard during stand-down. Most stood-down vessels at a base could be space-ready in hours or days, but efficiency would be impaired by crewmembers missing or hurriedly replaced. Some vessels, partially dismantled for refit, cannot be quickly made spaceworthy.

The next stage is Readiness. Ready ships may have one or two personnel away, but are more or less fully capable of combat operations. Ships in the Readiness category undertake local maneuvers, gunnery practice and whole-crew training. They are often sent out to cover urgent tasks, and must be ready for space in a matter of hours at the most.

Ships which have a particular task are "on deployment" in Navy parlance. Usually this takes the form of patrol, flag-showing or escort duty. Smaller ships spend more time on deployment than capital vessels, whose deployments are often major maneuvers.

The navy is flexible about its deployment procedures, but certain practices are followed unless circumstances require a different approach. The complement of a Navy ship are warned for deployment according to a time-honored system. Senior officers are given the full details unless the mission is secret or has a Sealed Orders component. Other personnel are simply warned for deployment. No leave can be granted during the deployment duration, so it would be possible to deduce a ship's mission from her leave rosters. For this reason, vessels are warned in 5-week blocks. The shortest deployment warning is 10 weeks, however. The ship may only be out for 20 days, but someone gaining access to the rosters cannot know that.

Most deployments are carried out with a specific itinerary and orders. This is particularly true of combat deployments and border-coverage patrols. However, some missions are subject to deliberately vague orders. Patrol operations are the commonest case.

**PATROL OPERATIONS**

There are three kinds of patrol operation. On a System Patrol deployment, a vessel proceeds directly to her patrol station and remains there, carrying out anti-piracy and commerce policing duties. Some system patrols are "Standing Patrols", constantly maintained in troubled areas, while others are intermittent.

The second type of patrol is a Multi-System Sweep, where a vessel proceeds along a designated patrol route, stopping off in ports along the way for courtesy visits, or jumping to the outsystem to conduct a deep patrol. Duration in any given system is usually 2-5 days, though this varies. Captains can use the slack built into their patrol schedule to extend their stay in any given system if necessary.

The final type of patrol is a recent innovation. The rise in piracy in the wake of the Fifth Frontier War was accompanied by an uncanny ability among pirate vessels to avoid navy patrols. This was eventually traced to leaks in Naval security. Most of these have been plugged, but the Discretionary Patrol was implemented at the time and remains in force.

Discretionary Patrol is the preserve of experienced Lieutenant-Commanders and higher officers. Lesser officers are not given the responsibility. On this deployment, a ship's Captain takes his vessel out for a period of several weeks (usually 8-16) without filing any form of operational plan. A "list of intentions" is placed in a special safe by the Captain himself before leaving port. Only the Captain's immediate superior has access to these intentions, and



they are normally left undisturbed until the ship comes home.

In the meantime, the Captain has complete discretion about where he takes his ship and what he does. The concept is simple: there is absolutely no way to tell where a Naval ship might turn up. There can be no leaks, since only the Captain knows where his ship is going, and he may change his mind along the way in reaction to circumstances.

It is an open secret that discretionary patrol is used as a means to measure the capability of a Lieutenant-Commander or Commander under consideration for promotion. Detailed post-mission debriefings are used not only to determine that a commander did something useful with his ship, but serve to measure his grasp of the strategic situation. Not only the officer's actions but his reasons for making them come under close scrutiny. In this way, the Admiralty seeks to measure how effectively the officer used his ship.

## STANDING OPERATIONAL ORDERS

Navy ships are subject to certain standing orders. In general terms, they are required to:

- Defend Imperial Space and Citizens from all threats
- Uphold Imperial High Law
- Render assistance to any vessel in distress
- Protect Commerce and Free Trade
- Extend Courtesy to Member and Allied worlds and vessels
- Preserve the Fleet in Being

Vessels on a patrol deployment are subject to three other important requirements:

- Challenge all suspect vessels
- Investigate and deal with or report all hazards to navigation
- Investigate and deal with all threats to the security and stability of the Imperium

## NAVAL PROCEDURES AND REGULATIONS

Certain procedures are common to the navy, and to naval personnel wherever they may be.

### TERMS OF ADDRESS

Spacehands of all grades are often referred to as "Crewmember..." rather than by their actual grade, at least by their superiors. Formal rank is rarely used except during ceremonial occasions. What they call one another when officers are not present depends upon personal relationships, and is usually a nickname or just the crewmember's forename.

Petty Officers below the rank of Master Chief Petty Officer are not called "Sir" by subordinates. Formally, they are addressed as "Petty Officer" or "Chief Petty Officer" (usually shortened to "Chief" in informal situations). Master Chiefs are called "Sir" by their juniors, and are extended the "Mister" courtesy by officers. Many officers address Chief Petty Officers and above by forename only if a good enough working relationship exists. Enlisted personnel on good terms with their petty officers sometimes use informal honorifics. "Boss" is not uncommon for a team or watch leader.

It is always safe to address a superior officer as "Sir". Indeed, there is a certain kind of rating who tries to say nothing other than that single word to all officers. The word can have all manner of meanings in this case. Officers are often referred to as "Mister..." by both superiors and subordinates. Aboard some ships, the use of an officer's rank title implies disapproval (from above or below) while "Mister" is respectfully friendly and approving. Both forms are actually correct in Imperial Navy usage.

Crewmembers with a specific job may be referred to by a formal or informal title. These are usually used by superiors or those who think they are out of earshot. The ship's senior medic (or whatever actual rank) is "Doc" or "Doctor". The gunnery officer is "Guns". Communications operators are by ancient tradition "Sparks". Security chiefs are often formally addressed as "Master-at-Arms". The Captain is addressed as "Sir," or "Captain". "Skipper" is a nickname usually reserved for the Captain's absence. To most professional navy officers it smacks too much of beat-up merchant auxiliaries with reservist crews to be properly respectful.

Noble forms of address are not used within a crew, except as an insult to a junior. Referring to Sir Angus instead of Ensign McCalley implies that he is not fit to be addressed as a "real" navy officer, but is only here thanks to family connections. Of course, guests, diplomats and admirals are addressed by their noble titles. Off duty or in port, naval or noble rank can be used according to personal preference and situation.

### ORDERS

There are orders and there are orders. The difference between different types and levels of orders is drilled into personnel during their training until understanding the hierarchy of orders and regulations is second nature. This is important, since personnel must sometimes choose between conflicting orders.

One overriding factor is that personnel are expected to obey any legal order instantly, without question (though sometimes explanation is necessary). At the same time, personnel are not required to comply with illegal orders or those that conflict with the crewmember's conscience. Obeying orders is never a legal defense in cases of crime or atrocity.

The navy has many Standing Orders, which personnel are expected to obey at all times or when the situation arises, depending upon the nature of the order. Most Standing Orders have been in place for centuries, and concern matters such as maintaining combat readiness or shipboard integrity. Such orders form the bulk of accepted Navy practice and are simply part of daily life for personnel.

Standing Orders are also issued to a particular ship, squadron or fleet for the duration of a mission, war, operation or deployment. They detail what to do if certain types of vessel or activity are encountered, or circumstances requiring instant recall to base. Another Standing Order sometimes issued is along the lines of "if a certain event occurs or a certain signal is received, open the sealed orders in the Captain's safe and execute immediately".

Mission Orders are (usually) given to the ship's Captain before the vessel leaves port and detail what the ship is to do while out of port, in general and then specifically. Sometimes the ship may carry one or more sets of sealed orders which are to be opened only at a certain time or when certain circumstances occur. The contents are not known to anyone aboard the vessel until that time.

Orders are issued by superiors in order to carry out the ship's

functions. Subordinates are allowed to ask for clarification of an order if necessary, and to question or protest the order under some circumstances. However, they are always expected to acknowledge the order and to carry it out unless it is countermanded. Acknowledgement takes various forms. "Aye Sir," or "Aye Aye Sir" is common. "Sir", implies disapproval of the order (or great stress). Critical orders are often repeated back with confirmation, e.g. "Initiate Jump Sequence. Aye, Captain."

Most orders are commonplace, and phrased as polite requests. The stress or wartime might make a Captain say "do this" instead of "would you mind doing such-and-such?" but in practice both are orders, and must be obeyed. A more forceful order would be phrased as "do this... that's an order." This implies that the subordinate will be in big trouble if he or she queries the order or hangs around. This form is used to overrule the protest of a specialist officer.

A third form of order is sometimes issued in the event of hesitation, protest or defiance from a subordinate. "That is a direct order..." means that if the recipient is capable of basic metabolic functions, he or she had damn well better obey, right now. The only way out of obeying such an order is to be dead or hospitalized, or to directly refuse on the grounds that the order is illegal. In that case the order's recipient is usually arrested and must explain his actions to a Captain's Inquiry or a full Court Martial. Sometimes the recipient is shot out of hand, though this always results in an inquiry which may find the officer guilty of murder – or might rule that the action was legal and made necessary by circumstances.

A crewmember who is given an order that seems unwise may query or protest it. If the superior insists, the subordinate is allowed to state that he is obeying "under protest". Officers are more likely to protest than enlisted personnel. Protesting does not make it acceptable to obey illegal orders.

Orders can be illegal for several reasons. Most commonly, this is because they come from outside the chain of command. For example, a Branch Head Admiral or Sector Duke cannot issue orders to Imperial warships. Recommendations and requests can be made; influence is often brought to bear. But these individuals are not in the chain of command and their orders are not legal. They may be complied with if the ship's Captain thinks that is the correct course of action, but this is on his own authority and not that of the officer issuing the order.

Within a ship, the chain of command also applies. Technically, orders issued to personnel of a different department may not be legal. Those coming from the ship's Captain and executive officer are of course always legal in this context, but the ship's engineering officer is not allowed to call ratings away from their gunnery duties. However some orders, while technically not legal, make sufficient sense that anyone not obeying them would be guilty of obstructing the running of the vessel. Thus when Ensign Tomms from Medical rushes into the aft gunroom and orders the petty officer in command there to form a firefighting party, the petty officer can technically refuse the order as illegal. But he'd be in real trouble for it, assuming anyone survived the fire.

Any order backed by an Imperial Warrant is considered legal in this context.

The other form of illegal order is rather different. There are some actions that cannot and must not be countenanced, no matter who issues the order. It is never legal to massacre prisoners or shoot up civilian targets for the fun of it. Personnel are required to refuse such orders and report the person who issued them to the

authorities no matter how many Imperial Warrants they may have.

## NAVAL DISCIPLINE

All naval personnel are subject to naval discipline under the Imperial Articles of War. A system of infractions and standard punishments are laid down, and cover most situations.

Minor infractions are dealt with by the Officer of the Watch, who may choose to refer the incident to the Captain or base commander, but will usually hear the case and decide upon a punishment on his own authority. There is no trial as such; miscreants are presumed guilty if the shore patrol, the Marines or the watch commander says they are. Punishments usually take the form of confinement in quarters or the brig, a fine or assignment to a punishment detail carrying out unpleasant work – this may be necessary or simply make-work. Laxness in routine duties, excessively rowdy behavior while on shore leave, and other minor infractions of naval regulations are dealt with in this way.

More serious incidents, or those where there is real doubt as to blame and culpability, are dealt with by the Captain or the base commander. Incidents requiring the Captain's personal attention include fighting with personnel from the same or another ship, laxness that might endanger the vessel or impair combat readiness, and any crime requiring a full court-martial. The Captain can demote a member of his or her own crew or impose longer periods of confinement or punitive detail.

In times of severe need, the commanding officer of a base or ship can dispense summary justice – up to and including death. The commander will have to justify his actions to a court of inquiry, and may face murder charges. The only circumstance likely to be accepted by the court is when there is a clear danger that a highly dangerous prisoner may escape and cause further harm. Shooting a mutineer in the course of suppressing an attempt to take over the ship is acceptable. Executing captured mutineers is not, unless there is no way to prevent them from immediately repeating the attempt.

## COURT OF INQUIRY/COURT-MARTIAL

Facing a court-martial is not a punishment in and of itself, though many laymen believe differently. In fact the term simply means "military court". It is the right of any officer – and enlisted personnel under some circumstances – to request a court-martial. This is sometimes done when an officer feels he has been unfairly treated or punished. However, it can be unwise, since a court can impose far worse punishments than a ship's Captain. A court may dismiss an officer from the service, to be handed over to the civilian authorities, though normally the Navy deals with its own.

Serious crimes such as treason, rape, murder, desertion, embezzlement or theft of Navy property are grounds for a full court-martial. Such a court can impose any punishment allowed under Imperial Law. The defendant is appointed an advocate, who is usually a naval officer with special training in naval and Imperial law. There is no jury. Guilt and punishment are decided by a panel of three senior officers. In many cases, the court-martial simply rubber-stamps the recommendation of the miscreant's commanding officer. Other trials are more lengthy, but never go on for months like a civilian case might.

Many incidents are followed by a Court of Inquiry. This is a special form of court-martial, which investigates an incident and the way it was handled. Blame may be apportioned, commendations issued, or the whole matter quietly swept under a handy rug.

An officer facing a Court Martial (or Court of Inquiry) is required to hand over his sword to the court at the beginning of proceedings. If the verdict of the court is against him, he will know the moment he is called back to hear the court's decision. In this case, his sword will be placed on the court bench with the blade facing towards the defendant, and he can expect at the very least an official reprimand and probably far worse. Loss of rank and seniority are common punishments.

If the hilt of his sword faced him, the officer at least knows he is not going to be punished. Indeed, he may be praised or promoted. However, sometimes a court may find that there is insufficient evidence to censure an officer, but remain suspicious of him. In that case the official verdict will be favorable but the officer's career will inexplicably stall, or he will be reassigned to a harmless or dull post where he can do little damage if he screws up again.

## STARSHIP OPERATIONS

The general operation of a starship is subject to certain common procedures, covering normal and predicted emergency situations such as combat.

### GENERAL SHIPBOARD PROCEDURES

Some shipboard (and base) procedures are virtually identical across the entire Imperium.

#### Recreational Chemicals

Some system navies are "dry", but the Imperial Navy is not. It has long been understood that alcohol and other recreational chemicals get aboard any ship, no matter how diligently regulations are applied. This creates an unacceptable avenue for corruption among Navy crews. The Navy thus allows vessels to maintain a "wine mess" for officers (which usually contains more than wine) and a liquor stock for enlisted personnel. Access is strictly limited, and intoxication on duty is a serious infraction of discipline, as is rendering one's self incapable of carrying out duties. Alcohol is the most common recreational chemical aboard naval vessels, but the rec-chem regulations allow for a variety of other drugs with similar effects and low chances of addiction.

#### Command Procedures

Command of a vessel rests with the Captain (whatever his actual rank). The Captain issues orders as to what is to be done. The Executive Officer then ensures those orders are obeyed, or finds out why not. If the Exec does not inform the Captain that an order has not been carried out, the Captain will usually assume that it has been obeyed.

Department heads make specific decisions as to how to implement the Captain's orders, and pass those orders down the chain of command to their subordinates. For example; the strike cruiser *Seydlitz* is taking a pounding from system defenses. The Captain decides she cannot complete her mission and needs to escape quickly to avoid destruction. He orders the Exec implement an emergency Jump procedure. The Exec orders the Astrogator and the Engineering Officer to prepare for crash-Jump. The Astrogator calls up a pre-prepared course plan. The Engineer orders his Power and Jump chiefs to implement certain procedures. They do so, using their initiative to deal with any glitches or problems they encounter. This may require hands-on work, or orders to their team. Meanwhile the Chief Engineer monitors both procedures, offering advice and guidance to both teams to ensure a fast, efficient procedure that gets the drive ready in minimum time.

Neither the Power or the Jump chief is totally happy with what he

has achieved, but the Engineer decides on the best compromise and implements it. He has reservations, but knows how urgent things are. Having achieved the best Jump configuration he can in the time available, he tells the Exec that the drive is ready, but that implementing now carries a significant risk of Misjump. The Exec at this point already has confirmation from the Astrogator that Jump is laid in. "Emergency Jump ready, Captain," says the Exec. "Engineer has reservations."

The Captain weighs the situation... risk Misjump now, or take more time to prepare and suffer more damage? "Execute Emergency Jump!" says the Captain, and the Astrogator, not waiting for a repeat from the Exec, does so.

This is standard command procedure. The Captain is not interested in specific details. He must weigh the issues – his own appraisal of the tactical situation, the engineer's reservations, the fact that the Astrogator did not mention any reason why the ship could not Jump safely. His decision is based on the overall situation. Subordinates must take care of the details, the Exec must filter and distil the information for him, and he alone must take responsibility for the final decision.

#### Senior Subordinates

Sometimes a relatively junior officer may take up command of a vessel and find that he is actually outranked by one or more of his subordinates. This tends to happen when a Lieutenant-Commander takes over a destroyer which has previously been "senior ship" in the squadron. Even though the Gunnery Officer is a full Commander, the person in charge of the ship (i.e. the Captain) is the Lieutenant-Commander. His (or her) orders must be obeyed, even by specialist officers holding a higher rank.

There is a naval protocol for this situation. The higher-ranking officer must salute his Captain, defer to him, and call him Sir. The Captain must salute his subordinate, and call *him* Sir. Tact and respect are called for, as the senior subordinate is obviously an experienced and skilled officer even though he is not in the command position. The appointed Captain is in charge, though. There can be no question of that.

This situation occurs fairly commonly. On some ships it causes friction, on others it is a matter for strict protocol. Aboard the best it is an asset, a fact of life, and the cause of occasional wry amusement among officers who respect one another and know their jobs.

#### Officer of the Watch

The Imperial Navy divides the day into three "Watches", each of 8 hours' duration. Known as the Fore, Aft and Night watches, each Watch is commanded by the most senior officer available. When a ship is not closed up at action stations, routine situations are dealt with by the Officer of the Watch (OOW). This duty is rotated through all the ship's officers except the Captain and Ensigns. Small ships use petty officers for the duty as needed. The Officer of the Watch is responsible for receiving guests and work parties aboard, keeping track of paperwork, and dealing with miscreant crewmembers. Mostly the duty is a matter of being available, or of wandering about the ship seeing that everything is all right. Occasionally a crisis develops, in which case the OOW must deal with it until the Captain or the Watch commander can be summoned.

### SECURITY PROCEDURES

As might be expected, security aboard Naval ships and installations is tight. A balance must be struck between keeping the vessel secure and actually getting anything done.



### Sidearms and Swords

All Navy officers other than medical personnel are issued a sidearm. This is kept in quarters rather than in the ship's armory. The Officer of the Watch is normally armed while about his duties, as are all officers during alerts. Sidearms are also issued to personnel on security duties as necessary, though often cutlasses or batons are carried instead or as well. Sidearms are routinely worn by security patrols and the ship's security chief, whatever their respective ranks may be.

All officers (including medical officers) have a dress-sword for ceremonial occasions. Whether this weapon is sharp or not is a matter of personal preference, though some captains and even admirals make stipulations for all personnel in their command area. A variety of patterns are used, from relatively heavy cutlasses and sabers to a light, curved sword known as a 'Navy Foil'. Naval officers who are also nobles sometimes carry a 'true' Foil as their dress sword. The regulations about which swords may be or must be worn at any given occasion are tortuous and fairly pointless. For the average Naval officer things are simpler – he wears his regulation dress-sword anytime he is in full dress uniform, and anytime a superior specifies 'swords will be worn'.

'Fighting' swords are sometimes issued to security personnel and officers. Rather more plain than an officer's dress-sword, the standard Naval cutlass is an intimidating weapon, which is its main use. Boarding parties, for example, are often preceded by two ratings or Marines with drawn swords (if actual trouble is expected, the party goes through with guns ready instead) in a mix of ceremony and threat that may make the boarded crew more compliant.

Actual combat with swords is quite rare, though fencing is a popular Naval pastime. Light 'sport' swords more or less identical to a Foil are common, though there are categories in many events for 'cutlass fencing'.

### Guards and Security

Some areas of the ship are always guarded. The Armory, Bridge and Engineering Control Area all have a single sentry (except on the smallest ships). These may be Marines, but more often are crewmembers with appropriate (Naval Regiment or Gunnery Branch) training assigned to security duty. Sentries are usually armed with a baton and a snub pistol.

In port, security patrols outside the ship are usually armed with snub pistols or autopistols, though in friendly ports the guards may wear a cutlass instead for show. An armed "response party" is always maintained at readiness within the ship, away from the public eye. Snub SMGs and body armor are available to Navy personnel, while Marines serving as Ship's Troops have their own equipment. Battle dress is not normally used for these situations.

When a ship is grounded in potentially hostile territory, Marines are deployed for security, backed by Naval personnel armed with Advanced Combat Rifles (ACRs) or the new Advanced Combat Carbine (ACC).

### Guns Aboard Ship

Most of the weapons aboard a starship are locked up in one or more armories. A stock of snub pistols and SMGs, plus a few ACRs and cutlasses, are stowed for issue at need. Larger ships may have more than one main armory, and several "security lockers" containing snub pistols situated in strategic areas. All ships have at least a couple of snub pistols in a locked cabinet in Engineering, and another on the Bridge.

Access to the armories is restricted to the Captain, the Exec and the commander of any ship's troops (or the Security officer). Local security lockers have coded keys, with access granted to the senior crewmember in that section of the ship.

### Boarding and Customs

The Imperial Navy has the right to stop and search any ship in Imperial Space. Vessels using courtesy "transit corridors" are often allowed to pass without anything more than a friendly greeting, but even in a transit corridor, the right of stop & search exists. This right extends to every vessel not belonging to the Imperial Navy, including Huscarle and mercenary ships, and even the yacht of the Sector Admiral or the Archduke. While some nobles are "difficult" about being boarded, most understand that an even-handed application of the rules is necessary, and submit without protest. Some are positively delighted to be boarded by the Navy and try to make a social occasion of it.

The Navy not only has the right but the duty to board and search. It does not make exceptions, though unless there is a blanket search order assigned to a particular system, not every vessel will be searched. Naval ships do not dock with vessels to be boarded. Personnel use shuttles or jump across, even when the board-and-search is a cursory routine check of a known friendly ship. Boardings are always conducted by armed parties, in vacc suits. At least some members of the party keep their suits sealed at all times.

Personnel selection for boarding parties favors (in order) Marines, Naval Regiment personnel, Gunnery personnel, and any crew with small-arms proficiency badges. By preference, boarding parties are commanded by a Naval officer or petty officer, even if a more senior Marine is present. Where possible, specialist personnel accompany the boarding party, in the hope that they will spot discrepancies that a non-specialist might not.

Boardings take the form of an examination of the ship's papers, a visual examination of cargo, bridge and drive areas, and a detailed close-range sensor probe of the ship. Logs are downloaded and checked for discrepancies, and the ship's complement are questioned in as much depth as necessary. Compliance with safety equipment and navigational laws is verified, and the vessel is either allowed to go on its way or seized for a more detailed search. If necessary, the ship is escorted (or personnel are put aboard to bring it) to the nearest Naval base to be dismantled.

Most boardings are undertaken with an air of polite distance on the part of Navy personnel, and usually weary resignation from the boarded crew. Gifts and gratuities – of any form – are never accepted by boarding party members. Even once a ship has been declared clear to pass, it is immediately subject to search by the same Navy vessel or any other. This right can be used to harass suspected criminals, but is rarely abused.

### FLIGHT PROCEDURES

When a vessel is out of port, certain operational procedures are adhered to. A qualified officer is always present on the bridge to deal with any sudden crisis, and a constant passive sensor watch is maintained.

### Transponder Modes

Imperial Navy vessels normally run either in "Quiet" or "Overt" mode. In overt mode, the vessel's transponder is active, as are her active sensors. The Navy ship is as visible as any merchant – more so – and clearly identifies herself not only as a naval ship

but usually by class and name. When on traffic control, escort or similar duties, high visibility is an asset.

In Quiet mode, the ship's transponder is off but IFF (Identification Friend-or-Foe) is in "response" mode. That is, the IFF system will respond to queries from other ships. Those squawking the correct codes (i.e. friendly Navy ships) will get the full transponder information back by tight beam signal. Other craft will get a response identifying the ship as an Imperial Navy vessel, but offering no other information. This response will not be made to a general IFF squawk unless it carries a Navy code. Only if the interrogative signal contains the Navy ship's co-ordinates (i.e. it is certain that she has been spotted by sensors) will any response at all be made. Otherwise, she will continue to hide.

A third mode, Silent mode, is used for combat situations. Emissions are masked to the utmost degree and only Navy IFF codes will receive a response and then only by tight beam, if authorized.

### **Sublight Movement**

A vessel operating in Overt mode will usually use constant acceleration to reach her destination by the most efficient route, though Navy ships routinely vary their acceleration and vector slightly in a manner similar to a wet-navy vessel zig-zagging to avoid submarines. Under combat or alert conditions, vessels usually either "creep", at low acceleration and with consequently lower emissions, or "sprint and drift" using short bursts of acceleration with the drive section turned away from the suspected location of hostile vessels and emissions hopefully masked by the bulk of the ship.

In combat, pseudo-random evasion patterns of thrust and attitude are used to confuse the enemy's firing solution. It is a tactical decision for the Captain as to how far off the desired mean vector a ship should thrust. The more radical the evasion, the slower the ship will reach its destination or firing position.

## **JUMP PROCEDURES**

The normal Jump procedure used by the Imperial Navy is lengthy and careful. Jump requires close coordination of powerplant output, Jump engine calibration, and Astrogation input. Actual initiation is by the Astrogator, but regulations require that Jump only be initiated on the orders of the commanding officer of the vessel.

### **Standard Jump Procedure**

A standard Jump moves through several stages of readiness, all subject to confirmation and authorization. Jump is a very deliberate procedure aboard a Naval ship.

**Stage 1 Readiness:** Astrogation plot is generated and fed to the astrogation computers. This determines the level and pattern of charge in the ship's Jumpgrid, and the general parameters of the Jump engine initiation. Several destinations can be held at Stage 1 readiness.

**Stage 2 Readiness:** Destination is confirmed and locked into the astrogation computers. Specific parameters are generated for Jump drive and hull grid. This process takes 2-3 minutes, and only one destination can be held at Stage 2 readiness. Vessels entering combat often have an escape Jump plotted and held at Stage 2. The hull grid is not live at this stage.

**Stage 3 Readiness:** The Jumpgrid is brought up to 30% charge level, and the Jump engine begins its warm-up cycle. This draws a great deal of power and increases a ship's emissions considerably. It is usually possible to tell if a ship is running at Stage 3.

**Stage 1 Initiation:** The Jump engine (which includes a massively high-output but very inefficient generator) begins to burn liquid-hydrogen fuel at an enormous rate, generating immense power levels. If the rate of fuel flow and energy output is gently ramped up over 10-15 minutes (this is referred to as a "warming cycle") there is little strain on the engines and a very small chance of Misjump. Grid power increases rapidly to 80% of maximum. Normally this phase takes 1-2 minutes. Emissions are greatly increased. Even quite poor sensors can tell if a ship is at Stage 1 initiation. Jump can be aborted at this point, though there is a small risk of a power overload and about 5% of the Jump fuel is typically wasted.

**Stage 2 Initiation:** The Jump drive burns through 90% of the fuel that will be needed for this jump, and emissions go off the scale. Jump grid is brought to 100% entry power, and held there. Jump must be initiated in the next 3-5 minutes, or an emergency abort begun. If not, the ship will enter Jump without proper control, and will certainly Misjump or be destroyed.

**Jump Initiation:** With the grid at full power, the vast energy generated by the Jump engine is blasted into it, projecting the vessel into jump space. Destination is determined by the energy balance and configuration of the grid at the time of Jump initiation, and can be affected by gravity wells, damage or power fluctuations.

**Jump Maintenance:** Once in jump space, the remaining 10% of fuel is used by the jump engine to maintain the j-field around the ship. Without it, the vessel is instantly destroyed.

Four other jump procedures are important to the Imperial Navy:

### **Emergency Abort**

A ship which suddenly has a pressing reason not to Jump (such as combat damage just before initiation) can make an emergency abort. From Stage 1-3 Readiness, this is a relatively low-risk procedure, requiring only routine engineering tasks known to all qualified Engineering personnel to complete safely. Mistakes may result in minor systems damage from power surges, but usually nothing serious.

Aborting from Stage 1 Initiation is more dangerous and will tax most Engineering teams. Errors will certainly cause some systems damage, and there is a possibility that sections of the Jump grid may be damaged by overloading. The ship's power system may also be damaged.

Aborting from Stage 2 Initiation is a desperately dangerous undertaking requiring emergency procedures and (usually) a certain amount of 'seat of the pants engineering' in a very fluid and dangerous situation. An error can result in anything from power overloads that take out various systems, to a drive explosion that wrecks the engineering section. In some rare cases the ship enters Jump anyway, with a totally random destination and serious damage to the Jump and Power systems. Few vessels survive this experience.

### **Crash Jump**

Sometimes it is necessary to escape a desperate situation. The normal Jump cycle takes 15-20 minutes assuming course plots are ready. By crash-starting the process and going immediately to full power, Jump can be initiated in 1-2 minutes if a course is ready in the computer. This causes great strain on the system, at the very least shortening the life of the Jump engine.

To initiate a crash-Jump, in-game the normal engineering and astrogation rolls are needed. To actually survive the process, a

second set of powerplant and jump engineering rolls must be made at a suitable penalty for the circumstances. If either set of rolls is failed, the ship has Misjumped with damage to its drives. If both are failed, well, at least the explosion will look impressive.

### Fleet Jump

Jump mechanics are not properly understood. Two similar vessels can enter Jump at the same time and place, with the same destination, and come out 2 days apart. This is not acceptable for fleet operations.

The Imperial Navy gets around this in two ways. Jumps are made, where possible, into points distant from the projected location of enemy forces. This gives time for the fleet or squadron to reorganize itself upon arrival. However, it is not always practicable.

For this reason, all Navy vessels are fitted with Squadron Jump systems. These generate Jump parameters for a group of ships rather than a single vessel, and slave the systems of all ships to a central initiation circuit. The standard unit (which is very expensive) can cover a squadron of ships (or a convoy and its escorts). Fleet flagships are fitted with an even more complex system which can coordinate the Jump of a number of squadrons.

There is still variation in emergence, however. Using a linked Jump reduces variation in time to about an hour either way in most cases. Position variance is minimal. This means that fleets can Jump en masse and be ready for combat at the far end, but a fleet emergence is still an exciting time for all concerned, as vessels emerge in the wrong order, on slightly different vectors, and dispersed in time by up to 2 hours. The variance is greater for large fleets. A single vessel and her escorts are likely to emerge all together. Larger forces are not.

### Pursuit Jump

The Squadron Jump computer can be used to analyze a vessel's jump parameters and initiate a pursuit Jump to the same destination. If the pursuit Jump is initiated very soon (2-3 minutes) after the first craft Jumped, there is an excellent chance that the pursuer will arrive in the same relative position to the pursued as before Jump was initiated. Any delay allows for parameter drift, with the result that location or more likely, time of arrival, may be off.

The longer the delay, the more variation there is. If the pursuer takes than 15 minutes about initiating the Jump, the parameters will have drifted so much that the result is no different to the normal situation when two ships Jump independently to the same system – emergence location may be different by millions of kilometers, and the usual day-either-side-of-a-week duration applies. The pursuer will usually arrive within a half day, and somewhere within a few millions of km, but this is of little use in a pursuit situation.

For this reason, pursuit Jump is a hurried, crash-Jump situation, and is rarely used.

## COMBAT PROCEDURES

When Action Stations is sounded, all crew must immediately suit up and proceed to their battle station. Those manning essential systems remain at their post until relieved and only then don their suits. As sections report suit readiness, that section is evacuated to prevent explosive decompression.

A ship's weapon systems are normally powered down. Overall status of weapons is controlled from the Captain's position. Several settings are available:

- Weapons Tight: Weapons are powered but cannot fire.

- Defense Free: Weapons are powered, but only point-defense lasers and defensive systems can operate.
- Weapons Free: All weapons can fire, but only under the central direction of the gunnery officer. Point-defense can operate independently.
- Local Control: All weapons are released to operate independently. This mode is used when main fire control is out of action. In the event of serious damage or the loss of the bridge, all weapons automatically revert to local control. Local control is less efficient than central fire direction, and the possibility of friendly-fire incidents is much higher.

Which mode the ship's weapons are in depends upon the Captain's appraisal of the situation. Additionally, weapons use is affected by orders from squadron or fleet command. These place no physical restriction on the use of weapons, but advise the Captain as to whether he is allowed to initiate combat. This is particularly important when undertaking delicate operations in a situation of cold war or tension, where provocation can be expected. The threat warning issued by higher command helps a Captain decide what sort of response to make. His instinct may be to blast that harassing Solomani gunship in case it suddenly opens fire at close range, but his orders may not allow it.

- Threat Warning Green: No threats are expected. The vessel is not authorized to initiate combat, but may of course defend itself.
- Threat Warning White: A possible threat exists. The vessel may respond to an attack, but may not initiate offensive action. If fired upon, a limited response to remove the threat is authorized.
- Threat Warning Red: A real threat of attack exists. The vessel is free to engage potential threats before they open fire, but not to actively seek combat.
- Threat Warning Black: A war, or war-like situation exists. The vessel is free to seek out and engage enemy vessels at best opportunity, subject to its operational orders.

Special conditions exist. For example, a vessel operating in a condition of Green, Weapons Tight, may still engage a known pirate vessel, since standing orders permit this.

### Rules of Engagement

Naval vessels are subject to strict rules of engagement. Under normal circumstances, suspect vessels must be challenged three times and a warning shot fired before any attempt is made to damage the vessel. However, there are occasions when naval ships may fire with minimal, or no, warning. In time of war, vessels identified as belonging to hostile states may be attacked without any warning. Indeed, this is the preferred mode of attack. Such vessels are usually identified by passive sensor data picked up by picket craft.

Free-fire zones exist around sensitive sites and vessels. Flagships, Naval depots and the entire Imperial Bodyguard squadron exert a "free-fire zone" around them, wherever they may be. Intruder craft will be warned if they are outside the zone, or just inside it. A craft that manages to slip deep into the free-fire area without being detected is almost certainly up to no good, and policy is to destroy such craft with overwhelming fire immediately upon detection. A craft that is not destroyed will be boarded and stripped down to its frame – and the crew interrogated – to find out what the ship was up to.

In the event that a vessel fires upon a Navy ship, a civilian vessel or an installation belonging to the Imperium or its member worlds, it is subject to retaliation with lethal force. Vessels may be challenged



to stand down at discretion, but the Captain of a Navy vessel is quite within his rights to blast anyone who shoots at his ship into sub-atomic particles.

In all other cases (subject to the Captains' judgment of the situation), vessels must be challenged, and fire should be directed to disable rather than destroy. Clear target identification is essential, especially when dealing with what looks like a corsair but just possibly could be a nervous merchant vessel.

### **Damage Control**

When a ship is closed up at action stations, all personnel who are not involved in running combat-necessary systems, or waiting in reserve to replace casualties, are assigned to damage-control teams. These include Engineering and Technical personnel, plus the ship's cooks, clerks and other general Crew-branch members. Everyone receives training in basic damage control procedures, and teams drill constantly.

Damage control is coordinated by the ship's security officer, who dispatches response teams to deal with gross damage such as hull penetration and technical teams to repair command pathways and other more delicate systems. There is a brutally simple rule to damage control operations – Save the Ship. Individuals are irrelevant beside the need to preserve the entire ship's company. The ship must retain the capability to support life, to move, and to fight. Everything else is secondary.

Leaders of damage control teams must often make critical decisions in an instant, and must be able to be callous about the fate of individual crewmates in the interest of saving the ship.

### **Devolution of Command**

The ultimate authority aboard the vessel is the Captain. Whatever his (or her) actual rank, the appointed or acting commanding officer of the vessel has complete authority and responsibility for the ship, her crew, and her mission. The Captain has the right to overrule any officer under his command, but is well advised to listen to the opinions of specialists such as engineering or gunnery officers. The Captain must keep track of the "big picture" and not become bogged down in minutiae.

The Captain's orders are implemented by the Executive Officer (hence the job name.) On small vessels this officer may have other duties, but as exec, he or she is responsible for implementing the Captain's decisions and for having distilled information available at need. When the Captain wants a damage report, he does not need to speak to each department head in turn. Instead, he wants the Exec to present a concise version of what the departments have been telling him. Information-filtering is a vital part of the executive officer's duties.

It has been said that the Captain deals with the Admiralty on behalf of the ship, while the Executive Officer deals with the ship on behalf of the Captain. The partnership between the two is vital for a well-run ship. The Exec also stands in for the Captain whenever he or she is unavailable, and takes command if the Captain is injured.

The various department heads are responsible for everything within their department, and for ensuring that the Captain is kept up-to-date with circumstances. Each has complete authority within his own area. Conflicts of interest are resolved by discussion, or referred to the Captain (or the Executive Officer.) Department heads are expected to advise the Captain if he requests it (how much discussion is appropriate is determined by individual Captains) and if it is in the interests of the ship. For example, a gunnery chief who knows that the ship's fire control systems are down and not

coming back on anytime soon is expected to make it very clear to the Captain that the ship is not combat-worthy. Department heads are entitled to protest orders that they consider inappropriate, but can be overruled by a direct order from the Captain if the situation merits it.

Officers holding critical positions such as astrogator or security chief, who are not department heads, are also subject to the above procedures within their area of responsibility. If the Captain gives an order that would place the ship in jeopardy, officers are required to protest, no matter how fearsome the skipper may be. Those who do not, and survive the result, can expect a court of inquiry.

In the event that the Captain is injured, command devolves to the Exec, then to the senior surviving bridge officer. The procedure for who takes over after that is deliberately vague, to allow for circumstances. The Captain is entitled to appoint any officer to the role of Acting Captain, whatever their actual rank. The last act of a gravely injured Captain should be to place his ship in the hands of the person most likely to get it home, without prejudice or favoritism.

If the Captain cannot appoint a successor, the ship's command structure usually indicates a suitable officer. Seniority and rank are the usual criteria, though command tends to devolve upon officers of Line, Flight, then Gunnery branches. Specialists in other areas are less suited to taking command of a ship and some, like Medical, are not in the chain of command and are not trained for the eventuality. A medical officer, even a Commander, and would be a last choice before getting down to Ensigns and Petty Officers. Any vessel having to make that sort of choice is almost certainly not going to get home anyway.

Occasionally, an officer may decline to take command, choosing to remain at his station. For example, the gunnery chief may be senior surviving officer when the bridge is blown away by a meson gun hit. He must choose between taking over the ship and remaining where he is most effective – fighting the ship out of trouble. His choice is dictated by his opinion of the next officer in the chain of command. Both options fulfill a responsibility to the ship. Which is more important is a vital split-second choice. Small vessels have occasionally come home with a Petty Officer on the bridge giving orders to a Lieutenant down in what's left of engineering. This is an entirely acceptable situation, if both are where they can do the most good.

Very rarely, it is necessary to relieve an officer of duty. For junior officers, this is the decision of the Captain or the medical officer (ratified by the Captain.) If a Captain has obviously "cracked" or is behaving in a psychotic manner, he must be removed from command. Not even the ship's medical officer can do this on his sole authority. The only time such a removal is legal on a single person's authority is when an admiral aboard chooses to relieve his flag-Captain. At any other time, three of the ship's senior officers must agree to the necessity, and jointly request that the Captain stand down. If he refuses, he must be arrested. This sometimes involves violence or the threat of it, and can result in infighting among the crew.

The line between mutiny and the legal removal of a Captain who is unfit for command is a fine one. A Court of Inquiry is always called, and the actions of all involved are examined closely. If the officers acted correctly in response to the Captain's unfitness for command, they are quietly commended and the Captain will be re-evaluated for command. If their actions were not legal, the officers can expect a trial as mutineers and harsh naval justice. Removal of the Captain is always an unpleasant business. It is possible that,

while the act was legal, the manner in which it was carried out may result in censure. Future comrades and commanding officers may be suspicious of officers involved in such an incident, however legal or necessary.

In the event of a violent removal, personnel who acted to defend the Captain, or to oppose them, will be subject to a court-martial. However, they are rarely punished if they can prove that they acted in good faith. Personnel involved in a messy removal are always posted far apart afterwards.

## ARMED SHIPS NOT UNDER FLEET COMMAND

There is a point at which an armed vessel becomes a warship. This is subject to all manner of definitions and legal arguments, but the fact remains that there are many warships and pseudo-warships operating in Imperial space without being part of a fleet. Some of those ships belong to planetary navies and are sometimes part of the Imperial Navy (e.g. when they are serving with the Subsector Fleet) but at other times remain 'private' vessels. Some of these ships are very large – cruisers and even the occasional battleship – but by Imperial Law they are entitled to go wherever they like in the same manner as merchants and other civilian ships. For vessels operating under the banner of the Subsector or even Sector Fleet as part of Colonial Forces, the situation is very clear-cut. They are subject to normal Naval procedures and have all the powers of an Imperial Navy ship – which is, after all, what they are.

For the fairly large numbers of mercenary, corporate and planetary-navy warships in Imperial space which are not under Fleet orders, a different set of regulations applies. The Imperium allows private shipowners to mount weapons on their vessels for self-defense and while there are limits on what a private citizen is permitted to mount on a vessel, heavily-armed civilian ships are not uncommon in frontier areas. Such vessels are permitted to defend themselves or come to the aid of another vessel under attack, just as citizens are allowed to defend themselves, but armed ships proceeding without Fleet command normally have no legal jurisdiction. Thus the armed yacht and escort of a noble, or a corporate 'route protector' would normally have no right to stop and search a suspected smuggler or pirate, though it could of course engage a vessel that was attacking it or another ship and might give chase afterwards.

Thus normally a Planetary Navy ship that is not attached at that time to an Imperial fleet is permitted to go wherever it needs to, but it is not allowed to function as a Naval ship. However, there are some exceptions.

## INTERNAL WARS

The Imperium permits worlds to go to war with one another provided the conflict is limited. Wars of conquest are forbidden, though outsystem installations are occasionally captured and held. If fighting in a declared war (which includes Trade Wars and other, similar, disputes), the warships of worlds, corporations, and mercenary formations are permitted to engage in hostilities and military actions within the theater of war, and may in some cases search vessels within the region. However, enforcing a blockade and harassing merchant ships gets dangerously close to 'interrupting free trade', which is forbidden in Imperial High Law.

Huscarle ships are not normally permitted to take part in internal wars, though sometimes a noble in dispute with a corporation (for example) may engage in 'private' hostilities. This is frowned upon by the Imperium since the nobility are largely Imperial officials and should be above participating in local disputes.

## ROUTE PROTECTION AND PROTECTION OF INTERESTS

Corporate, Mercenary, Noble and Planetary warships may request (and will often be granted) permission to undertake security patrols in certain areas. This is how the Route Protectors used by certain Megacorporation operate. Outside the region (usually a chain of star systems forming part of all of a merchant route) specified in the vessels' charter, they have no legal powers. Within that region, a range of powers may be conferred. These range from a simple charter to protect merchant vessels in the area (effectively conferring Imperial blessing on the endeavor but granting no legal rights) all the way through to permission to function in the manner of a Naval ship in the specified region. The latter is fairly uncommon, though sometimes Mercenary and Huscarle ships are co-opted to assist an overstretched Subsector Fleet in this manner.

Planetary navies often seek (and sometimes get) permission to patrol nearby systems 'to protect the interests of the homeworld'. This is commonest where a trade route runs through a system that cannot afford much of a system squadron. A nearby major world will undertake to patrol the system mainly to protect its own trade running through the region. The Imperial Navy is thus freed from pressure to maintain a picket in the system, so this arrangement is considered highly useful. It can of course be abused, but the penalties are severe.

Mercenary ships (and sometimes others) are also sometimes issued what amounts to an Imperial Letter of Marque (though the Imperium does NOT issue Letters of Marque allowing attacks on commercial shipping) against pirates in a certain region. This effectively gives the owning ship the right to stop and search suspected pirates and possibly smugglers. It does not allow customs checks to be carried out, or enforcement of law other than apprehension of pirates.

## ACCOUNTABILITY

By tradition, permission to undertake 'naval' operations is granted by the office of the Sector Duke (or the Archduke of the Domain). This means that there may be ships carrying out naval tasks which are not under the orders of the regional naval commanders. Friction over this is fairly rare however, since Admiralty liaison officers are available to the Dukes and there is a considerable body of precedent on which to base decisions over whether to issue permission, and to what degree.

Planetary Navy and private ships that are subject to activation by the Colonial Fleet are monitored by the Colonial Office. In addition, all warships operating within a subsector are monitored by the Subsector Admiralty and by the staff of the Subsector Duke. Minor infractions of regulations are subject to penalties imposed by the Imperial courts and may include punishments meted out to the vessel's captain, crew or owning body. Major infractions can result in Imperial intervention against the owning world or corporation, or the arrest of the captain and crew as pirates.

## WEAPONRY

Warships that are available to the Colonial Navy may mount almost any weapon. They do not carry nuclear weapons unless on a war deployment, and certain very powerful meson guns and particle accelerators are normally replaced with downgraded weapons before the ship is decommissioned from the Imperial Navy. Such weapons are normally found on fairly new ships anyway, and these tend to still be in service so the question rarely arises.

Nuclear missiles are not permitted to planetary powers except where clearance has been issued by the Sector Admiral. This is routine in the case where large-scale warfare has broken out in the region and maximum effort may be needed in order to repel an assault. A world that is attacked by a non-Imperial power and uses nuclear missiles before permission arrives will not normally be censured.

Nuclear weapons are not allowed under other circumstances. The last thing the Imperium needs is indiscriminate launching of nukes in the middle of a Trade War or inter-world dispute.

In all other ways the weaponry available to planetary navies, corporate powers and so forth is the same as that used by the Imperial Navy, though the latest upgrades and designs are always reserved for Fleet use and not made available on the open market until they have been declassified – which means around the time they have been supplanted by something better.

## **CHAPTER 6:**

# **WEAPONS AND EQUIPMENT**

Much of the equipment of the Imperial Navy is standard, and available to corporate or private purchasers. However, some equipment is restricted to military use by the Imperial and Colonial fleets. It is sometimes possible to obtain such systems by various means such as unauthorized salvage or elaborate scams, but Naval Intelligence tends to be very interested in anyone who suddenly starts using meson weaponry. The Navy (and the Marines) are likely to pay a visit shortly thereafter.

## **STARSHIP SYSTEMS**

The Imperium recognizes the need for armament on civilian vessels such as liners and freighters. A few laser or missile turrets are an effective deterrent to piracy or hijacking. Sophisticated defensive systems capable of stopping Navy-grade weapons, and those weapons themselves, are judged to be unnecessary for self-defense purposes. Most are available to Colonial Navy, System Squadron and Huscarle units.

## **WEAPON MOUNTS**

All weapon systems need to be mounted somewhere on the ship. Weapons are normally grouped into batteries that fire together, increasing the chances of a successful hit and also damage. Batteries are told what to shoot at and when by the gunnery officer in most case, but are actually directed by the battery commander. If this central control is lost, weapons can continue to fire under local control with reduced effectiveness.

### **Spinal Mounts**

In order to generate ship-killing damage, very large weapons mounts are fitted to most large warships. Such weapons run the length of the ship and often have dedicated powerplants. Depending upon the weapon, very limited aiming is possible by manipulating containment fields and focus arrays but essentially a spinal mount is aimed by pointing the main axis of the ship at the target.

Most spinal weapons are meson guns or particle accelerators, though variants do exist. Truly colossal lasers are not as much use as their advocates would like, but some small strike craft are built around a “spinal” fusion or plasma gun, and some bombardment ships carry a large mass driver down the main axis of the vessel. Spinal mounts cannot be retrofitted to a design; the spine is part of the main keel of the ship.

In theory, any vessel could be built around a spinal mount, but the power and space requirements are such that they are not really suitable for smaller craft. Occasionally a destroyer or patrol ship-sized vessel is encountered carrying one as a deterrent and a sort of “varmint gun” to take out small corsairs and minor strike craft with a single blow. Such minor spinal armament also allows small ships to present a credible threat against a major warship, but trying to use it amounts to suicide.

Experiments with double or even quadruple spinal mounts, or with split mounts facing fore-and-back, have been tried. Such systems never seem to work as well as their inventors hope.

### **Weapons Bays**

Defensive systems and oversized weapons can be mounted in “bays”. A bay is simply an area within the hull dedicated to serve



a particular weapon system. Missiles and particle accelerators are the commonest bay weapons. A large ship may carry several – even hundreds – of weapons bays. A smaller vessel may be built around a single one as a substitute for a spinal mount. In this case the bay would be referred to as the “missile room” or “accelerator chamber”.

Unused weapon bays can also be used as missile magazines, troop ready rooms, as cargo areas or beer stores.

### Weapons Barbettes

A barbette is an oversized turret mounting a single large weapon such as a particle accelerator. While barbettes cannot mount the powerful weapons that can be fitted in a bay, they are capable of bringing fire to bear in a wider arc. Barbettes are fitted as part of the battery armament of large ships and also to allow a couple of powerful weapons to be fitted to a small vessel such as a *Gazelle* class close escort.

### Weapons Turrets

Most smaller weapons are mounted in turrets to give good all-round coverage. The turrets themselves are the same as civilian counterparts, though they tend to have the same armor protection as the parent vessel and are thus far more survivable than civilian weapons. Single, dual and triple turrets are common. Larger weapons such as plasma guns take up an entire turret, or else are mounted dually in a barbette.

## DEFENSIVE SYSTEMS

A range of defensive systems are standard across the Imperium. Not every ship has all, or even any, of them. Defensive Systems are sometimes referred to as ‘screens’ and are basically passive in nature. Screens crewmembers are members of Gunnery branch and the operation of defensive systems is coordinated by the gunnery officer. Large ships often have a ‘Screens Officer’ subordinate to the gunnery officer (and also a Missile Officer, Beam Weapons Officer and Spinal Mount Officer etc), who commands the specialist defensive systems.

### Repulsors

Repulsors are based on focused gravitic field generation; the same systems that create the artificial gravity fields aboard starships. They can be fitted in standard turrets and larger bay mounts. Their function is to deflect incoming missiles and debris before impact with the hull. Repulsors could also be used to deflect kinetic-energy projectiles, artillery shells and such like, if the vessel were in the unusual position of being the target for some. They have no effect on plasma, fusion, particle or laser weapons, or relativistic objects.

### Meson Screens

Meson screen generators are fitted to all major warships, and many smaller ones. Their function is to disrupt incoming meson streams and prevent the decay of the particles from occurring at the intended moment. This can reduce damage from meson weapons or cause them to miss entirely. Meson screens have no value against any other weapons.

### Black Globes

The Black Globe is a somewhat unreliable technology developed from relics left over from the Ancients. It is not known how they actually work. What they do is to create a shell which absorbs all energy striking it. Objects impacting the screen are annihilated, or more accurately converted to energy which is absorbed by the screen.

This energy has to go somewhere, so it is shunted into large Black

Globe Capacitors which store it for use in the ship’s systems. If these capacitors are overloaded, the energy begins to escape. In the case of a slight overload this is a dangerous leak which can cause personnel casualties and destroy electrical systems. In most cases where weapons fire is involved, the overload becomes catastrophic in an instant and the capacitors explode. This usually destroys the vessel instantly.

Since no energy can penetrate the globe, a ship inside one cannot maneuver, and is blind and deaf, but also does not show up on enemy sensors except as a “black hole” in the sensor readings (this is difficult to detect with active sensors and almost impossible with passive ones). A ship can use dead reckoning to drift along a known vector into a firing position or past enemy pickets, then drop its black globe for a surprise attack.

Black globes can also be set to “flicker” on and off many times a second. In this mode, they absorb a percentage of the incoming energy equal to the flicker rate (i.e. 20% flicker rate = 20% of energy absorbed). This does not confer any stealth advantages but reduces the damage from weapons fire while allowing the vessel to see, move and shoot.

### Sandcasters

Sandcasters are often considered to be point-defense weapons rather than passive ‘screens’. Their function is to place a cloud of particles (‘sand’) between the ship and incoming weapons fire and thus reduce its effectiveness. Sandcasters are usually mounted in turrets grouped into batteries to maximize their effectiveness. Some ships consider their sandcaster complement to be part of the screens and commanded by the screens officer. Others group sandcasters as defensive armament with short-range point-defense lasers and place a ‘Point-Defense Officer’ in charge of both systems. Either approach works well.

The sandcasters used by the Imperial Navy are entirely standard and identical to the ones fitted to small merchant craft. However, since they are operated as batteries in close conjunction with other systems and supported by sophisticated electronics they tend to be much more effective than their civilian equivalents.

## WEAPON SYSTEMS

The Imperial Navy makes use of a number of weapon systems. Some are more effective than others in various circumstances. What weapon systems are selected for a given vessel will to a great extent depend on its intended role.

### Laser Weapons

Laser weapons are the mainstay of shipboard armament. Accurate and versatile, they are used for point defense and in batteries for ship-to-ship action at quite long ranges. They are effective up to a point but against a major combatant there is a limit to what can be achieved with laser armament. Thus lasers on all but the smallest naval ship are secondary or tertiary armament. If a vessel is intended to do more than defend itself against raiders or police the spacelanes, then it carries something heavier than a laser as its main armament. Up to 3 lasers can be fitted in a standard turret.

The lasers used by the Imperial Navy are much the same as civilian ones. They are ruggedised; overbuilt and multiply redundant, designed for emergency repairs and sustained fire, but are basically the same as those available on the open market.

### Missiles

Missiles offer long-range firepower and the possibility of taking out an enemy vessel without risk. However, ammunition is a

problem, and a vessel relying solely on missiles can get into real trouble quickly, especially against an enemy that has good point-defenses.

Missiles of various types are available. The commonest ship-to-ship missile uses a "bus" section fitted with a seeker head to carry its warhead close to the target, then launches 4-6 smaller weapons, which seek the target independently and also use target feeds from the bus seeker (until it is destroyed before enemy fire.) Such weapons, using a shaped-plasma warhead, do relatively light damage to the target but can punch multiple holes in a hull. The submunition warheads split beyond point-defense range and thus complicate the defenders' task. One-shot ship-killer missiles use the same bus but have a single large warhead in place of the submunition pack. This weapon goes all the way to the target under its own power and direction. Damage is significantly greater but defense is easier.

Nuclear warheads are occasionally used for contact or proximity detonation. In the latter case, there is of course no blast effect but electromagnetic pulse and radiation can fry electronics, cause crew casualties and also cause structural damage by induction heating in the target ship. Contact detonations are devastating, but difficult to achieve. Another use of nuclear weapons is the nuclear-pumped detonation laser, where the detonation of the warhead is used to power a group of x-ray laser rods for a standoff attack. This is treated as a laser attack; the nuclear detonation is usually far enough out that the radiation and EMP effect is minimal (except perhaps on unhardened electronics carried by civilian craft).

Nuclear missiles of any type are strictly controlled by the Imperium. They are permitted to Colonial Navy and System Defense units for use in a war situation against foreign hostiles, but their use, even in space combat, against the forces of an Imperial member world is prohibited.

Specialist missiles are often used. Some carry advanced sensors and missile control packs instead of a warhead. These automated systems direct the other missiles in a salvo, supplying target information from a position beyond the enemy's point-defense range, but from far closer than the launching vessel. Another specialist missile carries electronic warfare systems. These can be launched with a salvo to jam enemy communications and reduce point-defense effectiveness, or can be used as decoys close to the launching ship to apply ECM against incoming fire while the missile ship remains stealthy, greatly complicating the fire control problem for the enemy.

Missile systems are also routinely used to launch probes, recon drones and satellites.

The "ready use" ammunition of a missile turret is one round in the launcher, two ready on autoloader rams. For civilian craft this is often the entire missile complement of the vessel. Military ships usually have a "use magazine" serving several turrets, in turn fed from a main magazine deep within the armored bowels of the ship. Missile handling in combat is a dangerous business, especially where nuclear munitions are concerned.

### **Plasma Guns**

Plasma guns are large, short-range weapons that fire a stream of superheated, charged gas from an oversized weapon mount. This mount is larger than a conventional turret and requires special hull bracing to support it. Plasma weapons cause a great deal of damage to the hull of an enemy vessel, and can annihilate a small merchant vessel with a single hit. The plasma stream dissipates quickly and consequently is no use at long range.

### **Fusion Guns**

Fusion guns are a developed version of the plasma gun, with similar characteristics. The only real difference is that that plasma proceeds to fusion, generating even more hitting power though again only at close range.

### **Particle Accelerators**

Particle accelerators can be mounted as spinal, "bay" or turret weapons. Spitting a stream of charged or neutral particles (depending upon type), particle accelerators do surface damage to a target and pack much more of a punch than lasers. Particle accelerators are poor weapons for ground bombardment of any world with a significant magnetic field.

### **Meson Guns**

A developed form of particle accelerator, the meson gun uses a stream of relativistic particles timed to decay at a given point. The resulting explosive release of energy can occur inside a target, defeating armor. Meson screens interfere with this process, and are fitted to most large vessels. Meson guns are often used to attack planetary surfaces, and can be built deep underground for planetary defense. Since the weapon can shoot through rock (or anything else) it can be sited very deep and extremely difficult to attack. Dispersed sensors allow deep-site meson guns to attack anything on the planetary surface or in orbit.

In space combat this effect can be terrifying, as heavily-armored dreadnoughts simply explode from within, with no sign of weapons fire from the enemy. The first uses of meson guns by the Terrans (during the Interstellar Wars with the Ziru Sirka) caused panic in the Vilani navy. Note that meson guns do not actually fire mesons. The name was coined as a security cover, in much the same way that early armored vehicles were labeled as water tanks to conceal their identity. The cover name, being rather more memorable than the real scientific name of the weapon, has stuck to this day.

### **Rail Guns and Mass Drivers**

The Imperial Navy has at times experimented with projectile weapons of various sorts. While useful in some circumstances, rail guns and mass drivers have never achieved any degree of popularity.

Rail guns and mass drivers are actually the same thing. The term "rail gun" is used to refer to smaller weapons firing very light projectiles, while "mass driver" implies a large weapon capable of launching a significant mass, albeit at a lower velocity. Both weapons use electromagnetic effects to accelerate an object to immense speeds. Since the kinetic energy, or hitting power, of an object is determined by the square of its speed, a tiny particle should in theory be capable of devastating a starship. However, this is not the case.

The fire control problems associated with hitting an evading vessel at one or more light-seconds are immense. Sensor data (crawling along at lightspeed) is out of date by the time it reaches the firing ship. A similar lag applies to laser or meson gun fire going the other way, making a hit difficult to achieve. A rail gun particle moving at 1/3 of lightspeed requires a miraculously good target motion prediction to actually hit anything. And where missiles can home in once they get there, railgun projectiles are unguided.

One solution is to use rapid-fire railguns to spray an area of space, but the dispersion caused by distance renders this tactic almost useless. Even if a hit is scored, a depressurized ship is unlikely to suffer much more than small circle of vaporized armor. A projectile might even pass right through a ship, but is unlikely to hit anything

vital.

Larger (mass driver launched) projectiles are large enough to cause massive damage to a vessel, but moving more slowly they are even less likely to hit. Rail guns are useful in atmosphere where expansion of air heated by the energy of impact can cause serious damage. They are sometimes thus encountered in planetary defense installations. Imperial vessels are never armed with rail guns.

Large mass drivers (mounted in bays or as a spinal mount) are useful for planetary bombardment where widespread devastation is the aim. Orbital rock-dropping can be used to shatter bunkers and defense installations, though it is only a little less environmentally damaging than nuclear bombardment. A few specialist bombardment cruisers do deploy mass driver weapons but the lack of an anti-ship capability makes such weapon fits less than popular.

## PERSONAL WEAPONS AND EQUIPMENT

The Imperial Navy has access to the standard small arms used by the Imperial Army, including light support weapons for defense of ground installations. However, their use is quite rare. The weapons mentioned here are those on common issue to naval personnel.

### Navy Cutlass

The Navy Cutlass is a ceremonial weapon rather than a serious combat tool. However, cutlasses are kept sharp and personnel drill with them, just in case. The standard Personnel Cutlass is rather plain and utilitarian, while Petty Officer's weapons are rather decorative, and officers' even more so. Slightly different patterns of cutlass are issued to officers of various grades, but all are variations on the theme of a long, heavy curved blade with a semi-basket handguard. Cutlasses can be used to thrust but this is a little awkward. By ancient tradition, the enlisted personnel cutlass is known as a "butcher's blade".

### Navy Foil

Essentially a light, thin-bladed slashing sword halfway between a foil and a cutlass, the Navy Foil is favored by some officers to the officer's cutlass. It is a reasonably practical light self-defense tool, inasmuch as any sword can be considered to be that.

### 4mm Gauss Pistol

The standard sidearm for Naval officers is the 4mm gauss pistol. All officers (other than medical and chaplain personnel) are assigned one. The weapon is a symbol of rank, but may see occasional use to enforce discipline or in self-defense while on active duty. Senior petty officers may also be assigned a gauss pistol if their duties require one.

### 9mm Autopistol

Naval bases maintain large stocks of handguns to equip security patrols. Other personnel may be temporarily issued a weapon if the situation merits it. Other than a yellow Sunburst on the grips and a Navy serial number, the only thing distinguishing the Navy 9mm from its Army sibling is a belt lanyard which prevents the weapon being lost in low-gravity situations.

### Combat Snub Pistol

The standard naval sidearm is the Combat Snub Pistol. Held in armories and issued only at need, the snub pistol is the one weapon that all naval personnel (other than those exempted by their beliefs or duties) must be qualified on. All snub pistols have a large trigger guard to accommodate vacc suit gloves and a securing lanyard to prevent the weapon being lost in low-g conditions. An integral laser

sight is standard.

Navy snubs are almost exclusively semi-automatic weapons. Snub revolvers are used by various civilian agencies and merchant crews but the Navy favors the high-capacity magazine-fed weapon for obvious reasons. Various ammunition types are available for snub weapons, including gas, tranquillizer, ball and high-explosive ammunition.

### Snub SMG

A larger version of the Combat Snub Pistol, the Snub SMG uses the same ammunition (but not magazines) as the handgun version, plus a low-penetration flechette round for anti-personnel work. Snub SMGs are carried by security personnel aboard ship, and are issued for boarding actions. Capable of burst or full-automatic fire, snub SMGs have short range but great hitting power. Their small size makes them handy for cramped-space and low-g operations.

### Advanced Combat Rifle/Advanced Combat Carbine

The Navy uses the standard Advanced Combat Rifle to equip personnel for ground operations. A variant, the Advanced Combat Carbine, is identical but for a shorter barrel and pistol-type assault grip. Basically a submachinegun version of the ACR for tight spaces, the ACC is under evaluation by the Board of Ordnance.

### Duty Suit

Naval personnel require protection from vacuum first and foremost. Body armor is worn by some security personnel and shipboard patrols but the main danger faced by naval personnel is from decompression. The standard duty uniform of naval personnel is a TL-14 tailored vacuum suit. This "duty suit" is designed to allow personnel to operate complex shipboard systems in a depressurized environment, without interfering with operational efficiency. The suit is worn as uniform dress, and is made atmosphere-tight by gloves, an air rebreather unit and a soft, transparent "beachball" helmet. These are carried on the belt as part of duty kit. In the event of sudden loss of pressure, this suit allows personnel to survive for a time; hopefully long enough to remedy the situation or escape. For combat conditions, a rigid suit helmet and small life-support pack are used instead of the constant-carry emergency kit.

A duty suit offers little protection against radiation, and does not maintain pressure very well. This is not a problem when plugged into a life-support console at a duty station, but for extended independent operations a more substantial suit is needed.

### Naval Vacc Suit

The Navy uses a standard TL-14 vacc suit. These suits are made by navy contractors to the highest standards, but are functionally identical to the vacc suits used by civilian merchant and spacer crews.

### Engineering Suit

Damage control teams and engineers working outside the hull use a specialist form of light battle dress known as an engineering suit. The suit has no weaponry (though there is no reason why personnel cannot carry small arms), and is armored more lightly than combat battle dress. It is fitted with a range of engineering sensors and tools powered from the suit's supply. These include multi-spectrum sensors, magnification equipment, electronic and ultrasound scanners, a densitometer, various power tools and a welding/cutting unit.

A damage control team in engineering suits can even enter a breached fusion reactor chamber and work there amid radiation and high temperatures – at least for a short time.



**Hardened Vacc Suit**

The hardsuits worn by security troops and base guards (only during alerts) are equivalent to Combat Armour.

**Naval Battle Dress**

Naval battle dress is normally worn only by honor guards. It is basically identical to Imperial Army battle dress.

**Body Armour**

For situations where personal armor is needed in non-vacuum situations, security personnel wear a semi-rigid back-and-chest clamshell jacket similar to a lighter version of the Combat Armour body section and a full-face visored helmet with gas filters of the same material.

## ***APPENDIX 1: OPPONENTS AND RIVALS***

No study of the Imperial Fleets would be complete without some attention being turned to the opponents that fleet may have to fight, and the allies it will support and rely upon.

### **MAJOR POWERS**

The major powers of Charted Space maintain powerful navies that could be expected to meet the might of the Imperial Navy head-on and possibly even inflict defeat. Imperial vessels have clashed with those of these major powers from time to time in combats ranging from border incidents to full-blown war.

### **THE ASLAN**

**History**

Despite coming relatively late to the interstellar stage, the Aslan rule a region of 17 sectors containing over 7000 worlds. This region, named the Hierate, lies to Spinward of the Imperium. Aslan are descended from carnivore/pouncer stock and have evolved a warrior culture with a strong territorial instinct. The need to possess territory drove the Aslan to the stars as soon as Jump technology was available, and still motivates many of their actions.

There is no overall Aslan authority. The Hierate consists of many Aslan clans, each of which possesses its own military forces. The leaders of the 29 greatest clans form a council known as the Tlaukhu, which has influence but little formal power over the many clans. However, clans often co-operate to provide military forces in response to a Tlaukhu request, but even then the forces of each clan remain separate, with no high command structure.

The Aslan clans have fought among themselves throughout their history, and have clashed with their neighbors from time to time. There has been no major war since 300 or so, but recent tensions in the l'Aheakho sector look like leading to joint clan action against the Solomani within a few years.

**Duties**

The duties of the clan navies are similar in many ways to those of any culture: patrol, anti-piracy and defense against attack by outsiders. However, there are some major differences. The first and foremost duty of a clan Aikoho (which translates roughly as "fleet", though a more accurate – and more Aslan – translation would be "many ships") is to defend and maintain the honor of the clan.

Clan wars are mainly the business of ground forces, but the Aikoho does play an important role. Space battles are arranged, and many points are agreed upon in advance by the commanders on both sides. Only then do the Aikoho engage, and only to the agreed-upon level of damage or casualties. Sneak attacks are considered the hallmark of dishonorable barbarians.

As well as conducting clan wars, the clan navies provide transport and conduct exploration and colonization missions. Scouting for new territory is an important role for the navy, since land-wealth correlates to political power. The navy also carries out a courier role, since the Aslan have nothing that corresponds to the Xboat network.

**Organization**

Aslan starships tend to operate independently. Indeed, many observers claim that even during fleet operations, Aslan ships still

operate independently. Organization at higher than single-ship level is driven by orders from the clan. Several organizational concepts have been observed. Note that these are Imperial labels, and imply a level of organization that does not exist in Aslan society.

**Tlaukhu Navies:** These forces are created at need from contributions made by the various clans; the greatest clans contributing the most powerful and efficient ships as a matter of prestige. They are formed to battle powerful foes which threaten the Hierate as a whole.

**Clan Navies:** Those more powerful clans which are not part of the Tlaukhu may form navies from their own forces. Some are as large as a Tlaukhu navy, while others are nothing more than patrol forces.

**Planetary Navies:** While part of the forces of the owning clan, planetary navies are mainly single-system forces for local defense.

#### Vessels

While they look very different from Imperial or Solomani vessels, Aslan starships are similar to human ones, and fulfill the same basic roles; escort, cruiser, battleship etc. Even the most functional warship is richly decorated and valued as a piece of art as well as a lump of military hardware. Aslan ships always have a “shrine of heroes” aboard, where crew and passengers can meditate on their place in the clan. Large communal lounges are common, even on military ships.

## THE DROYNE

#### History

The Droyne have a long history as a starfaring race, but currently have little power. Their worlds are scattered throughout Charted Space, with no overall organization or power structure. Many worlds have a small but high technology navy, while others exist at a low-tech, pastoral level. Throughout human history, the Droyne have been uninterested in conquest or warfare, fighting only in self-defense or to protect their interests.

#### Duties

The many Droyne Oytrips across Charted Space rarely cooperate with one another, or engage in naval activities other than self-defense and patrol duties. On rare occasions, an Oytrip has launched a strike against some threat. Although having little actual combat experience, Droyne naval units have always proven highly efficient, and it is assumed that the Oytrip navies conduct some form of preparation or training to maintain this high state of readiness.

Droyne naval forces are sometimes involved in ritual wars between Oytrips. Always prearranged and subject to strict rule (which are incomprehensible to outsiders), ritual wars are fought for a specific goal. Both sides honor the result and the matter is considered settled upon the victory of one side. Naval units do not usually engage in space combat during such wars, as one of the rules seems to be that only members of the caste of Warriors die, and starship crews are drawn from all castes.

Naval forces also engage in exploration, wandering around space in what appears to be random and haphazard manner, and carry messages between Oytrips. There is little or no pattern or regularity to this activity.

#### Organization

There is little apparent structure to Droyne “fleets”, as most ships

operate independently. No Oytrip within the Imperium has more than a couple of purely military craft. Outside the Imperium in the Trojan reaches, what appears to be a formal naval force does exist. One of the Oytrips of the world of Auitawry has a highly organized fleet of 14 major vessels, which defend the world in return for goods and considerations from the other Oytrips on-planet. These vessels serve under a ‘Leader of Ships’ and probably represent the standard Droyne fleet organization where the Oytrip is not within space controlled by a friendly power.

#### Vessels

Droyne often obtain vessels from other races for general use. When they do build their own vessels, the designs are always the same, no matter how remote the Oytrip is from other Droyne worlds. This is a mystery which has never been explained.

## THE HIVE FEDERATION

#### History

The Hive Federation is very different to the Imperium in that it is a true federation of states, each of which is internally independent. The Federation is based around the cultural precepts of its founders, the Hivers, but all member worlds have co-equal status to central government. There are over 170 member races in the Hive Federation, but they display very little behavioral diversity.

The Hivers fought a short but vicious war with the K’Kree between -2023 and -2021, but overall their history has been remarkably peaceful. However, history has shown them that in order to have peace they must be visibly ready for war.

#### Duties

The Federation Navy, which is the only formal military organization the Federation possesses, exists mainly to monitor and contain aggressive species such as the Ithklur and Humaniti. It enforces quarantine of dangerous species and carries out the usual policing of the spaceways – this is particularly important since many pirates see Hiver space as an easy hunting ground due to the Hivers’ peaceful nature. The Federation Navy also has a deterrent role, and stands ready to combat any invader. Its forces are deployed more thickly along the K’Kree border than anywhere else.

#### Organization

The Federation Navy is organized into 18 Sector Fleets, within which squadrons of various types exist. Squadrons are of common types for the most part, but two are unusual. ConRons (Containment Squadrons) exist to maintain the quarantine around closed worlds, and a number of Covert Operations squadrons are maintained. During the K’Kree war, a combined “Defense Fleet” was created from 7 Sector Fleets, but this is not a common measure.

#### Vessels

Hiver vessels are designed to protect their crews and therefore have very solid defensive systems. Their sensors are excellent, a necessity given the Hiver preference for long-range weaponry.

## THE JULIAN PROTECTORATE

#### History

The navy of the Julian Protectorate, the Star Legion, has progressed a long way from its ramshackle origins in the Julian War. Two main lessons were learned from the war. Firstly, the ability of fast-moving raider and strike squadrons to tie down enemy forces and disrupt both commerce and military operations was graphically demonstrated. Secondly, the vulnerability of the Protectorate to powerful capital ship squadrons was underlined. Measures were taken to improve the former capability while reducing the latter liability.

The development of the Star Legion was not without its setbacks and problems. The creation of a unified navy from the forces of many states was a huge challenge. Political (and even military) infighting has beset the fleet from its foundation. However, the need to avoid repetition of the Imperial thrusts into Protectorate space has overridden most other considerations.

### Duties

The Star Legion is charged with defense of the Protectorate as a whole, with home defense as the responsibility of individual worlds and or states. The Legion has three main duties. Most commonly, Star Legion ships are assigned to patrol and piracy-suppression missions within Protectorate space. However, in wartime the other two duties assume precedence. These are to reinforce threatened systems and to strike hard at enemy commerce, and bases behind the lines.

In time of war, the Star Legion adopts a 'sword and shield' system similar to that which brought about the Imperial defeat in the Julian War. While the 'Shield' of system defenses and heavy monitor squadrons holds back the enemy main fleet, the 'Sword' of fast raiding vessels severs their supply chain and inflicts damage in the rear. If the enemy can be pinned for long enough, a heavy force can be brought to bear for a fleet victory, but the Star Legion plans to inflict a steady asymmetric defeat on its enemies rather than a decisive fleet action.

### Organization

The Star Legion is a "Cruiser Navy", with many ships deployed on semi-autonomous operations. Most organization is at the squadron level, with "Fleets" existing mainly for administrative purposes. Star Legion squadrons are not homogenous. That is, they frequently contain ships of several classes or even designations. Three types of squadron are maintained.

**Patrol Squadrons** carry out policing and reconnaissance duties.

**Strike Squadrons** are intended for the deep-strike role against rear-echelon enemy targets. Strike Squadrons usually include one or more Fast Tankers and are primarily made up of raiding cruisers and light cruisers.

**Heavy Squadrons** act as mobile reserves to bolster system defenses.

Larger forces, assembled from several squadrons, are termed "Action Commands" and commanded by an officer whose rank is as much political as it is naval.

### Vessels

Star Legion ships tend to be optimized for a particular role. Patrol ships are light anti-piracy vessels with good mobility and sensors. They are designed to outgun privateers, not to fight fleet battles. In wartime they provide escorts for other ship types. Light cruisers and "Raiding Cruisers" (which might be termed Battlecruisers in a different navy) make up the Strike squadrons. They are optimized for hit-and-run attacks rather than fleet action, being heavily armed but fairly light on defenses. Heavy units include Armored Cruisers and Battle Monitors (as the Star Legion terms its low-Jump dreadnaughts). These vessels have relatively low mobility but are impressively well-protected, and very heavily armed. Battle Monitors are not intended for offensive action so much as acting as a mobile reserve to augment the defenses of a threatened system.

The Star Legion does not favor carriers or tenders.

## THE K'KREE

### History

The only major race descended from herd herbivores, the K'Kree are ultraconservative and maintain a caste-based feudal society structure in which the Kruruna ("Bosses") answer to their Steppelord, who in turn answers to a Lord of Steppelords (planetary ruler). Overlords of Lords rule subsectors and all K'Kree owe allegiance to a single Steppelord of the Two Thousand Worlds.

This structure served well on the plains of the homeworld, but it creates huge problems in governing a technologically-advanced interstellar state. K'Kree also suffer from extreme claustrophobia and an almost pathological gregariousness. Despite these handicaps, the discovery of Jump drive in -4142 allowed the K'Kree to spread out into space.

The K'Kree military (named the "Kitunika'rra", which literally means "Vermin Exterminators") was created to destroy all carnivores on their homeworld of Kirur, and later to campaign against the G'naak, a carnivorous race living on the homeworld's moon.

The discovery of the G'naak was a pivotal event in K'Kree history, since their main reason for developing space flight was to wipe out the G'naak. This drive to annihilate all carnivorous life from the universe has led to a violent history, and while accommodations have been made with neighbors, the K'Kree still openly pursue their mission.

### Duties

Although K'Kree cultural policy is to conquer the galaxy and wipe out all meat-eaters, the realistic military stance is one of defense against the aliens. The K'Kree managed to lose their only major war against an interstellar power (the Hivers, of all people!) and this has greatly colored their perceptions. As part of their defensive strategy, the K'Kree back an informal empire of client states. Naval forces support these buffer states and make raids beyond K'Kree territory to punish aggression. K'Kree space forces are also responsible for communications between worlds. Nobles have access to a first-class courier network, while lower castes must make do with an unreliable and slow message system.

Intimidation of subject races is another important duty of the fleet. The K'Kree do not trust their subject peoples, and use hostages or threats of violence to keep them in line. There is near-continuous dissent within the Two Thousand Worlds, with the navy busy putting down at least one revolt at any one time.

### Organization

Space force crews must by definition be at least slightly crazy – why else would a herd creature leave a planet to work in a small metal box in space, with just a handful of companions? They are thus not the cream of military personnel. Thus the space force, while probably the most important arm of the military, is highly inefficient.

The K'Kree military has a single, feudal, command structure which is subdivided into three strategic commands each centered around a huge base which provides support, training and base facilities. The Home Group is based on Kirur itself, while the Advanced group is based across the Lesser Rift and charged with discouraging the Vargr from raiding. The third group, Hero Fleet, guards against the Hivers. It currently has its hands full dealing with a spate of insurrections which are blamed upon Hiver interference.

Each feudal K'Kree lord also maintains his own forces. These forces, usually composed of cost-effective frigates, usually operate



dispersed in the patrol role. When a larger force is required, a lord commands his vassals to provide the necessary units for the mission. What he actually gets depends upon what is available and who is in revolt at the time. These forces have an ad-hoc organizational structure created for the task at hand.

#### Vessels

The K'Kree prefer to do battle on the ground, with starships being merely armed transport and orbital fire support. All warships carry troops and are equipped for the fire support mission. They are thus inefficient in space combat despite their huge size (a necessity for large creatures such as K'Kree). Since the Hiver war, the K'Kree have tried to improve their fleet by creating fighter carriers. These vessels carry hundreds of semi-autonomous robot ships which are useful in ground support and can be sent in waves against enemy vessels. "Suicide" attacks with these craft are not uncommon.

## THE SOLOMANI CONFEDERATION

#### History

After the fall of Terra at the end of the Solomani Rim War, the Solomani created a new capital at Home and began to rebuild their naval forces. Expansion Rimwards continued and border clashes with the Hivers and Aslan provided a training ground for Solomani crews. The Solomani Confederation remains dedicated to the notion of human superiority and the belief that the Solomani people will eventually take their rightful place as the overlords of all human and non-human species.

#### Duties

The Confederation Navy is maintained for many of the same reasons as the Imperial Fleet; as a tool for defense and deterrence, and for the advancement of policy by direct means. The Grand Admiral of the Confederation Navy sits on the Confederation High Council (the main ruling body of the Confederation), giving the navy a powerful voice in politics.

The Navy engages in exploration and survey operations to Rimward, maintains the Solomani Xboat network, and most importantly, suppresses dissent within the Confederation by various means ranging from control of the news to outright intervention.

#### Organization

The Solomani Navy is in fact made up of two forces: the Confederation Navy and the fleets of the various Confederation member states.

The Confederation Navy maintains individual fleets at subsector level, reinforced in troubled or border regions. Confederation squadrons are heavily biased towards larger vessels – dreadnaughts, battleships and heavy cruisers – with the only common small vessels in the Confederation Navy being close escorts, fleet couriers, network couriers and courier tenders.

The Confederation Navy also runs naval academies and bases across the Confederation. These academies are attended by personnel from the member state fleets as well as Confederation Navy personnel, ensuring commonality of procedures and tactics. This is important since in time of war, member state fleets are integrated into the Confederation Navy command structure.

The fleets of the member states are more or less independent except in wartime. They are largely made up of lighter craft optimized for patrol and escort work, though there is no official reason why a member state cannot maintain a fleet of capital ships, if it can afford it. Member-state fleets are monitored by Solomani Security (SolSec) and Political Officers seconded from

the Confederation Navy.

The Confederation Navy also maintains a corps of Marines for rapid-reaction and peacekeeping operations. Unlike the Imperial Marines, the Confederation Marines have no starships of their own.

#### Vessels

Solomani warship designs are mostly similar to Imperial equivalents, though some vessels show an Aslan influence. Beam weapons are popular, with smaller ships often having several weapons in fixed mounts rather than turrets. Larger vessels are constructed around heavy spinal mounts, and often carry large fighter wings for screening and strike operations.

## THE VARGR

#### History

Vargr history is one of raid and plunder, interspersed with outright war. Past enemies include the Imperium, the Zhodani and other Vargr groups. There has been no major Vargr War with the Imperium for many years, but raids and piracy are common.

#### Duties

The lack of stable or large Vargr political bodies results in very limited duties for space forces. Control of local space is a vital duty, and protection against the raids of other Vargr groups. Space forces also demonstrate the charisma of their commanders by being highly visible and keeping down rivals. Since naval command requires and confers great charisma, Vargr states often have naval commanders in positions of political power.

Many Vargr naval units, even members of "regular" squadrons, are prone to turn raider at any moment. This can be at the behest of political leaders wanting to make a profit or raise their status with a daring raid, or may simply be the action of crews grown bored with patrolling. Raiding is an important naval duty, since it is by demonstrating their power that Vargr states maintain their status among their peers.

Naval units also fulfill the important duty of escorting Emissaries.

#### Organization

Vargr organization of any sort is chaotic and constantly changing as loyalties shift, charisma rises or falls, and leaders take their ships out raiding. Most Vargr naval squadrons are organized in an almost feudal manner. They are composed of ships whose commanders are willing to give their loyalty to the squadron commander. Thus squadrons are of a size dictated by the charisma of their commander – usually 6-18 vessels of an assorted type. They are not usually grouped into fleets or at any higher command level than the squadron.

On the rare occasions that a fleet is assembled, it remains a chaotic collection of squadrons and vessels with the same vague purpose. Commanders are too busy vying with one another for prestige to cooperate properly. Vargr fleets are thus highly inefficient, though often motivated by great fighting spirit as Captains try to outdo one another in deeds of daring.

#### Vessels

Vargr states tend to field smaller vessels such as frigates and corsairs. This is partly because Vargr states are small and cannot afford capital ships and partly to do with the nature of Vargr charisma. The commander of a large warship must have a great deal of personal charisma, and is unlikely to subordinate himself to another Vargr unless that Vargr is truly exceptional. There is

also the fact that Vargr given command of large ships tend to start thinking of themselves as more important than their political masters. This leads to a tendency to either go out raiding or launch a coup.

Vargr ships are over-ornamented and have garish color schemes. They tend to be heavy on “teeth” and light on “tail”. That is, firepower is more important than mobility, defense or logistical considerations. Armament can be any weapon available in Charted Space, though Imperial authorities try to prevent the sale of high-tech weapons to Vargr states.

## **THE ZHODANI**

### **History**

The Zhodani Consulate is the most stable civilization in human history, having reached its current size long ago. Unlike the Solomani and the Vilani, the Zhodani did not suffer the Long Night. Zhodani history has not been uneventful. Constant skirmishing with Vargr states along the Trailing border, campaigns against corsairs and the five Frontier Wars against the Imperium have meant that there has always been work for the Consulate Navy.

### **Duties**

The Consulate Navy carries out two main duties: exploration and maintenance of the status quo. The latter is based upon a defensive mentality which accepts the need for occasional pre-emptive strikes in order to shape the thinking of a neighboring state or to remove a prospective threat. The Zhodani have never fought wars for conquest, though they have gained a reputation for aggression. This is ironic, since the Consulate is probably the most peaceful human civilization in history.

The other duty of the Navy, exploration, includes several long-range missions in the direction of the galactic core. These were undertaken at the direct order of the Consulate supreme council. The Navy also engages in scientific research and short-range survey operations closer to home.

### **Organization**

The Consulate Navy operates at three basic levels of command, termed Consular, Regional and System. However, there is also an elite force, the Consular Guard, which takes its orders directly from the Supreme Council.

The Consular Guard is roughly similar to the Imperial Marines, but in some regions maintains small fleets of starships including CruRons and AssaultRons. They mainly serve in the rapid-response role.

The Consular Navy is divided into eight Provincial Fleets; one per province, with the fleets subdivided into squadrons similar to those of the Imperial Navy. One major difference is the amount of vessels assigned to exploration squadrons. These are equivalent to Imperial ScoutRons in some ways, but optimized for exploration and scientific research. Almost 12% of the entire fleet is made up of such vessels, which have negligible military value.

The subsector councils of the Consulate maintain forces of warships tasked with local defense. Unlike the Imperial Colonial fleets, the regional fleets are not militias equipped with obsolescent vessels but are trained and equipped to the same standards as the Consulate Navy. Quality does vary according to location within the Consulate, however, as many regional forces have not seen action for centuries.

Planetary councils also maintain local forces for system patrol and defense. These are usually non-starships. Planetary navies are part

of the world's Joint Defense Command and have more in common with COACC and ground forces than with the Consular navy.

### **Vessels**

Zhodani ships are designed to be less role-specific than Imperial vessels. For example, the Shivva Class “Patrol Frigate” carries several fighters and can act as an escort, a patrol ship or undertake covert intelligence gathering missions using its extensive emission masking.

## **APPENDIX 2:**

# **SECTOR FLEET TABLE OF ORGANIZATION & EQUIPMENT**

There is, in truth, no such thing as the 'typical' sector fleet. Strengths and compositions vary from region to region. However, the following general composition can be taken as a starting point. Each Sector Fleet is the product of many years of evolution and compromise. Vessels have been shifted between subsector commands and up and down between sector and subsector fleets according to the needs and influences of the time. Thus a given subsector may have more or less vessels assigned than is noted here. As a rule though, the basic functions of the fleets will not have been over-ridden; the Sector Fleet exists to fight battles and defeat major threats while the Subsector Fleet is there to secure and police the local area whilst dealing with minor incursions.

The following Table of Organization and Equipment (TO&E) is based on the usual model of a sector containing 16 subsectors with numerous naval bases and one Depot. According to reliable (canon) sources, roughly one squadron of 4 capital ships and one squadron of 4 cruisers exists per subsector, plus additional specialist cruisers and escorts. A Sector Fleet contains about 1000 ships not including Tankers and logistics ships are disregarded; these are normally assigned at the Sector level, with a couple of small supply ships available to Subsector command to replenish guardships or the Flag Squadron.

### **SUBSECTOR FLEETS**

Within the sector there are 16 Subsector Fleets. Each is charged with keeping the peace, promoting free trade, and preserving the security of the region.

#### **Typical Subsector Fleet Composition**

##### **Flag Squadron:**

- 1 Heavy or Light Cruiser
- 1 Fleet Escort
- 2-3 Close Escorts

##### **Subsector Destroyer Flotilla**

- 6-8 Fleet Destroyers (3000t) usually grouped as 2 squadrons
- 6-8 Escort Destroyers (1000t) usually deployed independently

##### **Subsector Patrol Assets**

10-20 Patrol Cruisers or Close Escorts (3-400t) grouped administratively as squadrons of 3-4 but deployed individually

##### **Additional Forces**

- Imperial Marine vessels, if any, assigned to Subsector command
- Any Colonial Fleet patrol assets that might be active (perhaps 10-20 vessels)
- Scout Service vessels passing through the region
- Huscarle forces of regional nobles (possible)
- Corporate and mercenary forces assigned to particular routes or systems

This force will typically be responsible for a subsector of 20-30 worlds. The Flag Squadron and Fleet Destroyer assets tend to be either deployed to a trouble spot or else held at or near base as a response force, so are not available for routine patrol work most of the time. Given that some ships will be in port, on exercise, or

otherwise unavailable, and that time in Jumpspace is a significant fraction of the period spent on deployment for most ships, it is not unreasonable to assume that 1/3 of this force will be present in the systems of the subsector at any given time. This equates to, on average, 2-3 Escort Destroyers (which might include vessels such as Kinunir-class ships) plus 10 Colonial and Regular patrol ships on deployment at any one time.

The distribution of these patrols is not even. Some systems have more than sufficient local forces to deal with any problems and can be given a lower priority than others, though the Navy still needs to visit and 'show the flag'. Some systems have very little traffic and thus receive less frequent attention than those on the main spacelanes.

Solar systems are also very large – a Navy ship patrolling the outsystem is unavailable to assist a merchant attacked near the mainworld.

These forces may seem rather light but they 'cost' the Sector Fleet 4 squadrons of cruisers, about 220 destroyers and some 240 patrol ships and close escorts – nearly 500 of its 1000 ships are assigned to the Subsector Fleets.

Note that these distributions are not even. One subsector may have additional patrol ships while a troubled border might be assigned additional cruisers or even a battleship as the fleet flagship. Another, traditionally 'quiet', subsector, may not have many forces assigned at all.

In the event of hostilities or a major crisis, the Subsector Fleet gains the use of additional assets. In peacetime only a proportion of the Jump-capable assets of those worlds possessing them will be actively serving with the Colonial Fleet. The rest carry out whatever duties the homeworld may wish of them. This can include patrolling nearby systems to protect trade and thus backing up the Imperial Navy's patrol assets in a useful manner.

In wartime however, all these assets come under Naval command. This means the Subsector Admiral gains a large if ill-assorted collection of escort sized ships and a handful of destroyers or cruisers. Capital ships are very rare in non-Imperial Navy hands. In addition, obsolescent mothballed escorts and destroyers are brought out and crewed by recalled reservists. The best of these go to Sector command but the Subsector admiral should gain at least a handful of reasonable vessels.

In practice, the Subsector Fleet tends to lose many of its best escorts to Sector Command as soon as hostilities start. It thus becomes larger and may even gain a number of quite potent ships – cruisers and destroyers perhaps – but this benefit is offset by the lower quality of these vessels and their crews. When repulsing a major invasion, however, a handful of old cruisers is more use than a horde of top-quality escorts.

### **THE SECTOR FLEET**

The remainder of the naval assets of the region are retained at the Sector level. These include major war-fighting assets such as all capital ships and most of the cruisers.

#### **Capital Ships**

Exactly what capital ships are available to a Sector Admiral will of course vary. A typical breakdown of the 16 squadrons available will include:



**2 Dreadnought Squadrons**

- 3-4 Dreadnoughts
- 1-2 Fleet Escorts
- 3-4 Close Escorts

**4 First-Line BatRons**

- 3-4 Battleships
- 1-2 Fleet Escorts
- 3-4 Close Escorts

**6 Second-Line BatRons**

- 3-4 Older Battleships
- 1-2 Fleet Escorts
- 3-4 Close Escorts

**3 Battle Rider Squadrons**

- 1 Battle Tender
- 3-5 Battle Rider
- 3-4 Close Escorts

**4 Fleet Carrier Task Groups**

- 1 Fleet Carrier
- 1 Light Cruiser
- 2-3 Close Escorts

**Cruisers and Cruiser-Equivalents**

A Sector Fleet typically has 8 squadrons of light and 4 of heavy cruisers available, plus some specialist cruisers. Of these, 3 Light and 1 Heavy CruRon are typically dispersed among Subsector Fleet, 1 Light CruRon is dispersed with Fleet Carriers.

**3 Heavy CruRon**

- 3-4 Heavy Cruisers
- 1 Fleet Escort
- 2-3 Close Escorts

**4 Light CruRon**

- 3-4 Light Cruisers
- 1 Fleet Escort
- 2-3 Close Escorts

**2 Missile CruRon**

- 3-4 Missile Cruisers
- 1 Fleet Escort
- 2-3 Close Escorts

**Specialist CruRon(s)**

4-12 Armored, Bombardment, Frontier, Interdiction, Rift etc cruisers

**2 Strike Carrier Task Group**

- 1 Strike Carrier
- 2-3 Fleet Destroyer

**4 Light Carrier Task Group**

- 1 Light Carrier
- 2-3 Fleet Destroyer

**Sector Destroyers, Escorts and Patrol Assets**

Significant numbers of smaller ships are maintained at the Sector command level.

**4 EscortRon**

- 4 Fleet Escorts

**8 Fleet DesRon**

- 4 Fleet Destroyer

**8 Escort DesRon**

- 4 Escort Destroyer

**Patrol Flotilla**

- 180 Patrol Cruiser, Close Escort etc.

The Sector Fleet tends to retain its heavy combat assets close to the depot and the major naval bases. Some CruRons and DesRons are also assigned to these reaction forces. The remainder are available for patrol work and response to major crises. The Sector Fleet is responsible (in peacetime) for providing guardships at critical locations and for interdiction of Red Zones. Its escort assets are often assigned to back up Subsector vessels, either under the command of the Subsector admiral or independently under Sector command.

Light cruisers, light carrier task groups and destroyers (singly or in groups) are most likely to be sent out on patrol operations, plus of course the pool of small escort class vessels. Escorts for the fleet's support and logistics ships tie up a lot of these assets however, so in practice the Sector Fleet's contribution to anti-piracy patrols in any given subsector tends to be fairly slight.

Battle squadrons tend to be used en masse; indeed, if fleet action threatens then more than one squadron would usually be assigned. However, other squadrons are routinely broken up to provide escorts, guardships and task forces tailored to whatever task lay at hand.

In wartime, the Sector Fleet is augmented by reactivated Fleet Reserve vessels. The best of these join the front-line squadrons while the rest are assigned to rear-area defense operations or even handed down to Subsector or System Squadron commands.







# 2320 AD

## Mankind's Battle for the Stars Continues

**BASED ON THE ORIGINAL 2300AD PUBLISHED BY GAME DESIGNERS' WORKSHOP AND TRAVELLER20**

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### **Dedicated To**

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**THIS WORK REQUIRES THE USE OF THE  
TRAVELLER20 (T20) TRAVELLER'S HANDBOOK  
(THB) IN ORDER TO PLAY.**

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# INTRODUCTION

In the year 2320, humanity is attempting to claim the stars as his own. Despite nearly destroying himself in the Twilight War, despite all the wars since, including a war for survival against a genocidal alien race, humanity has held on, and kept the dream alive. **2320AD** is the story of that dream, as humanity, though still retrenching after the long years of the Kafer War, reaches back out to the stars.

In **2320AD**, humanity has settled 33 inhabitable worlds, and has outposts on many more. Human space is divided into three Arms: French, American, and Chinese (named for the dominant nation exploring it). The shape of these Arms is dictated by the limitations inherent in stutterwarp travel: the 7.7 light year range, and travel between the worlds at the center and the worlds of the edge can take weeks, or even months.

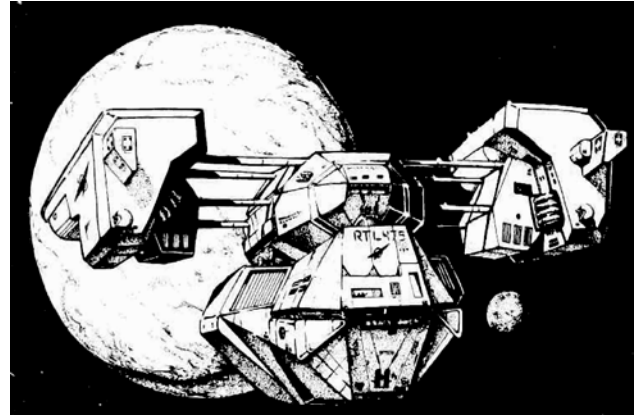
At the center of Human space are the Core Worlds of Earth and Tirane. Tirane is the habitable planet of Alpha Centauri, and is a near twin to Earth in climate, gravity and atmosphere. These two worlds together have nearly 90% of the Human population, with 90% of that total residing on Earth. For most people living out in the Frontier, the worlds of the Core are as distant and strange as any alien homeworld.

**2320AD** games range from interstellar exploration and interstellar war, down to the gritty streets and the mega-cities of the human Core. This is a game about people, and their rise to the stars. Aliens are a part of the **2320AD** milieu, and can be used as Player Characters if desired, but the focus of the game is on Humans.

**2320AD** strives to obey the laws of the universe as we know them. The stutterwarp drive, the technology that allows humanity to travel faster than light, is the sole departure from this. Some of the other technologies bend the laws a little, but that's from the standpoint of here-and-now. Three hundred years in the future is a long time. There are no blast-ers or laser swords in **2320AD**, no magic anti-gravity or artificial gravity – just guns and helicopters, spin habitats and spaceplanes. At the same time, though, **2320AD** is a game, not a hard-and-fast technical simulation.

## SPACE TRAVEL

For over 150 years, humanity has had the freedom of the stars, but the hardest part remains getting into space. Stutterwarp drives are used to cross the vast gulf between stars, as it allows FTL (faster-than-light) travel at speeds up to



5 light years or more per day. For travel within a star system only, so-called system ships use low-power variants of the standard stutterwarp drive, which still provide very high effective speeds within a system.

## NATIONS AND POLITICS

In **2320AD**, national interests continue to dominate politics, though the influence of transnational corporations (TransNats) and the Foundations is pronounced as well. Many of the nations of today are still recognizable in this future world, including America, Britain, France, Germany, Canada and Australia, along with many others. Foundations are non-government organizations, usually self-funded, that pursue their own agendas, usually in support of science, colonization, humanitarian, or environmental causes, while the TransNats pursue more mundane goals of profit and power.

## COLONIES

Humanity has 52 colonies on 33 worlds, along with scattered outposts, enclaves, mining camps and science stations. The off-world population is a significant fraction of the Earth-bound population, and for some nations (France, Britain, Germany, Australia) the off-world population is actually greater. These colonies exist for a number of reasons, but one of the most important is national pride – only major nations have colonies. Colonies are also used to provide raw materials for home nation industries, and markets for the products of those industries, and also serve as a safety valve for the massive population of Earth. For those who can no longer stand the surveillance and control applied to such large populations, the colonies offer a haven, free from the ever-present cameras and constant monitoring.

**ALIENS:** The table below provides a quick overview of the alien races in **2320AD**

Race	Description	Notes
Eber	Big, with long arms, very ceremonial	Destroyed their interstellar civilization in a war.
Sung	Short, reptilian flyers, almost on par with humanity in terms of technology.	Lost a brief war with Humans over the Xiang.
Xiang	Artistic and very alien spider-like creatures.	Enslaved by the Sung until freed by Humans.
Kafers	Big and strong, with complicated, frightening-looking mouths and a turtle-like carapace.	Violent and hostile. Star-faring. Get smart when threatened or hurt.
Klaxuns	Intelligent, near-sighted plants.	Nearly destroyed by Kafers. Primitive.
Little Guys	Short, furry dog-faced humanoids with four arms.	Nearly destroyed themselves in system-wide war.
Pentapods	Short, vaguely resemble a 5-limbed octopus.	Masters of biotechnology. Even their starships are organic. Star-faring.
Ylii	Race is actually several separate species that live and work together.	Advanced and pacifistic. Have lost many worlds to the Kafers. Star-faring.
AGRA	Extra-dimensional entity of unknown, but high, power.	Rearranging the Pleiades for some unknown project.
Aquilans	Vanished race of unknown appearance.	Interstellar civilization seemingly abandoned, but filled with traps.
Medusae	Small, somewhat resemble a 10-limbed flea.	Advanced technology, vanished
Enemy	Appearance unknown.	Advanced technology, vanished. Enemy of Medusae

## ALIENS

In 200 years of star travel, humanity has encountered eight sentient races, with archeological evidence for at least three more. Humanity has gone to war with two of these races. The first war, versus the Sung, was an absolute victory for the humans, lasting only a few weeks with minimal casualties on both sides. The second, against the aggressive and horrifically violent Kafers, lasted for fifteen years and devastated an entire arm of Human space. Though humanity eventually triumphed, the enemy waits, held at bay but still dangerous.

## STUTTERWARP

The faster-than-light stutterwarp drive is further detailed in **Chapter 16: Space Travel**, but here are a few brief facts:

Stutterwarp become ineffective at about 0.11G, or approximately geosynchronous orbit, and are not suitable for interface operations. Attempting to operate within this range risks destroying the ship. The stutterwarp drive requires tantalum, one of the rarest elements in known space, though each drive only requires small amounts.

Stutterwarp vessels build up a charge while the drive is operating and moving in unstressed space. The buildup of this charge limits the range of stutterwarp vessels to 7.7 light years. Exceeding this range can cause the tantalum coil at the heart of the drive to decay and emit deadly amounts of radiation, usually killing the crew.

Until relatively recently, stutterwarp drives could only be calibrated and brought online in stressed space, that is, regions of space within the 0.0011 G limit of a planet or star. The drive calibrator changed that, allowing drives to be brought online in deep space. However, the first generation

of these calibrators was far too large for convenient use. In 2299, the second generation drive calibrator was developed, allowing the creation of the first usable stutterwarp tugs.

Stutterwarp tug technology is designed to subvert the normal range limitation. To do this, one vessel, the carried vessel, must take its stutterwarp drive offline. The other vessel, the tug, then grapples to it. The tug carries the vessel out to a maximum of 3.85 light years, half the tug's range. The tug then brings the carried vessels drives online using the drive calibrator, and returns. The carried vessel can then travel another 7.7 light years, for a maximum range of 11.55 light years. Note that to return there must be a tug on the other end. If the carried vessel's drives are not offline, it will build up a charge as it is carried along by the tug, and suffer a drive breakdown and irradiation of the ship as it passes the 7.7 light year limit.

## ADVENTURES

**2320AD** is an adventure-oriented game. Players can take on a number of roles, from freelance security experts to hotshot smugglers. While the organizations outlined in **Chapter 5: Foundations, Corporations and Terrorists** can certainly play a large role, characters do not need to be beholden to them. A small gang of freelance investigators, or a group of friends haring off into the wilds on a treasure search, is just as viable as a group of troubleshooters contracted by a TransNat who go from world to world solving problems, and getting into trouble on the side. The emphasis of these adventures is up to each group to decide. **2320AD** can be home to high adventure, with lots of gun-fights, desperate chases and swinging over ravines on ropes, as well as more cerebral pursuits such as researching Eber ruins or hacking databases.



## 2320AD AND 2300 AD

**2320AD** is an adaptation of the **2300 AD** game, originally published by Game Designers' Workshop in 1988. **2320AD** is a sourcebook for use with **Traveller D20**, and requires the **Traveller's Guidebook** or the **Traveller's Handbook**. The character generation system uses most of the Classes, Skills, and Feats outlined in the **Traveller's Guidebook**.

## 2320AD AND TRAVELLER

Despite making use of the **Traveller D20** rules, **2320AD** is not **Traveller**. It is set in a universe of its own, without any relation to the Official **Traveller** Universe (OTU). **2320AD** is much smaller in scope as well, dealing with a "mere" 33 settled worlds, compared to the 11,000 of the OTU. The levels and types of technology are likewise different, in particular the method of faster-than-light travel, as well as computers and vehicles. There are similarities, however. Both are about people in far-future settings, where star travel is ubiquitous, both focus on the people involved, rather than their equipment, and both strive to maintain a realistic worldview, taking into account their histories and technologies.

**2320AD** is grittier than **T20**, with more of an emphasis on "realistic" technology. The starships also tend to be a lot smaller. Instead of 50,000 dton cruisers so common in **T20**, **2320AD** has 900 dton cruisers, with the absolute largest ships being around 20,000 dtons.

## 2320AD AND TWILIGHT: 2000

**2320AD** is the future of **Twilight: 2000**. **2320AD** glosses over the timeline of the Twilight War, so the war could still be in our future, or the universe of **Twilight: 2000** and **2320AD** could be an alternate one (the approach taken in the later revisions of **Twilight: 2000** itself). **Twilight: 2000** is one of the reasons for the apparently slow pace of technological advancement in the **2320AD** game, as much energy was spent on rebuilding Earth after the War, and then that energy went into developing and perfecting the stutter-warp drive. Colonial efforts also took a great deal of energy, time and resources, with most scientific advances coming in the venue of space travel and the trials of living and working in hostile environments. We have deliberately left it up to the players and GMs to choose the timing of the Twilight War, whether it occurs in 1995-2000, as in the original version, or 2005, or 2020, or whenever. However, the Twilight War did happen, and its effects are important to the history and character of **2320AD**.

## THE NEAR STAR LIST AND STAR MAP

One of the more interesting (and occasionally contentious) parts of the game is the Near Star List (NSL). This comprehensive list of stars within a 50 light year radius of Earth was based on the 1969 Gliese stellar survey, which at the time the original game of **2300 AD** was published, was the most accurate star list ever produced for a game. Most of the stars are named by their catalogue number, names like DM+4 123. The citizens of the stars circling these worlds usually give the star another name, but few governments recognize these.

The list is used to generate a 3-D star map. All stellar coordinates in **2320AD** are given in the format x,y,z, with the Sol system being at 0,0,0.

**2320AD** still uses the old 1969 Gliese catalog, rather than the newer Gliese II, Hipparcos or RECONS catalogs. This was done to ensure compatibility with the background and history of the game.



# BACKGROUND

## THE TWILIGHT WAR

The Twilight War started over 300 years ago, and remained conventional for about two years. Then the missiles and suicide nukes started to strike. Within another three years nearly half the population of Earth lay dead or dying from a combination of nuclear war and its brethren of panic, disease and starvation. The national governments in most cases collapsed, or underwent schisms. Many military units found themselves cut off and on their own. Some rebelled, some tried their best to obey their last orders, some merely tried to get home. Few nations retained any sort of central control. France was one of the few that did, and this would be one of the most important political factors for the next 300 years of human development.

## THE AGE OF RECOVERY (21<sup>ST</sup> CENTURY)

The destruction of the Twilight War encompassed the entire globe, and did not end when the bombs stopped falling. The downward slide continued for two decades after the war ended. Though the physical destruction was largely limited to the war zone (North America, Europe, the Indian subcontinent, and China), the effects were felt world-wide. Just as destructive as the bombs was the collapse of the world's economy, and the global transportation and distribution network. Ocean shipping was vulnerable to naval action throughout the war, and neutrally-flagged ships were no exception. The loss of much of the world's industrial capacity prevented maritime shipping from being rebuilt, even after the end of the war. Only Japan retained a vestige of a merchant fleet, and it dominated what was left of world trade in the immediate postwar years.

The 21st century was marked by three important events: the Fuel Crisis (and the end of dependence on fossil fuels), the French Peace, and the Melbourne Accords.

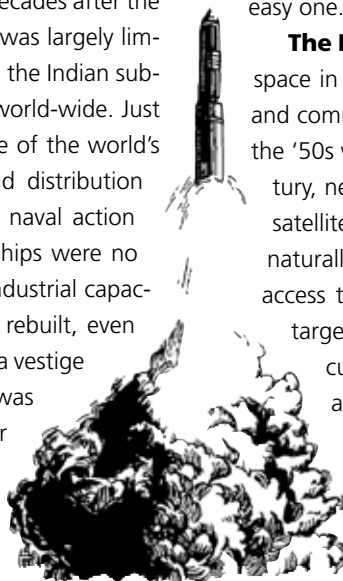
**The Fuel Crisis:** World War III destroyed the world's oil refineries and oil fields, but its greatest effect was the destruction of the world's oil distribution network. Once World War III was over, the oil distribution networks were gradually reestablished, but great progress toward alternative fuels had been made in the interim. The value of petroleum

as a chemical feedstock was too great by the middle of the century to contemplate simply burning it. The decline in oil reserves, coupled with the need for petrochemical feedstock, pushed the adaptation of alternative fuels. Rationing of oil and restrictions on its use were required during the transition period, but by 2090, most of the world's industrialized nations had established their own hydrogen distribution networks, and most of the world's industrial power was supplied by solar power satellites orbiting the Earth.

**The French Peace:** Into the power vacuum which followed World War III stepped the only European nation not devastated by the fighting: France, which had withdrawn from NATO and sealed its borders at the start of the War. With its numerous and far-flung territories on the African continent and in the Pacific, France reestablished a commercial interest in peaceful world trade and calm international relations. French power was projected to resolve disputes among quarreling nations, but French national policy was not overtly imperialistic. By 2060, the French were politically involved in virtually every region in the world, and French military forces imposed peace in those regions, albeit sometimes a very uneasy one.

**The Melbourne Accords:** The world returned to space in the 2040s with limited surveillance, weather, and communication satellite launches, and followed in the '50s with manned missions. By the end of the century, near-Earth orbit was cluttered with solar power satellites and orbital factories. The conquest of space naturally produced disputes concerning territoriality, access to orbits, and the appropriateness of specific targets in conflicts. A continuing international discussion culminated in a series of treaties and agreements collectively known as the Melbourne Accords (first signed at Melbourne, Australia in 2099).

The Melbourne Accords had three major provisions: Certain orbits around Earth were demilitarized, power satellites properly operated and certified were classified as civilian targets (rather than as military targets), and other worlds (at that time the Moon, Mars, Mercury, and the Jovian satellites) were declared open to colonization by all nations, and placed limits on such colonization. The Melbourne Accords bound signatories to its provisions only with respect to other signatories. Many smaller nations signed immediately;



holdouts among the major powers included the ESA (France, Bavaria, Britain, and Azania, the successor to South Africa) and Canton. Canton signed in 2108 while the ESA did not sign until 2163.

## MAJOR WARS

The wars of the century following the Twilight war were characterized by struggles for the resources needed to survive and recover. Mexico seized portions of the American southwest, including Texas, parts of New Mexico, Arizona and southern California, for their resources, both mineral and technological. America was too busy fighting a new civil war to intervene. The multi-national, French-led force that occupied Saudi Arabia provided another good example of this sort of war, short and intense, with a clear purpose. Likewise the war between Canton and Indochina 20 years later was over oil, and the ill-fated attempt by Russia to conquer Ukraine in 2065 was for the latter nation's resources. These wars were instrumental in deciding which nations would prosper, and which wouldn't.

## THE SECOND AGE OF EXPLORATION (22<sup>ND</sup> CENTURY)

The conquest of space opened a new frontier to Earth, and, naturally, an age of exploration followed. Expeditions to Mars by France and, later, America were launched early in the century, along with expeditions to Mercury conducted by Manchuria. Later expeditions visited the asteroids and the moons of Jupiter, but the Second Age of Exploration would have died rather quickly if it had been confined to just the Solar System.

In 2086, the theoretical basis for a practical star drive was established, and by 2100, several research establishments were well on their way to demonstrating a prototype. The race for a star drive occupied the technological abilities of the major world powers for the first half of the 22<sup>nd</sup> Century.

During the race to perfect a working star drive, the major nations were gaining considerable expertise in space travel within the Solar System. It was during this time that the first true space habitats were established at the Earth-Moon Lagrange points of L4 and L5. These space habitats were to provide the model for the space-based interstellar outposts to come, while the settlements on the Moon and Mars gave the much-needed experience for building the ground-based outposts, and even colonies, that were to follow.

The first working starship was produced by the European Space Agency in 2136; its members (France, Bavaria,

### THE TANTALUM WAR:

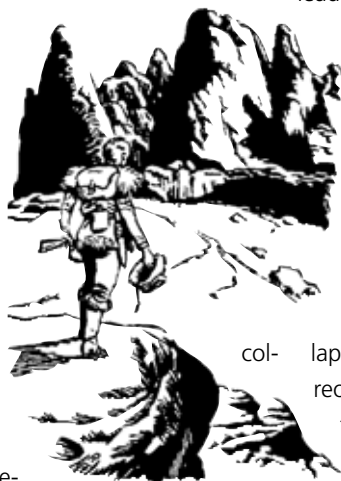
The Tantalum war of 2142 between Indonesia and Bengal wasn't just a struggle for the tantalum necessary to construct stutterwarp drives, but also a struggle to determine which nation would be able to go to the stars. Indonesia won the war, and though the tantalum find was not as rich as they had hoped, they used to build a merchant fleet that even today carries a considerable fraction of all freight moved in Human space.

Great Britain, and Azania) developed the technology and jointly operated the ship and its successors. The first expedition to Alpha Centauri discovered a garden planet, which was promptly claimed for the member nations of the ESA. Within short order, Argentina, China, and America built and launched their own starships on expeditions to Alpha Centauri, Barnard's Star, and Wolf 359.

**The Eclipse of France:** Under the French Peace, the nations of the world were able to recover and prosper. Inevitably, some came to resent French domination, and as they become more powerful, they competed for power and influence with France. At the same time, the burdens of world leadership proved very costly to France, already economically stretched in mounting interstellar exploration missions.

By 2150, French power in the world was decaying; other nations were quick to side against France in minor disputes. In the Alpha Centauri War, Argentina and its allies defeated the French-led ESA. This humiliation marked a low point in French prestige, and brought about a collapse in the French government, as well as reorientation of government policies. It was the end of the French Peace, and the beginning of a new era of global conflict.

**Stellar Exploration:** Expeditions over the rest of the century explored to



### THE ALPHA CENTAURI WAR:

The Alpha Centauri War was about nothing less than the right of all nations to settle the new worlds being found beyond Earth's solar system. When the ESA discovered the garden world orbiting Alpha Centauri, the member nations immediately claimed it all. Argentina and its allies objected, and sent armed ships to the system. The war was a long, drawn-out affair, as each side anxiously awaited instructions from their governments. In the end, the ESA nations capitulated, and finally signed the Melbourne accords.



about twenty light-years from Earth, and settlements were established on about ten extra-solar worlds. Worlds close to Sol sprouted many national colonies; the diversity enabled colonies to concentrate on specific industries and trade with the others for their needs. But as nations explored farther from Earth, each was able to colonize whole worlds and exploit them without competition from other nations.

The opening of the stars to colonization moved much of Earth's conflict beyond the solar system. Conflicts between the major (that is, the star-faring) powers took place on colony and outpost worlds where they fought for rights to prime territories, access to markets, or proper treatment of their own nationals. War on Earth was either an extension of these extra-solar conflicts, or minor wars between non star-faring nations.

By 2199, the Second Age of Exploration was drawing to a close. Earth had explored parts of a sphere out to twenty light-years and established colonies dedicated to exploiting the resources of many virgin worlds.

## THE SECOND AGE OF COMMERCE (23<sup>RD</sup> CENTURY)

Exploration breeds commerce; territorial discoveries naturally reveal products that can be marketed. Even with the high cost of interstellar travel, there are always some products, services, metals, and information that can still be carried at a profit. With the discovery and settlement of star systems beyond Earth, the 23rd century was an era of trade.

The star-faring nations built fleets to service their colonies. Even a self-sufficient colony is useless if it can't provide feedback, products, information, or resources to its parent. Hulls carrying colonists to the stars are most efficient when they carry products and raw materials on their return voyages.

Early in the 23rd century, France began to re-exert its power in selected regions where its interests were important: Africa, the Pacific, and the Mid-East. Avoiding direct confrontation with rivals such as Argentina, Mexico, and Manchuria, France was able to rebuild its military strength and reputation over the course of decades. When France fought battles, it won; when it negotiated, it also won. What it couldn't win, it scrupulously avoided. By 2250, France was nearly a superpower.

Developments on Earth, however, did not come to a standstill because of interstellar exploration. International rivalries, population pressures, and ideological disputes continued. The nations of Latin America struggled through three Rio Plata Wars as Argentina and Brazil fought for supremacy on their continent. Vietnam, a source of cheap labor early in the century, industrialized to the point that it was a prime

plum coveted by both Canton and Indonesia. The Canton-Indonesian War (2264 to 2268) turned Southeast Asia into a war zone and made the Indochina Peninsula a restive Cantonese puppet-state.

**The Rio Plata Wars:** Conflict on Earth during this century was dominated by a series of wars between Brazil and Argentina, though the conflict in the Central Asian Republic had far greater consequences. The Rio Plata wars were war for territory, and see-sawed between the two nations in three wars that collectively spanned over nine years and tensions that spanned over fifty. By the end of the Third War, Argentina was able to create the Incan Republic in an attempt to reduce Brazil's power in the northern part of South America. The terms of the final treaty saw Brazil lose the headwaters of the Amazon to the nascent nation, a calculated move designed to humiliate them.

**Gene Protests:** The development of the DNA modification technology late in the 22<sup>nd</sup> century was a triumph of biotechnology. However, as the full ramifications of the technology began to be understood by the general population, opposition to human applications began to grow. The King modification in particular aroused the ire of the population, as the new citizens of Kings were veritable supermen, and the drawbacks of the modification were not fully understood at the time. The Gene Protests grew into a world-wide movement, and resulted in virtual moratorium on further DNA modification projects. At least officially, all human DNA modification experiments ceased.

**First Contacts:** Given the number of inhabitable worlds, it was accepted as inevitable that humanity would meet other intelligences among the stars. During the second half of the 23rd century and early years of the 24th, Human explorers encountered at least seven intelligent species, four of them space-faring. Evidence was also found to suggest at least two or more alien races had inhabited the region in the past, with a real, if remote, possibility of their return. With these first contacts came increased cultural diversity into the increasing convergent human culture. Academic investigation of these alien cultures provided new insights into Earth's cultures, both past and present.

**The Slaver War:** The Slaver War was the first war fought by Humanity against an alien enemy. The Sung, first contacted in 2257, were a race that, much like humanity, was divided up into nations and special-interest groups. They were advanced, with extensive operations throughout their solar system. However, they lacked knowledge of the stutter-warp drive. The Akcheetoon nation was the most powerful of the Sung nation-states, and had a colony on the habitable moon of the system's large gas giant. This colony was primarily a mining colony using what were at first thought to be local animals for labor. It wasn't until further examination by a North American Research League undercover team that is

was learned that these “animals” were in fact an intelligent race, the Xiang.

This led to public outcry on Earth, and demands that the slaves be freed. Human requests, and then demands, upon the Sung to halt their activities on the garden moon were ignored, though the Sung remained friendly in all other discourses.

Finally, fleet elements from Canada and Manchuria moved in, and were met by Akcheetoon warships, who refused to surrender. Though the Human warships were not traveling at FTL velocities, they were still far enough out of the gas giant’s gravity well to be able to run rings around the Sung vessels. The small Human task force was able to destroy the massed alien fleet with no losses. Human infantry units were then landed on the moon to isolate and reduce Sung security forces, while diplomatic efforts on the Sung home-world resulted in the isolation and eventual capitulation of the Akcheetoon nation, and eventually the entire world, to Human forces.

**Economic Stagnation:** Among the colonial powers, the maturation of their colonies led to an economic crisis. The economies of many of the Tier 2 and Tier 3 nations (see p. 54) had been structured along mercantilist lines, where they purchased raw materials from the colonies and in return the colonies purchased finished goods from the home nations. By the middle of the 23<sup>rd</sup> century, however, many of the colonies on the American and French Arms were largely independent, or conducted their trade with other colonies. This disrupted the balance of trade, as the mother nations still purchased raw materials from the colonies, but the colonies for their part had less need of the finished goods the mother nation could provide. This economic slump accounts for the lack of colonial efforts by many of the established Tier 2 and Tier 3 powers during this period. Most of the colonization programs of the second half of the 23<sup>rd</sup> century were by emerging Tier 3 powers like Brazil and Canada.

**The Decline of Nationalism:** Easy travel on and off Earth enabled many people to maintain mobile life-styles without a permanent residence. Some people (explorers, starship crew, and orbital industrial workers) found themselves taxed on the basis of geography, but not receiving any real benefit from those taxes. Others found deference and status came with national citizenship rather than merit. Some interest groups created their own non-territorial “nations” to better protect their interests. Others rejected nationality completely.

At the same time, more people came to philosophically reject nationalism, finding more in common with ethnic, religious, ethical, or professional values. The proper national citizenship remained a convenience (a wrong one could be a hindrance), but many people had come to feel that there were higher values than mere geographic allegiance.

**The Central Asian War:** The Central Asian War (2283-2287) eventually involved France, Bavaria, Russia and Japan arrayed against the imperial armies of Manchuria. Manchuria lost the war, but French prestige was broken as they were forced to accept Japanese assistance to drive the Manchurian forces out of the Central Asian Republic.

**War of German Reunification:** France’s loss of prestige led directly to the War of German Reunification (2292-2293). The German province of Hanover, sensing French weakness, moved to reunite the scattered provinces of Germany, separate since the Twilight War, into one cohesive whole. France resisted, and German troops crossed the Rhine and moved on Paris. Only a quick surrender prevented the Germans from sailing their hovertanks under the **Arc de Triomphe**.

**The French Empire:** The costly French victory in the Central Asian War in 2287 produced well-grounded charges of poor support and supply for the army. In 2289, the army staged a coup which threw out the 12th Republic and established a system of monopolies in vital industries. These monopolies were profitable for the contractors, but inefficient sources of supply; and with typical military thinking, the junta printed money to pay national debts. The result was runaway inflation and tremendous social unrest. When the armed forces could not stop or win the War of German Unification or the Flemish War of Independence which followed in 2293, the army was forced to allow free elections, which were manipulated to bring Nicholas Ruffin, a prominent industrialist and free-market advocate, to power. Under his policies, the

### THE RISE AND FALL OF THE GERMAN NATION:

For centuries, the German nations of Europe (Bavaria, Hanover, Westphalia, Saxony, and Brandenburg) were content to live in the shadow of France. French-dominated Bavaria enjoyed membership in ESA, flew starships under its own national colors, and colonized worlds under other suns. The other German states alternately allied with France and Bavaria, with other powers, or chose their own paths.

In the 2280s, with growing sentiment for reunification, all the German nations but Bavaria accepted a call by Hanover to unite. They then mobilized to bring Bavaria into the German nation. French objections produced the short War of German Reunification, in which France was defeated and forced to accept the creation of a new German state. That France was defeated only due to her heavy involvement across the globe and on her colonies is not often mentioned. Continued internal strife in the new German nation, in particular in the former Bavarian colonies, created schisms in German society that resulted in many of these colonies going off on their own.

French economy rebounded dramatically. Careful media handling in the years leading up to the 2298 election produced a French population receptive to the idea of establishing a new empire. Inclusion of the question in a plebiscite attached to the 2298 elections led to the formation of the Third Empire, with Ruffin as the Emperor, by late 2298.

**The Kafer War:** The other war fought against an alien race did not go nearly so well for humanity. The war started with an unprovoked attack on the Human research outpost orbiting the star Arcturus in 2297, and eventually encompassed most of what had been the richest, most populous colonies in Human space.

## AN UNSETTLED TIME: 2300 – PRESENT

The war against the Kafers dominated the first two decades of the new century. Even with their partial defeat, the effects of their invasion and the subsequent devastation will continue to be felt for decades to come. The latter part of this period, however, is marked by increasing human exploration, both in scope and in speed. Part of this is due to a desire to find resources to repair the damage of the last war, and part is to make sure nothing else is out there sneaking up on humanity.

### THE FLIGHT OF THE BAYERN

One of the most significant endeavors of Humanity was the flight of the **Bayern**, which opened a whole new region of space to human exploration, the so-called Bayern corridor, a twisted line of stars reaching over 200 light years into space from the Human worlds, though stopping well short of the Pleiades. The **Bayern** was the most advanced exploratory starship ever constructed, built by the **Astronomischen Rechen-Institut**, a Bavarian (now German) science foundation. The ship was designed to reach the Pleiades, a star cluster nearly 400 light years away from Earth, and employed multiple, disposable drives along with a massive drive tuner to bridge a gap near the start of its journey. The gap was 15.1 light years across, and required the vessel to dump a drive core and use another in deep space, using the drive tuner to bring it online.

At the beginning of its journey, the **Bayern** traveled through alien Pentapod space, getting the first Human glimpse of the Pentapod homeworld, and mapping out the small cluster of stars known as the Pentapod Finger. Along the way to the Pleiades, the **Bayern** encountered three alien races: the so-called “Little Guys”, the entity known as the AGRA Intelligence, and an unknown (and hostile) starship or space station in an otherwise uninhabited system along the way.

The 1-meter tall, four-armed “Little Guys” were survi-

### STUTTERWARP TUGS:

Stutterwarp tugs are a method of bypassing the strict 7.7 light year limit on stutterwarp drive vessels. Further details can be found in Chapter 16: Space Travel.

vors of a system-wide civilization that had destroyed itself in a war that dwarfed even the Twilight War in scale. With the realization that Earth had only narrowly escaped a similar fate itself, the plight of the “Little Guys” generated a great deal of sympathy from Earth, even as the French Arm suffered increasing destruction. The discovery of a brown dwarf that provided a link across the 15.1 light year gap between the Pentapod Finger and the Bayern Corridor, coupled with stutterwarp tugs operated by the Trilon corporation, allowed the first relief expeditions through in the mid-2310s.

Though the “Little Guys” had very human concerns of survival, the entity known as the AGRA Intelligence was utterly unfathomable. The Pleiades star cluster appears to be the location of a vast engineering project for this being, or perhaps group of beings. The purpose of this project is unknown, but it involves moving and linking stars in some manner of multi-dimensional construct. The exact nature of AGRA is unknown, but it is thought to exist as a higher-level entity, an extra-dimensional being.

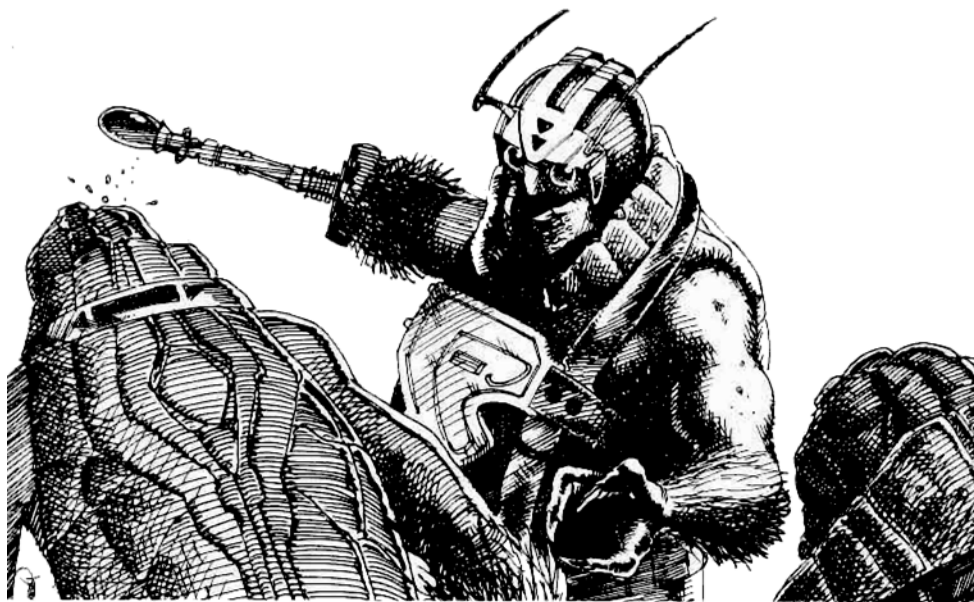
The last alien species, an unknown race of the Bayern corridor, dubbed Argyle 692 after the system they were encountered in, is further discussed in **Chapter 8: Alien Space**.

### THE KAFER WAR

The Kafer War is generally acknowledged to have lasted from 2298 to 2313, and consisted of two main phases. The first began in 2298, when the Kafer leader (or Suzerain) known as Triumphant Destiny attacked the distant colony world of Aurore. The Human defenders in space were wiped out, and thousands of troops were landed. The Kafer fleet was eventually driven off, only to return in 2301 with reinforcements. From what information the Human intelligence services were able to obtain, it appears that Triumphant Destiny was able to recruit allies in the region now known as the Kafer Sphere, and returned in 2301. Kafer forces found a disorganized Humanity only barely prepared to face them, and enjoyed great success for the first six months or so of the war. One of the most devastating losses of this phase was the colony world of Hochbaden, a world of domed cities and space habitats. Before the Kafer attacks, Hochbaden had over 4 million people. Afterwards, not a single survivor could be found.

The Kafer fleets were eventually stopped at Queen Alice's Star in 2302 by the Terran Reserve Fleet, consisting of warships from America, Britain, France, Germany, Australia, Canada, Argentina, Azania, and Japan. Triumphant Destiny





was killed in the battle, and the remaining Kafer forces were scattered. For a time, Humanity thought the war was over.

Contact with the alien race known as the Ylii eventually provided more intelligence about the Kafers, and Human planners realized that the war was far from over. Very few of the Kafer leaders had been involved in the attack led by *Triumphant Destiny*. Those who remained were bound to be frightened by the results. The fleet led by *Triumphant Destiny* had been the largest fleet under one leader assembled by any Kafer, and it had been defeated. Armed with this realization, the Kafer Over-Suzerain (Human intelligence was never able to learn its name) was able to get fleet and troop commitments from almost every other Suzerain. None of them committed their full strength, however, too wary of each other to strip their holdings bare.

The Kafer fleet, consisting of over 150 capital-class vessels, invaded Human space in 2305. This fleet overwhelmed the picket ships at Arcturus, then moved on to DM +18 2776, bypassing Eta Bootis and her determined defenders. This would eventually prove to be a costly mistake for the Kafers, as the ships at *Aurore* were able to raid the Kafer rear for the next five years of the war. The tactics of the Over-Suzerain were much more conservative than those of *Triumphant Destiny*, and the progress of the Kafer fleet was slow. Progress was further hampered by the rate of mutiny on the Kafer warships, which would go off on independent raids when their crews got bored. Though they were often a problem for the Kafer High Command, these independent raids did keep the Human defenders off-balance.

One of the priorities for the Over-Suzerain was to control any world encountered that was suitable for Kafer habitation. This usually had a large part of the fleet remaining in orbit around the world to provide support while troops were landed. The remainder of the fleet would conduct reconnaissance-in-force of the surrounding systems. A typical landing

saw 15,000 troops and their equipment go down, with even more on worlds such as *Nous Voila*, *Beta Canum*, and *Kimanjano*.

These tactics were slow, however, and gave the Human defenders time to regroup. The Human fleet was split, with elements at Earth, *Queen Alice's Star*, and *Aurore*. *Sans Souci* would later play a role as a staging area for French forces.

Humanity was forced to play a waiting game against the Kafer forces, and hope that internal strife in the Kafer fleet, combined with the difficulties of maintaining an extremely long and tenuous supply line would give Humanity the opportunity they needed.

Kafer reconnaissance forces went into each new system with the twin goals of surveying all deployed defenses, and also of causing as much damage to those defenses as possible. Often they were forced to flee Human main fleet elements, but the Human forces were unable to follow, due to the overwhelming nature of the main Kafer fleet. These recon forces often were able to orbit the colony world, and used the time to land scouting forces and bombard important targets.

The most interesting tactic employed by the Kafers during the war was the use of so-called infiltrator forces. The infiltrators were a tactic not seen before, using a class of ship heretofore unknown. The crews of the infiltrator ships were all elite troops, and the small vessels landed on worlds weeks prior to invasion. The infiltrators made good use of Ylii environmental technologies to remain unseen as they gathered intelligence. The stealthy infiltrator vessels were also used to conduct deep-penetration raids, either to damage supplies and equipment, or simply to sow panic among Human forces and civilians.

Infiltrator raids were responsible for much of the refugee traffic to leave *Dunkelheim*, *Nous Voila*, *Vogelheim*, and *Beta Canum*, many of whom were trapped in the *Kimanjano*

system when the recon-in-force of early 2307 destroyed the world's orbital infrastructure, setting the stage for the later massed attack in mid-2307.

By 2309, the main Kafer fleet, much reduced in size, had bypassed Beowulf and was making a drive for Earth. Only the colony of Nibelungen stood in its way, along with the expanded Terran Reserve Fleet, led by Admiral of the Fleet Dame Samantha Warkington. In addition to those nations that had contributed vessels to the original Reserve Fleet, several more had contributed vessels, including Manchuria, Indonesia, Freihafen, and Wellon. The combined Human fleet stood at 94 main combatants, plus a host of fighters, drone fighters, and converted civilian missile carriers. Against this force were 72 capital ships of the Kafer fleet, with the rest scattered back to Kafer space to protect their supply lines from Human raiders.

At the end of the battle, the Over-Suzerain, along with two other Suzerains, was dead, along with nearly half of the Kafer vessels. Two Suzerains lived to flee the battlefield with the tattered remains of their forces. The Human forces had suffered almost 30% casualties, except for the converted civilian missile carriers, which had suffered close to 100% casualties. The latter vessels had been crammed with the new smart missiles, which required no Human controllers. Though many of these weapons simply failed, or missed, they provided an element of confusion for the Kafer vessels, allowing the more accurate remote-piloted missiles through. The converted missile carriers were able to maintain their fire for over an hour, until hunted and destroyed by Kafer fighters and infiltrators.

After the victory at Nibelungen, the Human forces then went on the counterattack, and moved to liberate the occupied colonies of the French Arm. The main Kafer fleet had broken, and offered little resistance to this effort. Only the infiltrator vessels put up any sort of fight, and continued to harass Human vessels even well after the end of the war.

The Kafer fleet broke and fled, carrying word of the defeat back to the worlds of the Kafer sphere. Several of the ships dropped their troops at Kimanjano and Dunkelheim on the way out, but most dropped their remaining troops off at Nous Voila, which had been earlier devastated by Kafer orbital strikes.

In late 2311, human invasion fleets crossed the Kafer frontier. The human fleets were aided greatly by the turmoil that had enveloped the Kafer sphere following the defeat of the Over-Suzerain's fleet at Nibelungen. That being's presumed death did much to foster the chaos, as the remaining rival Suzerain's vied for power.

The front-line Kafer worlds had owed fealty to Triumphant Destiny, the leader of the original Kafer invasion in 2297, and its death and the destruction of much of its fleet in 2303 had stripped the worlds of many of their defenses.

### Orbital Drop Assaults:

A new tactic pioneered in the Kafer War with the advent of better control technology, the orbital drop assault provides a way to quickly insert combat groups up to company-sized anywhere on a planet, and then back them up with conventional assault landers later. Orbital drop assaults are conducted with drop capsules, each containing either a trooper and his weapons, a decoy, remote missiles, or a combat walker. Time from orbit to ground is less than 10 minutes, and gives the drop troopers an element of surprise in their attacks on Kafer defenses.

Infighting over its succession, and a prior conflict with the Over-Suzerain, left these frontline worlds largely bereft of their defensive fleets, while the more distant worlds ignored the defense of the Sphere in pursuit of their own goals.

Eschewing the slow tactics favored by the Kafers, the Human fleets made a dash for the home system of Gamma Serpentis, which was a natural chokepoint between the rest of the Kafer Sphere and Human space.

In 2312, German **Konteradmiral** Wilhelm Lutke was charged with scouting out the loop of worlds just past Arc-turus, off the main path of the human fleets. These worlds were once the fief of Triumphant Destiny, and, as noted previously, were largely stripped of their fleets. Following the instructions of the French Grand Admiral Georges Mont-Clair and Lord Admiral Warkington (the commanders of the human invasion fleet), Lutke landed troops to determine Kafer preparedness to ground invasion. The Kafers were very well prepared, and Lutke lost a great many of his troops in the initial landings. Enraged, and responding to intelligence reports that these worlds had once belonged to the being that had destroyed Hochbaden, Lutke used his ships to bomb the world flat, using nuclear and kinetic deadfall weapons to commit genocide. The extensive orbital habitats suffered much the same fate, as Lutke reenacted the Massacre of Hochbaden upon the aliens. Lutke's flagship, the **Brandenburg**, was a new class of vessel, a planetary control cruiser, and was expressly designed for orbital bombardment and surface control. A French courier attached to Lutke's fleet fled back to the main fleet, bearing the news of the **Konteradmiral's** actions. The other habitable worlds in the loop were subjected to the same treatment, and Lutke ignored orders from Mont-Clair to stand down. The Kafers not killed in the initial attacks perished later from the combined effects of starvation, nuclear winter and disease. At least one of the worlds of the loop was suitable for Human colonization, but any settlement would have to wait until surface conditions stabilized. Once he was finished with the worlds of the Loop, Lutke rushed his squadron to join the attack on the Kafer home system.

At Gamma Serpentis, the Kafer home system, the Human invader's encountered very heavy resistance, though not as heavy as they feared. The other Kafer Suzerains did not provide any ships to aid in the home world's defense, and though the system's defenders fought fanatically, it was to no avail. If they had had support of the other Suzerains, they may have been able to repel the Human invaders. As it was, the other Suzerains were too busy fortifying themselves against the Humans or each other. Despite a 35% loss in ships, including Dame Samantha's **HMSS Hood**, the Human fleet gained orbital superiority over both inhabited worlds of the Kafer home system.

Lutke's squadron, with **Brandenburg** at the lead, arrived in orbit over the Kafer colony world of Gamma Serpentis IV as the main battle was joined over Gamma Serpentis III, the Kafer home world. The squadron quickly subdued the few orbital assets over the world, a colony of over 500,000 Kafers, and Lutke's fleet began a bombardment. Both the American and French commanders moved to intervene, and finally Lutke was put under arrest by the commander of the German contingent, Admiral Horst van Gubler. He was immediately shipped off to Earth for trial.

The puzzle of what to do about the Kafer worlds had long been gnawing at the minds of both military and civilian planners. One faction favored Lutke's approach – genocide. The other faction felt that the masses of Earth would not stand for a Human-created Twilight against an alien, intelligent race, even with the destruction wreaked upon the worlds of the French Arm.

In cooperation with a small group of French and British officers, the Pentapods provided a solution. By 2310, a Pen-

tapod/Human team of medical researchers had decoded the biochemical basis for the para-adrenal response, the means by which Kafers got "smart" when threatened or confronted with violence. By 2311 they had developed a means to inhibit the para-adrenal response. Their solution was a viral plague, which could be spread through the Kafer population. The Kafer lack of any real medical science further increased the odds of success. Armed with this Pentapod weapon, the Human officers developed a plan without the approval of their political leadership.

The first wave of the Human invasion of the Kafer homeworld appeared to be a scouting mission, and in a way it was. Some of the troops who went down were special forces, who remained behind to provide intelligence and support for the landing that would follow. Most of the troops, though, were volunteers, hailing from worlds like Aurore, Nous Voila, Beta Canum, Dunkelheim, and Kimanjano, worlds that had seen severe damage at Kafer hands throughout the war. A few of the volunteers secretly agreed to be infected with the Pentapod virus, which had no known effects on Humans. Most, however, knew nothing of the virus, or the purpose of the raid. A few of the assault boats, empty of living crews but carrying a cargo of the virus, "crashed" under automated control, all conveniently near the largest Kafer cities. The Human recon force landed near the largest city and the world's main spaceport. Within a month of the landing, most of the population of the Kafer homeworld had lost the ability to get "smart" and the most populous world in Kafer Space was plunged into chaos.

The next wave of landings was much larger, and much more successful. Humanity succeeded in establishing bases on the Kafer homeworld, while the world tore itself to pieces. Many Kafers were largely unaffected, being permanently smart, and a small number actually appeared to be immune, but they were not enough. They continue to harass the Human occupation troops, however, resulting in a steady trickle of casualties and corpses returning to Human space from the Kafer Sphere.

Word of what had happened on the homeworld filtered out to the remainder of the Kafer sphere. Fear of this "curse" served to keep the remaining Kafer ships and troops away from Gamma Serpentis, and an uneasy, undeclared truce exists. A few Kafer ships slip past the blockade at Gamma Serpentis, while occasional human raiders likewise go marauding in Kafer space, but neither side is currently willing to take the risks necessary to attempt all-out conquest. In addition, the loss of the Over-Suzerain, and the subsequent collapse of the Kafer homeworld, has plunged the remainder of the Kafer Sphere into conflict, as the remaining Suzerains struggle to attain the resources needed for survival.

It is readily apparent to most military analysts that Humanity could have won the war without Pentapod interven-

### AGRA and the Kafers:

In the early years of the war, there was considerable pressure exerted by the public to "do something" about the Kafers. Genocide was openly discussed. Then over the course of five years, from about 2307 on, public opinion shifted to support of a policy of containment. In 2307, the Bayern returned from its voyage, and the existence of AGRA was made known to select national governments and Foundations. Several of the Foundations voiced concern that, now that Humans had the attention of AGRA, exterminating another intelligence species might be a bad idea. If nothing else, no one wanted to give the immensely powerful beings renovating the Pleiades any ideas. The Life Foundation, aided by the North American Research League and several others, began a campaign of "reprogramming" public opinion to favor containment rather than extermination. The success of this program has alarmed the nations that were also privy to the operation, as they race to duplicate the concept.



tion. Once the Human fleet controlled the orbital space of Gamma Serpentis III, the war was effectively won. What the Pentapod weapon gave humanity was time, as the remaining Kafers in the Sphere are too frightened of the weapon's effects to try and retake the homeworld, at least until they get their internal problems sorted out.

## AFTERMATH

**The Decline of France:** The failure of the French Navy to adequately protect the French colony worlds, in particular after the invasion by the Kafer Over-Suzerain and its allies in 2306, challenged France's preeminent role in human affairs. France's Earth-bound power has diminished, though not in the way its off-world prestige has. Several French colonies have either attempted to declare their independence, or have been effectively destroyed by the war. French casualties in the war were severe, with more than 10 million dead, and millions more rendered homeless. This period also marks the beginning of the end of the French Peace, as France's inability to control its wayward colonies leads to its role on Earth being challenged. So far, the French response to these reversals has been increasing intolerance of dissent, with armed force increasingly likely to be used to quell civil unrest, and a militant hand in its dealings with the colonies.

**Refugee Crises:** The destruction of so much of the colonial infrastructure of the French Arm has led to a humanitarian crisis, as the ability of relief agencies like Zapamoga and the Red Star society to cope is limited. Many of the refugees have been resettled, particularly along the Chinese Arm of space, fostering resentment among both the original colonists and the refugees towards the terrestrial governments.

**The Rise of America:** The Kafer War was fought a great distance from American holdings, and at no time were American territories ever threatened by the war. Yet America took on the task of defending worlds not her own, and paid the price in ships and personnel. They also took up a leadership role in the war, alongside the British fleets, as the French and Germans seemed too concerned with establishing the chain of command to fight the war. It was the American battleship *Columbia*, the pride of her fleet, that turned the tide at Beowulf in 2303, and American ships that led the way past Arcturus into Kafer space in 2311. Casting aside the isolationist role it had played for the past three centuries, America is once again on the rise.

**Colonial Dissent:** The period of 2309 to 2320 has also seen an upsurge in independence movements among the colonies, in particular those long-settled, or those who believe that they were badly treated in the Kafer War and its aftermath. Following the war, Heidelshemat officially declared its independence from Germany, as did the prosperous colony of Nibelungen. Germany did little to attempt to persuade the colonies to return, as the German national

conscience was still wrestling with the actions of Lutke and his fleet, along with the destruction of so much of the nation's colonial infrastructure.

Things went differently for France, however. The decline in French prestige following the Kafer War stung their notorious Gallic pride, and the attempts of a few colonies and outposts to secede stung further. France has reacted to any colonial dissent with force, and has so far thwarted rebellions at Serurier, Nyotekundu, Kimanjano and Aurore. These rebellions have served to strengthen the rising militarism in the French Empire, and fueled new expeditions to find new worlds. Of the three old-time European colonial powers, Britain has gone relatively unscathed by the recent upswing in colonial unrest, save for the colony at Crater, with its traitorous governor and an uprising among the miners.

## WARS ON EARTH

Aside from the over-arching menace of the Kafer War, there were three further wars on Earth in this time.

**Second Central Asian War:** In 2309, with France's attention focused elsewhere, Manchuria again attempted to invade the Central Asian Republic. With France and Germany out of the picture, the Manchurian forces felt they could handle the forces of the CAR and any Russian allies they might bring to the fray. They were wrong, and the result was three bloody years of war before the Manchurian forces fell back into Tibet.

**Second Mexican Civil War:** Early in the new century, festering resentment in Mexico at the perceived excesses of the ruling military-industrial elite exploded into violence when security forces fired into crowds of food-shortage protesters in Mexico City and Los Angeles. This provided a flashpoint for the whole nation, and the riots became open rebellion. Contrary to expectations, the rebels won the war, and again contrary to expectations, actually delivered on their promise of free elections in 2316.

**Fourth Rio Plata War:** In 2319, the long-simmering resentment and hostility between Brazil and Argentina flared to life again. The Kafer War had diverted these two old antagonists, but the rivalry never went away. As of 2320, the two nations have turned northern Uruguay into a battlefield, and foreign observers are watching with great interest to see how the military lessons of the Kafer War play out in war between Human opponents.

## TRADITIONAL RIVALRIES

History has created traditional rivalries between certain Human nations.

**Franco-German Rivalry:** Bavaria had, until recently, been an ally of France, helping her to restore world order, and participating in ESA programs. The War of German Reunification (from 2292 to 2293) changed all of this. The German

victory then caused the French to lose prestige and national pride, and neither nation is likely to soon forget.

**Argentine-British Rivalry:** With disputes dating back hundreds of years, the Argentine and British governments have often been at odds. Their rivalry solidified because of the Alpha Centauri War and the British denouncement of the Inca Republic (although the Republic has since become an embarrassment to its Argentine and Mexican patrons).

**Argentine-Brazilian Rivalry:** The Rio Plata Wars were fought for reasons ranging from a need for resources to a quest for economic and political supremacy in South America.

**Manchurian-French Rivalry:** When Manchurian intervention into Central Asia erupted in war, the French (as world peacekeepers) became their main adversaries. Many Manchurians living off Earth do not harbor resentment over this, but for Terran Manchurians, the French-solicited Japanese intervention was an insult they will not forget.

**Manchurian-Japanese Rivalry:** The two major powers of Asia have had a long-running history of hostility towards one another. The current friction between the two nations stems from Japanese action in the 1<sup>st</sup> Central Asian War, when their intervention halted the Manchurian advance, and eventually turned the war in the favor of France and her allies.

**American-Mexican Rivalry:** Mexican control of portions of what was once the American southwest created a strong dislike among Americans for Mexicans. Though it's been three hundred years, old dislikes die hard. The recent change of government and policies in Mexico has softened official dislike of the nation, but it is still far too early in the reform process to determine what will happen next.

## TRADITIONAL COOPERATIONS

The events of history have also provided some long-lived friendships between nations that have traditionally worked together toward common goals.

**American-Australian Cooperation:** Since they were both among the latecomers to the extraterrestrial scene, America and Australia combined their space efforts from the onset. As a result, an entire exploratory arm is virtually dominated by their works, an accomplishment neither nation could or would have aspired to separately.

**Canadian-British Cooperation:** Britain and Canada have a long tradition of cooperation, and currently enjoy favorable trade relations and close cooperation between their militaries. This friendship was primarily an Earth-bound one until the Kafer War.

**The ESA:** The member nations of the European Space Agency, France, Great Britain, Bavaria (now Germany), and Azania have a tradition of cooperation in both terrestrial and extraterrestrial matters. Even the split between Germany and

France has done little to break this particular bond of friendship at least among each nation's off-world civilian population.

**The French Empire:** The French Empire binds together lands and peoples from all over the Earth. From Central Africa to South America to Europe, all subjects of the French Empire feel an elitist camaraderie which binds them together.



# CHARACTERS

Character generation follows the **T20 Traveller's Handbook (THB)**, though with some important differences as outlined here.

Careers in **2320AD** are taken from the **THB**, and all careers are available, with the exception of the Noble, TAS Reporter and the Big Game Hunter. The Barbarian class is only available to the Eber Nomads and certain primitivist human cultures, both on Earth and on a few colony worlds. **2320AD** also adds two new Core classes, Colonist and Reporter, and three new Prestige classes (p. 29): the Troubleshooter, the Alien Cultural and Technologies Expert, and the Special Forces soldier. Many of the classes from **T20** have changes to reflect the **2320AD** setting, and these changes are outlined on p. 27.

Characters in **2320AD** do not usually start as raw 1<sup>st</sup> level characters. They will have some experience, and can be generated either with the Quick Character Generation system here, or with the Prior History Character Generation found in **T20**.

## HUMAN BARBARIANS:

Certain Human cultures are advocates of combining traditional lifestyles with modern culture. Foremost among these are the native groups of America, Australia, Brazil, and Canada. These cultures thus allow their members to freely multiclass as Barbarians, representing those who willingly go back to living on the land, yet still remain connected to modern technological society.

## QUICK CHARACTER GENERATION SYSTEM

1. Character Concept
2. Roll Ability Scores including Education and Social Standing
3. Choose a Homeworld and Gravity Type
  - 3.1 Choose Homeworld Skills
  - 3.2 Choose Homeworld Feats
4. Background Skills
5. Background Feats
6. Roll for turning points
7. Use the XP generated to create a character
8. Class Skills and Feats
9. Mustering Out and Retirement Benefits

## INITIAL STEPS

The first step in creating a character is to come up with a character concept; a plan of how the player wants the character to end up. The random factor in the character generation process can change this, but it is a good starting point.

## ABILITY SCORES

Ability scores are generated as normal for **T20**, with humans having a range of 3-18, modified by Body Type and Gravity. Titles of nobility arising from SOC are not generally used, though the general SOC level is still a valid indicator of one's place in society. Characters from societies that still possess a peerage may elect to use the appropriate title, with GM approval. These stats are generated as normal.

### National Nobility:

Very few societies still have titles of nobility in common use. The following list covers the major users:

Britain, Canton, Inca Republic, Manchuria, Netherlands, France, Spain, Wellon and Alicia (on Beowulf). Argentina's land-holding aristocracy does not use titles.

## HOMEWORLD

After creating a character concept, the next step is to choose a homeworld and a Body Type. Homeworld type determines starting skills and feats, and the world's gravity type determines the range of available body types, which can further modify a character's stats.

Players can come from either a Frontier world or from the Core (Earth and Tirane). This selection helps determine starting Skills and Feats, along with Gravity Type. Within the selections of Frontier or Core a player can select normal gravity, low-gravity or zero-gravity. The high-gravity homeworld type is only available on the Frontier. All colony worlds are listed near the beginning of the Frontier chapter, along with

### King:

King is a world with a crushing 3.08 Gs of gravity, and requires special rules for character generation. If a character elects to be from either the American or Australian colonies on King, their character must be modified as per the King-type DNA Modification (p. 251). Characters from King start with one alien level. This affects XP required to raise all further character and class levels.



the main colony's gravity and trade data. Players should select a homeworld, and use the listed gravity, or else select a gravity value and work with the GM to select a world.

## GRAVITY TYPE

Mankind has settlements from the floors of oceans to the depths of space, with a multitude of worlds settled, from zero-gravity asteroid mines to the crushing gravity of King. The different gravity environments are reflected in the use of Gravity Type. High gravity is any world with a surface gravity of 1.4 G or higher. Normal gravity is the range from 0.8 to 1.4 G, while low gravity is 0.8 G down to 0.2 G. Zero-gravity is classified as anything less than 0.2. So an outpost on Earth's moon is classified as Zero-gravity, while a base on Mars is classified as Low-gravity.

On the character's homeworld, all stats are used as rolled. However, once off the homeworld they should apply the modifiers to Strength and Dexterity (STR/DEX) from the table below. Gravity Type modifications can increase a character's stats above 18, though not below 0. Any stat brought to 0 means that the character in question is unable to move effectively in that environment. This table is only used for characters that have undergone the Zero-Gee modification, which limits bone decalcification and muscle degeneration. Otherwise, all penalties for Low- and Zero-gravity are doubled.

Destination World	Gravity of Homeworld			
	Zero	Low	Norm	High
Zero-G	0/0	+2/-1	+4/-2	+6/-4
Low-G	-2/+1	0/0	+2/-1	+4/-2
Normal	-4/+2	-2/+1	0/0	+2/-1
High-G	-6/+4	-4/+2	-2/+1	0/0

## BODY TYPE

Body type reflects the basic physical build of the character, and affects the character's Strength, Constitution and Dexterity. Normal body type is just that, normal, without any benefits or penalties. The Mesomorph is the classic body-builder-type, heavy, powerfully built, though perhaps not as flexible as some others. The Ectomorph is the dancer or gymnast body type, built slighter and more slender than normal, with greater flexibility. The Endomorph is epitomized by the short, heavy-set build, usually strong and tough, though with greater emphasis on the tough. They make good pilots, due to their shorter stature and acceleration tolerance. Body type modifiers can raise a character's stats above 18, and are cumulative with gravity type modifications.

Body Types	STR	DEX	CON	Base Height	Base Weight
Mesomorph	+4	-2	+2	150 cm	60 kg
Ectomorph	-3	+2	-2	150 cm	44 kg
Endomorph	+1	-1	+2	132 cm	60 kg

Normal	+0	+0	+0	140 cm	54 kg
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Body type also changes the starting heights and weights, from page 114 of the **THB**. These changes are reflected in the table above.

Female characters are, on average, 10 cm shorter, and 5 kg lighter, than their male counterparts.

The gravity of a character's homeworld is a limiting factor on body types, as shown in the table below:

Gravity Type	Body Types Available
Zero-G	Ectomorph and Normal
Low-G	Ectomorph, Mesomorph, and Normal
Normal	All
Heavy-G	Endomorph, Mesomorph, and Normal

### RULES NOTE:

As the number of colonies is limited in **2320AD**, players do not need to randomly generate homeworlds as in **T20**, they pick one.

## HOMEWORLD SKILLS AND FEATS

Homeworld Skills and Feats are selected according to whether the character is from the Frontier or the Core, and starting Feats are determined by gravity type. These Feats are largely gravity-adaptation Feats, save for the Normal Gravity character, who simply gets to choose a free General Feat.

For purposes of selecting these Skills and Feats, only the actual worlds of Earth and Tirane are considered Core. Other settlements within these systems can be considered either Frontier or Core, at the discretion of the GM. For example, the L-5 colonies in Earth orbit can definitely be considered Core, while the Martian settlements are more likely to be Frontier areas. At the same time, it would be possible to consider life at some of the more urbanized portions of some colony worlds to more closely resemble the Core rather than the Frontier. This is likewise at the discretion of the GM.

Humans receive 1 extra skill point per level (+4 at character level 1). Humans also receive an extra General Feat at character level 1.

**Beginning Skills:** All Human characters receive T/Computer and K/Homeworld at rank 0, regardless of whether they are from the Frontier or the Core. In addition, Characters from the Frontier receive T/Mechanical at rank 0, while characters from the Core receive Innuendo at Rank 0.

## HOMEWORLD FEATS

Each character also receives Feats based on homeworld type and Tech level. As normal for **D20/T20**, human characters receive a General Feat of the player's choosing at character

ter level 1.

### Feats by Homeworld Location

Homeworld	Feats
Core	Vessel/Ground (Choose), Hobby
Frontier	First Aid, Vessel/Ground (choose), Weapon Proficiency (Marksman)

### Feats by Homeworld Gravity Type

Homeworld Gravity	Feats
Normal Gravity	Choose One
Low-Gravity	Low/Zero-Gee Adaptation
Zero-Gravity	Low/Zero-Gee Adaptation, Armor Proficiency (Vac Suit)
High Gravity	Heavy Gravity Adaptation

## TECH LEVEL

Characters in **2320AD** do not modify their Education stat based on their homeworld Tech Level. Technology Level in **2320AD** is more about production capability than scientific knowledge, which is relatively even across most nations and colonies.

Therefore, a first level Human character from Earth (Core world, normal gravity) would start with five Feats: 3 Homeworld Feats (Vessel/Ground, Hobby, and 1 bonus Feat), 1 Bonus Feat for being Human, and another for first character level. A first level character from Aurore (Frontier world, low gravity) would start with six Feats: Four Homeworld Feats, (First Aid, Vessel/Ground, Weapon Proficiency (Marksman), Low-Gravity Adaptation), a Bonus Feat for being Human, and another for first level.

## QUICK CHARACTER GENERATION

**T20** uses Prior History to generate a character, and Players should feel free to use that system should they desire. It provides a detailed background on the character, though it is an involved process.

This section describes a quick character generation system for **2320AD**, which allows a player to generate a character and get started quickly by abstracting the prior history to a few rolls. The characters generated this way will likely be at a lower average level than the ones generated with **T20** Prior History. Characters do not die, get injured, suffer ability loss, or get imprisoned during Quick Character Generation, unlike Prior History, but they also do not pick up awards, promotions or medals. This is a tradeoff between the speed and ease-of-use of the Quick system, versus the detail and enhanced opportunities, and risks, of the Prior History method.

The **2320AD** quick character generation system gives characters an outline background in one or more notional "careers." Time in these "careers" gives them experience

points to spend on levels in suitable classes. **2320AD** careers are a somewhat nebulous concept. A character with a career as a Security Officer might end up with classes like Rogue, or Mercenary, or Law Enforcement – whatever matches the abilities he developed in that career.

Choice of Career is pretty much wide open, but some examples follow (with suitable classes). Note that classes are simply the way **2320AD** bundles up a character's Skills and Feats and other capabilities; they're not job descriptions like careers.

Career is used largely to provide a focus for character generation, and some background information. Note that the process for the Prior History Character Generation is different, and is explained further in the **T20** core rules.

Career	Some Applicable Classes
Ground Military	Army, Engineer, Flyer, Mercenary, Professional, Rogue
Security Guard	Law Enforcement, Mercenary, Professional, Rogue
Space Navy	Engineer, Flyer, Medic, Navy, Professional, Rogue
Scout	Engineer, Flyer, Professional, Rogue, Scout
Marines	Flyer, Professional, Marine, Medic

### MERCHANT CORPORATIONS AND LIBERTINE TRADERS:

There are several large merchant and shipping corporations in Human space, including the Trilon Corporation, Maersk Shipping, and Mataglap Interstellar Freight and Finance. In addition, however, there are literally hundreds of Libertine traders, small trading ventures or family groups. Some equate them to the gypsies or tinkers of space, small, mobile, with their own code of honor. These Libertine families have names like the Singhs, the Shaugnessys and the O'Rourkes. Somewhat paranoid and suspicious of outsiders, they form a large part of the trade between colony worlds, though they rarely visit the overly-regulated worlds of the Core.

Quick character generation in **2320AD** revolves around turning points. Turning points are times in a person's life when they look back and reevaluate themselves and their lives up that point. Often this results in career changes and other life changes. After a player has determined statistics and starting (homeworld) Skills and Feats, they choose an initial career, and roll 1D6+4. This is the number of years until the first turning point. For each year in the career, the player gets 1250 XP. At the first turning point, a Wis Check is made vs. DC 6 to determine if the character can continue, or must muster-out into play. If the test is passed, the character can stay in the current career, or switch to a different one. If the test is failed, the character musters out into play. At this time, and after all further turning points, 1d10 is rolled to determine the numbers of years to the next turning point. A

## MERCENARY ORGANIZATIONS:

The universe of **2320AD** is a turbulent place, and there are many mercenary organizations selling their services. They range in size from the 22-man "Snake-Eaters," a special forces outfit, up to the 2000- strong Tanstaaf Free Legion, originally formed to protect that colony from the alien Kafers, and now hiring itself out to independent worlds and corporations all across the French Arm. The American-Australian Volunteer force is another mercenary outfit, this one operating off on the alien Ylii worlds as a defense force to protect the pacifist Ylii from Kafer attacks. Other mercenary groups include (but are not limited to):

Name	Specialty	Size
Darkseid	Space defense and interdiction	5 ships, 422 personnel
McDonough's Highlanders	Ground forces training cadres	100 troops
Panzergruppen Trafft	Hover tanks and conventional armor	6 hover tanks, 3 tracked tanks, other vehicles
4th Albion Sappers	Civil and combat engineering	87 troops and specialists

further 1250 XP is earned for each year after the first turning point until the second turning point. This time, the Wis check is vs. DC 12. The target DC increases by two for each turning point, until the fifth turning point. Continuing past the fifth turning point is not possible. Each turning point passed also earns the character an additional 1000 XP.

Even if a character stays in the same career throughout character generation, they can freely multi-class into any applicable class. If they switch careers, the same applies. As previously stated, careers in the Quick Character generation are simply guidelines, unlike in Prior History, where they have an actual effect on the process.

After the last Turning Point is rolled, or when the player chooses, the character musters out into play. At that time, take the number of XP earned and used that to purchase levels in their Class or Classes, as desired. Players may freely decide how many XP to put in each class, if multi-classed.

**Prestige Classes:** Normally, a player cannot select a Prestige class during character generation. The final call on this is up to the GM. Ideally, Prestige classes should be closely tied to the overall theme of the game.

## MUSTERING OUT

Mustering out is the process of bringing a character from background generation into actual play. The benefits below are for use with both the quick character generation system and prior history character generation system. Substitute Term for Turning Point when determining benefits for characters generated with the Prior History method.

After any Turning Point, by choice, or after failing the last Turning Point check, or in any event after the fifth turning point, a character musters out into play. Any character in a Service class must multi-class into a Core or Prestige class, which they start at first level. Core and Prestige characters remain in their current classes, unless the player wants to multi-class into a different class. If the game is service-based (like a military unit) then mustering out is not necessary. In those cases, the GM will often assign XP or levels based on

the requirements of the game.

Once a character musters out, they receive benefits that reflect their years of service and any possible savings they may have. For every 5 years of service they get one roll for Cash Benefits, and one roll for Material Benefits, on the table below.

Roll 1d6	Cash Benefit	Other Benefits
1	None	None
2	Lv1200	Weapon
3	Lv3200	+1 Intelligence
4	Lv6400	+2 Education
5	Lv13000	Middle (Economy) Passage
6	Lv26000	High (Luxury) Passage
7	Lv52000	+1 Social Standing

## A NOTE REGARDING CURRENCY:

Despite its recent reversals, the French Empire is still one of the most, if not the most, powerful economy in human space. This economic clout has made the French Livre the most common currency of international trade. When converting values, 1 Livre (Lv1) in **2320AD** = Cr3 from **T20**.

Add +1 to the roll on the Benefits Table if the character has passed their third Turning Point or finished their third term (if using Prior History).

**Weapon:** Weapon results in the character getting a weapon of their choice that would have been used by the career they just left. Weapons can be from up to two law levels lower than the character's homeworld. E.g. A character from Earth (Law 8) could choose a weapon from those available at Law Level 6, 7, or 8.

**Middle (Economy) Passage:** Middle Passage is an economy-class one-way ticket to anywhere in Human space. It can only be used once. As an alternative, the character can take this in cash, worth approximately Lv10,000. This ticket does not include interface travel.

**High (Luxury) Passage:** High Passage is a luxury-class one-way ticket to anywhere in Human space. It can only be



## The Foundations:

There are a number of Foundations, usually dedicated to scientific pursuits, or colonial or environmental advocacy. They are detailed in a separate chapter, but the main ones are listed below:

Foundation	Nationality	Area of Interest
Astronomischen Rechen-Institut (ARI)	German	Space Exploration
Accademie del Lincei	Italian	Antiquities, Religion
North American Research League (NARL)	Canadian	Environmental Advocacy and Protection
Transhuman League	International	Directed Human Evolution
Institute des Études Exobiologique	French	Alien Biology
Life Foundation	International	Colonization and humanitarian operations

used once. As an alternative, the character can take this in cash, worth approximately Lv100,000. This ticket **does** include interface travel.

## TURNING POINT BENEFITS

In addition, for each turning point passed, the character receives Lv5000 or 1 point towards the acquisition of a vehicle or ship.

Vehicle or Ship Type	Points	Notes
Ground Vehicle	1	Ground car or small hovercraft
Aircraft	2	Scout tilt-rotor, or small helicopter
Landing Craft	3	Medium-sized cargo lander or converted assault lander
Goliath-Class Frame	4	Stutterwarp capable frame, no inherent cargo capacity
Thorez-Class Courier	5	Basic courier with surface-to-space capabilities
Anjou-Class Cargo Carrier	6	Basic cargo vessel

Receipt of a ship does not grant outright ownership, but rather use of ship supplied by a Foundation, government or corporation. The characters have use of the vessel for their own purposes, subject to the needs of the owning organization. The characters are responsible for all regular upkeep on the vessel, along with any extraordinary costs

incurred when not on assignment. Note that it is not generally possible for a small, private group to own their own ship, but it may be possible for someone with a sufficiently high SOC. This call is up to the GM.

Characters may pool their points for the purchase of a ship. They should decide amongst themselves as to crew positions, including captain.

## AGING

Add the number of years spent in background careers to the character's starting age of 18 to determine their age. Apply stat reductions as normal for **T20**.

## SKILLS AND FEATS

The technological and cultural assumptions of **2320AD** and **T20** have some differences, and affect the Skills and Feats available to characters. Some other Skills and Feats are changed to reflect the **2320AD** universe.

These changes are detailed in the following pages.

## SKILLS

The following skill is unavailable in **2320AD**:

**T/Gravitics:** **2320AD** does not have gravitic technologies.

The following skills are changed in **2320AD**:

**Forward Observer:** The Forward Observer skill also

## AGING By RACE:

Race	Starting Age	Middle Age	Old Age	Venerable Age	Maximum Age	Max Terms	Max Turning Points
Human	18	37-56 Years	57-89 Years	90+ Years	80+3d10 Years	7	5
Eber	60	120-200 Years	200-300 Years	300+ Years	300+10d10 Years	15	12
Kafer	6	12-24 Years	25-41 Years	42+ Years	36+2d10 Years	5	3
Klaxun	20	50-75 Years	76-111 Years	112+ Years	100+4d10 Years	8	6
Little Guy	12	29-48 Years	49-62 Years	63+ Years	55+3d10	6	4
Pentapod	40	80-120 Years	121-180 Years	181+	170+ 2d10	11	7
Sung	18	36-58 Years	59-91 Years	92+ Years	80+3d10 Years	7	5
Xiang	7	15-32 Years	33-44 Years	45+ Years	40+1d10 Years	5	3
Ylii (Alpha)	14	31-55 Years	56-85 Years	86+ Years	80+3d10 Years	7	5

allows the use of laser designators. Use the character's BAB, with Ranks in Forward Observer as a bonus to the roll. Note that laser designators are usually add-ons to existing weapons, and the character has to have a Weapon Proficiency in the weapon used. (e.g. If the designator is on an assault rifle, then the character must have Combat Rifleman, plus the Forward Observer skill, to use the laser designator).

**Read/Write Languages:** A character can only choose Human languages unless the Character is a member of the Alien Cultural and Technologies Expert Prestige Class. Human languages are found at the beginning of Chapter 5: Core Worlds.

**Speak Languages:** A character can only choose Human languages unless the Character is a member of the Alien Cultural and Technologies Expert Prestige Class. Human languages are found at the beginning of Chapter 5: Core Worlds.

**Use Alien Devices:** Becomes an exclusive skill for the Alien Culture and Technologies Expert. Each alien race has a separate penalty that is applied to the use of this skill.

Race	Penalty
Aquilan	-2
Eber	-2
Kafer	-3
Klaxun	-1
Medusan	-6
Pentapod	-4
Sung	-1
Xiang	-6
Ylii	-4

## FEATS

The following Feats are unavailable in **2320AD**:

**PSI Training:** **2320AD** does not have psionics.

**Tolerance:** This Feat is specific to Aslan, an alien race not found in **2320AD**.

**Vessel/Grav:** **2320AD** does not have Gravitic technology.

**Natural Talent:** **2320AD** does not have psionics.

The Following Feats have been modified in **2320AD**:

**Armor Proficiency (Battledress):** This becomes Armor Proficiency (Combat Walker). The character is familiar with the use of humanoid combat walkers and the weapon systems normally associated with them.

**Prerequisites:** None

**Benefit:** Can work normally while wearing a Combat Walker, only suffering a -2 Penalty to Climb, Hide, Jump, Move Silently, Tumble, and Initiative. These penalties can be offset by the walker's Agility and Initiative scores.

**Normal:** Untrained characters are effectively unable to use a Combat Walker, and suffer a -4 penalty to ini-

tiative, along with being unable to Climb, Hide, Jump, Move Silently and Tumble, along with all combat rolls. Characters without this Feat also cannot make use of any Agility or Initiative bonuses of a Combat Walker, but are subject to any penalties.

**Note:** Non-humanoid Combat Walkers use the Vessel (Walker) Feat.

**Weapon Proficiency (High Energy Weapons):** The character is trained in the use of high-energy weapons, including plasma guns and plasma bazookas. **2320AD** does not have fusion weapons.

**Prerequisite:** Combat Rifleman Feat

**Benefit:** Characters make attack rolls with no penalties

**Normal:** An untrained character suffers a -4 penalty when attacking with a high-energy weapon.

**Weapon Proficiency (Ship's Weaponry):** The character is skilled in the operation of ship-mounted weaponry, including screens, lasers and particle accelerators. Missiles, as remote-piloted objects, require a different proficiency.

**Benefit:** Characters make attack rolls with no penalties

**Normal:** An untrained character is unable to use these systems

**Special:** If the character does not already have a skill rank of 1 in Gunnery, he or she automatically gains it (as a class skill) with a rank of 0.

## NEW FEATS

**Drop Trooper:** This feat applies to personal re-entry in an assault drop capsule. It may be taken up to 3 times, giving a bonus (see below) on all DEX checks made during re-entry and to aim the capsule at the target point. The character must already possess the Armor Proficiency: Vac Suit feat to take this feat.

The Drop Trooper feat is available to Marines and Army Special Forces only. At the GM's discretion, any other character may take this feat if they are a participant in the hazardous sport of "Atmosphere Surfing" (also known as "Bum Surfing").

**Prerequisite:** Armor Proficiency (Vac Suit)

**Benefit:** Level 1: No penalty on DEX checks to make a controlled re-entry. Level 2: +1 on all DEX checks. 3<sup>rd</sup> level: +3 on all DEX checks (total).

**Normal:** Characters without this feat can attempt re-entry, but at a penalty of -4. Characters without the Vac Suit feat have no chance at successful re-entry. (This Feat is modified from its original form)

**Vessel (Missiles and Drones):** The character is skilled in the operation of Remote-Piloted spacecraft, including Missiles and Sensor Drones. This also covers targeting of

the Missile's weapon systems. Possession of this Feat also grants Pilot skill at rank 0 if the character does not already have it.

**Prerequisite:** None

**Benefit:** Character can operate Remote Objects with no penalty

**Normal:** An untrained character suffers a penalty of -4 when trying to pilot missiles and drones.

**Vessel (Remote Objects):** The character is skilled in the operation of Remote-Piloted vehicles, including drones, robots and ROVs. This does not cover targeting of the vehicle's weapon systems, which would require the appropriate weapons Feat. This Feat is intended for use with planet-based drones. Possession of this Feat also grants Drive skill at rank 0 if the character does not already have it.

**Prerequisite:** None

**Benefit:** Character can operate Remote Objects with no penalty

**Normal:** An untrained character suffers a penalty of -4 when trying to pilot remote objects.

### Missiles and Drones:

Missiles are defined as offensive weapons, and are remote-controlled spacecraft with a nuclear detonation laser warhead, or light energy weapon. Drones are typically not armed, and are used for reconnaissance or as decoys. Some do mount weapons for anti-missile (Point Defense) roles.



### Core Class Master Skill List

Skill	Colonist	Journalist	Untrained	Key Ability
Alien Cultures	X	X	No	Wis
Animal Empathy	C	•	No	Cha
Appraise	C	C	Yes	Int
Balance	•	•	Yes	Dex*
Bluff	C	•	Yes	Cha
Bribery	•	•	Yes	Cha
Broker	•	•	No	Int
Climb	•	•	Yes	Str*
Combat Engineering	•	•	No	Int
Craft [cascade skill]	•	C	Yes	Int
Decipher Script	X	X	No	Int
Demolitions	•	•	No	Dex
Disguise	•	•	Yes	Cha
Driving	•	C	Yes	Dex
Entertain [cascade]	•	C	Yes	Cha
Forgery	•	•	Yes	Int/Dex
Forward Observer	•	•	No	Int
Gambling	C	C	Yes	Int
Gather Information	•	C	Yes	Cha
Gunnery	•	•	Yes	Wis
Handle Animal	C	•	No	Cha
Hide	•	•	Yes	Dex*
Innuendo	•	•	No	Wis
Intimidate	•	•	Yes	Cha
Intuit Direction	•	•	No	Wis
Jump	•	•	Yes	Str*
Knowledge [cascade]	C	C	No	Edu
Leader	•	•	Yes	Int/Cha
Liaison	•	•	No	Cha
Listen	•	•	Yes	Wis
Move Silently	•	•	Yes	Dex*
Navigation	•	•	No	Edu
Pilot	•	•	No	Int/Dex
Profession [cascade]	•	C	No	Wis
P/Administration	•	•	No	Wis
P/Prospecting	•	•	No	Wis
Read/Write Language	•	•	No	None
Recruiting	•	•	Yes	Edu
Ride	C	•	Yes	Dex
Search	•	•	Yes	Int
Sense Motive	•	C	Yes	Wis
Speak Language	•	C	No	None
Spot	C	•	Yes	Wis
Survival	C	•	Yes	Wis
Swim	•	•	Yes	Str
Technical [cascade]	C	C	No	Edu
T/Mechanical	C	•	No	Edu
Technosavvy	X	X	No	Int
Trader	•	•	Yes	Int
Tumble	•	•	No	Dex*
Use Alien Devices	X	X	No	Int

\* Armor check penalty, if any, also applies.

**C** Class Skill

• Cross-Class Skill

**X** You can not buy this skill because it's exclusive to another class



## CLASSES

In addition to the Core and Service classes presented in **T20**, **2320AD** has the Colonist and the Journalist Core Classes, along with three new Prestige Classes detailed later.

### COLONIST (Core Class)

Colonists represent the people who live outside the urban centers on colony worlds. Just like a farmer used to have to be a Jack-of-All-Trades to make a living, so to does a colonist need a little of everything to carve out a life on the sometimes hostile colony worlds.

**Characteristics:** A colonist must be self-reliant, but a large pool of good neighbors and friends makes life a great deal easier. Though many have access to the latest technology, the upkeep cost seldom justifies their use. In many of the newer colonies, especially those founded since the end of the Kafer War, animal power is as much in use as machinery.

**Background:** Colonists come from two walks of life: either they were born into it, or else they are newcomers from one of the Core worlds, or perhaps even from another colony devastated by war, and hoping to pick up a new life.

**Adventuring:** Colonists tend to know something about everything, so long as the information has practical value. They are good with machinery, and natural survivors.

#### GAME RULE INFORMATION

**Class Type:** Core

**Initial Requirements:** For characters that start as Colonists, they must be from a Frontier world. Characters begin at age 14 rather than 18, and remain colonists until the first turning point (If using the Prior History rules, characters start at age 14, and must spend at least one term as a Colonist). Those becoming colonists later have no restrictions, but can only enter at or after the first turning point. (First Term if using prior history rules).

**Multiclass Restrictions:** You can multiclass freely into the colonist class

**Abilities:** Constitution, Wisdom

**Stamina:** 1d8 + Con modifier per level

**Starting Funds:** Lv100

### Colonist

Level	Base Attack Bonus	Base Fort Bonus	Base Reflex Bonus	Base Will Bonus	Special
1 <sup>st</sup>	+0	+2	+0	+1	Starting Feats + Bonus Feat
2 <sup>nd</sup>	+1	+3	+0	+2	Bonus Feat
3 <sup>rd</sup>	+1	+3	+1	+2	
4 <sup>th</sup>	+2	+4	+1	+2	
5 <sup>th</sup>	+2	+4	+1	+3	Bonus Feat
6 <sup>th</sup>	+3	+5	+2	+3	
7 <sup>th</sup>	+3	+5	+2	+4	Bonus Feat
8 <sup>th</sup>	+4	+6	+2	+4	
9 <sup>th</sup>	+4	+6	+3	+4	
10 <sup>th</sup>	+5	+7	+3	+5	Bonus Feat
11 <sup>th</sup>	+5	+7	+3	+5	Bonus Feat
12 <sup>th</sup>	+6/+1	+8	+4	+6	
13 <sup>th</sup>	+6/+1	+8	+4	+6	Bonus Feat
14 <sup>th</sup>	+7/+2	+9	+4	+6	Bonus Feat
15 <sup>th</sup>	+7/+2	+9	+5	+7	
16 <sup>th</sup>	+8/+3	+10	+5	+7	
17 <sup>th</sup>	+8/+3	+10	+5	+8	Bonus Feat
18 <sup>th</sup>	+9/+4	+11	+6	+8	
19 <sup>th</sup>	+9/+4	+11	+6	+8	Bonus Feat
20 <sup>th</sup>	+10/+5	+12	+6	+9	

#### Class Skills

Class Skill	Key Ability
Animal Empathy	Cha
Appraise	Int
Gambling	Int
Handle Animal	Cha
K/Farming	Edu
T/Mechanical	Edu
Technical (Any)	Edu
Trader	Wis
Bluff	Cha
Survival	Wis
Ride	Dex
Spot	Wis
P/Prospecting	Wis

**Starting Skill Points:** (6 + Int modifier) x 4. If you are taking Colonist as a multiclass, you do not receive these starting skill points.

**Skill Points per Level:** 6 + Int modifier

**Stating Money:** Lv500

#### Colonizing Foundations:

Several Foundations are actively concerned with promoting colonization. They will often provide education and training to prospective colonists, and are a source of investment and support for the colonies themselves. Some notable colonizing Foundations include:

Name	Nation	Notes
Royal Society	Britain and Wellon	Colony Development
Zapamoga	Poland	Settlement assistance and support
Life Foundation	International	Colony and technical support
Alberta Farmer's Cooperative	Canada	Crop development
INAP	Mexico	Settlement assistance

## CLASS FEATURES

All of the following are class features of the Colonist:

**Starting Feats:** The Colonist begins play with the following Feats:

Armor Proficiency (Light)  
Weapon Proficiency (Marksman)  
Weapon Proficiency (Swordsman)  
Point Blank Shot  
Barter  
First Aid

**Bonus Feats:** At 1<sup>st</sup>, 2<sup>nd</sup>, 5<sup>th</sup>, 7<sup>th</sup>, 10<sup>th</sup>, 11<sup>th</sup>, 13<sup>th</sup>, 14<sup>th</sup>, 17<sup>th</sup> and 19<sup>th</sup> level the Colonist gains a Feat. These feats may be chosen from the list below. If the character already has all of the listed feats, they may select any other feat from the Feats chapter (pg. 100 of the THB) that they are qualified for.

Tracker	Dumb Luck	Gearhead
Endurance	Brawling	Trustworthy
Jury Rig	Sniper	Miracle Worker
Self-Reliance*	Carousing	Skill Focus (K/Farming)
Far Shot	Sixth Sense	Vessel (Ground Vehicle)

\***Self-Reliance:** Treated as the Belter Feat of the same name.

## JOURNALIST (CORE CLASS)

Journalists are a special type of professional whose job it is to go out, find, and report the truth.

**Characteristics:** Journalists are usually, bright, charismatic individuals who have a genuine interest in getting the truth, whether it's a small human interest story or an international scandal. Smart, sharp and focused are typical traits of the most successful journalists.

**Background:** Journalists tend to specialize in certain fields, and usually have some training and/or experience in that field. Of course, a journalist can be a young up-and-comer, fresh on the job, with a desire to shake the world. In any case, journalists are well-educated and very literate, often speaking several languages.

**Adventuring:** Many of the important, breaking stories have a considerable element of danger to them, and many journalists often find themselves in trouble. For an adventuring group, the journalist can either be along to chronicle what they are doing, or the group is there to support and protect the Journalist.

## GAME RULE INFORMATION

**Class Type:** Core

**Initial Requirements:** Any starting character may become a Journalist.

**Multiclass Restrictions:** To multiclass into the Journalist class, a character must have at least 4 skill ranks in at

least one Craft, Professional, or Technical skill.

**Abilities:** Intelligence, Charisma

**Stamina:** 1d6 + Con modifier per level

**Starting Funds:** Lv800

## THE JOURNALIST

	Base Attack Bonus	Base Fort Bonus	Base Reflex Bonus	Base Will Bonus	Special
1 <sup>st</sup>	+0	+0	+1	+2	Starting Feats + Bonus Feat
2 <sup>nd</sup>	+0	+0	+2	+3	Bonus Feat
3 <sup>rd</sup>	+0	+1	+2	+3	
4 <sup>th</sup>	+1	+1	+2	+4	
5 <sup>th</sup>	+1	+1	+3	+4	Bonus Feat
6 <sup>th</sup>	+1	+2	+3	+5	
7 <sup>th</sup>	+1	+2	+4	+5	Bonus Feat
8 <sup>th</sup>	+2	+2	+4	+6	
9 <sup>th</sup>	+2	+3	+4	+6	
10 <sup>th</sup>	+2	+3	+5	+7	Bonus Feat
11 <sup>th</sup>	+2	+3	+5	+7	Bonus Feat
12 <sup>th</sup>	+3	+4	+6	+8	
13 <sup>th</sup>	+3	+4	+6	+8	Bonus Feat
14 <sup>th</sup>	+3	+4	+6	+9	Bonus Feat
15 <sup>th</sup>	+3	+5	+7	+9	
16 <sup>th</sup>	+4	+5	+7	+10	
17 <sup>th</sup>	+4	+5	+8	+10	Bonus Feat
18 <sup>th</sup>	+4	+6	+8	+11	
19 <sup>th</sup>	+4	+6	+8	+11	Bonus Feat
20 <sup>th</sup>	+5	+6	+9	+12	

## Class Skills

Class Skill	Key Ability
Appraise	Int
Driving	Dex
Gambling	Int
P/Journalist	Wis
Entertain (written)	Cha
Profession (any)	Wis
Technical (any)	Edu
Speak Language	None
Craft (any)	Int/Dex
Knowledge (any)	Edu
Liaison	Cha
Sense Motive	Wis
Survival	Wis
Trader	Wis
Read/Write Language	None
Gather Information	Cha

**Starting Skill Points:** (7 + Int modifier) x 4. If you are taking Journalist as a multiclass, you do not receive these starting skill points.

**Skill Points per Level:** 7 + Int modifier

**Starting Money:** Lv1200

## CLASS FEATURES

All of the following are class features of the Journalist:

**Starting**

**Feats:** The Journalist Starts play with the following feats:

Armor Proficiency (Light)

Credibility

**Bonus**

**Feats:** At 1<sup>st</sup>, 2<sup>nd</sup>, 5<sup>th</sup>, 7<sup>th</sup>, 10<sup>th</sup>, 11<sup>th</sup>, 13<sup>th</sup>, 14<sup>th</sup>, 17<sup>th</sup> and 19<sup>th</sup> level the Journalist gains a bonus feat. These feats may be chosen from the list below. If the character already has all of the listed feats, they may select any other feat from the Feats chapter (pg. 100 of the THB) that they are qualified for.



Athletic	Fast Talk	Legal Eagle
Brawling	Gearhead	Research
Carousing	Hacker	Trustworthy
Connections	Hobby	Vessel (any but starship)
Credit Line	Interrogation	Weapon Proficiency (Swordsman)
		Armor Proficiency (Vac Suit)

**Credibility:** The Credibility special ability represents the public perception of the Journalist, whether they are someone to be trusted or someone to be ignored. This applies to members of the viewing public along with any people the Journalist is trying to see. It is used along with Bluff and other skills to provide a Synergy modifier to their use. Credibility is equal to the Journalist's Class level (not character level), modified as follows:

Location/Circumstance	Modifier
On Homeworld	+2
In Core	-4
Major (true) story in last 6 months	+2
Major (false) story in last 6 months	-2

Every three ranks (round up) in Credibility gives a character a +1 Synergy Bonus. So five ranks of Credibility would give a +2 Synergy bonus

This bonus affects the following skills: Bluff, Bribery, Gather Information, Innuendo, and Liaison. So a Level 5

Journalist, reporting from their homeworld (+2), with a true story in news in the past 6 months (+2), would have a credibility of 9, which translates to a +3 bonus for skills checks using the above listed skills.

**Research:** Research is the same as the TAS Field Reporter ability of the same name from the THB, page 183. It can only be taken once.

**PRIOR HISTORY TABLES****COLONIST (CORE CLASS)**

**Continued Employment:** DC8

**Ranks:** There are no ranks in the Colonist career.

**Earned Benefits:** N/A for 2320AD.

**DUTY ASSIGNMENT**

1d20	Assignment	Survive	Cash	XP
		DC	Bonus DC	Bonus DC
1-4	Farm Hand	4	none	18
5-10	Contract Work	9	22	14
11-14	Hired Hand	12	20	10
15-17	Industrial Farm	13	18	10
18-19	Land Clearance	15	16	8
20	New Colony	16	14	10

Ability Modifier +1 per K/Farming None  
term Skill Check

**Survival Mishaps**

1D	Mishap
1	No further action.
2	Family needs you on the farm. Automatically serve another term.
3	Farm seized by bank and family turned off farm. Effectively dismissed from career.
4	Farm sold at a loss. Discharged with no benefit this term. Other terms' benefits are retained.
5	Conflict with other farm group turns ugly. Prosecuted and sent to prison for 4 years.
6	Farm machinery accident. Lose 1d6-3 (minimum 1 point) points from any one of: Str, Dex, Con, or Cha.



## JOURNALIST (CORE CLASS)

**Continued Employment:** DC4

### Ranks

E1	Cub Reporter
E2	–
E3	Beat Reporter
E4	–
E5	Foreign Correspondent
E6	–
O1	Junior Assistant
O2	Assistant
O3	Co-anchor
O4	Anchorman
O5	Producer
O6	News Director

**Earned Benefits:** N/A for 2320AD.

### DUTY ASSIGNMENT

	Survive	XP			
1d20	Assignment	Bonus	Comm	Promo	Rank
		DC	DC	DC	DC
1-4	Local Reporter	3	9	12	(8)
5-10	Crime Beat	4	8	10	(6)
11-14	Consulting Firm	4	8	10	6
15-17	Investigative Reporter	5	7	8	8
18-19	Special Investigation	7	6	6	6
20	War Correspondent	9	5	6	8
	Ability Modifier		Int	None	Soc

### Survival Mishaps

1d6	Mishap
1	No further action.
2	Beat-up by celebrity. Lose 1 point from either CON or CHA.
3	Laid off with no call back date. Effectively discharged.
4	Declared surplus to the corporation. Effectively honorably discharged.
5	Indicted for libel/slander. Lose 2 points of Soc and spend 4 years in prison. Lose all benefits.
6	Serious on-the-job injury. Lose 1d6-3 points (minimum 1 point) from either Str or Con. Discharged.

### FAMOUS Military ORGANIZATIONS:

The national militaries of 2320AD have a long and often colorful history. Many of these units have earned great renown, and are known for their professionalism and esprit de corps.

Unit	Nation	Known for
Special Air Service (SAS)	Britain, Australia	Anti-terrorist actions
Foreign Legion	Imperial France	Heavy-hitting assault troops
Marines	America	Orbital Assaults
Dragon warriors	Manchuria	Aerospace Assault Force

## CHARACTER CLASSES

The following section contains any necessary revisions to the character classes. Classes marked with an asterisk (\*) are from the **Traveller Guidebook**. All others are from the **T20 Traveller's Handbook (THB)**.

**Academic:** In the quick character generation system, there is no university. Therefore, characters multi-classing into the Academic profession do not require a Bachelor's degree.

Use Alien Devices is no longer a class skill for Academics.

**Starting Money:** Lv200

**Army:** This is the ground-based portion of a planet's local defense force. Maritime and aerospace forces have their own careers. All Colony and Core worlds are considered to be High Tech Armies.

Under Feats, substitute Armor Proficiency (Combat Walker) or Vessel (Walker) for Armor Proficiency (Battledress) (Player's choice). Substitute Vessel (Hover) or Vessel (Aircraft) for Vessel (Grav) (Player's choice). Also, add Vessel (Remote Objects) to the list of class Feats.

**Starting Money:** From mustering-out benefits only

**\*Athlete:** Professional athletics are an important part of the 2320AD world, especially in the Core. In the colonies, sports are usually amateur events, without the hype surrounding the sports stars and their teams in the Core.

**Starting Money:** Lv1000

**Barbarian:** This specialized class is only available to Nomadic Ebers, Klaxun or Tribal Nations and their colonies. The citizens of the Native American, Brazilian and Australian Tribal Nations cultures are permitted to multi-class into the Barbarian class, to reflect the emphasis in their cultures on the traditional lifestyle, alongside modern, technological living.

The Technosavvy skill is not available, nor required, for members of the Tribal Nations. It is, however, available for Nomadic Ebers and Klaxun.

**Starting Money:** Lv300

**Belter:** Only the Sol system has an extensive, well-organized Belter society, though individuals of the Belter class can be found throughout human space, operating out of a number of outposts and colony worlds.

**Starting Money:** Lv200

**\*Convict:** Sometimes people run afoul of the law, whether in the Frontier or the Core. This presents an interesting background choice for a character. Anyone can select this as part of their background, but one cannot start play in this class.

**Starting Money:** N/A

**\*Corsair:** This is a very rare class in **2320AD**. The volume of traffic is not really high enough to justify it, nor are there many ports where one can dispose of the swag. However, such activity does take place, especially near the Kafer Frontier, and the volume is growing. What is especially worrisome is that some of these corsairs appear to be trading with the Kafer themselves, though the mechanism of this is unknown.

**Starting Money:** Lv200

**\*Diplomat:** The many different human nations each have their own diplomatic corps, along with the specialists whose job it is to maintain contact with the various alien races. Some are even attempting talks with the Kafers, though so far to no avail.

**Starting Money:** Lv400

**\*Engineer:** The engineer is a professional problem solver and tool user, and very much in demand throughout human space.

Ignore the Prior History requirements for Initial Requirements if you are using the Quick Character Generation system.

**Starting Money:** Lv500

**\*Entertainer:** The Core worlds alone have over 8 billion people, all demanding, and often needing, entertainment and diversion.

**Starting Money:** Lv200 per level

**\*Flyer:** The Flyer is a service class. This branch of service is tasked with planetary defense, up to the limits of the atmosphere, or sometimes to close-orbital space. True spacecraft are the domain of the local Space Navy or Space Force. This

branch also provides support to ground-based operations.

Remove Vessel (Grav) from the list of bonus Feats.

Under Feats, add Vessel (Remote Objects)

**Starting Money:** From mustering out-benefits only

**\*Law Enforcement:** Law Enforcement is a common profession, found throughout human space, and beyond.

Under Feats, change Vessel (Grav) to Vessel (Aircraft), add Vessel (Remote Objects)

**Starting Money:** Lv800

**\*Martial Artist:** The martial artist is a very rare career. Martial-arts training at this level is carefully monitored in the Core, where this class's ability to deal unarmed violence is regarded with suspicion.

**Starting Money:** Lv100

**Marines:** Marines are ship-based assault troops and form any boarding parties, or ship-board defense, that may be needed. They are also used for spearhead attacks, and are considered to be elite troops. This fact is often disputed whenever Army and Marine soldiers meet off-duty, but is generally accepted by most people.

Under Feats, substitute Armor Proficiency (Combat Walker) for Armor Proficiency (Battledress), add Vessel (Remote Objects) to the list of class Feats, and substitute the Drop Trooper Feat for Weapon Focus (Cutlass).

**Starting Money:** Only from mustering-out benefits

**\*Medic:** The doctors, nurses and medics of human space are still extremely valuable, despite the prevalence of automeds and robotic expert systems. Human touch and intuition are still required.

**Starting Money:** Lv800

**Mercenary:** Mercenaries are fairly common in the **2320AD** universe, springing into being alongside the numerous colonial disputes and attempts at rebellion and secession. Many are veterans of the Kafer War, and can't seem to let go of the fighting.

Under multi-class restrictions, if using the Quick Character Generation system, a character must have made it to at least one Turning Point in the Army, Navy or Marines.

Under Feats, add Vessel (Remote Objects) to the list of class Feats.

**Starting Money:** Lv800

**Merchants:** Throughout Human space and beyond, there are individuals and groups moving goods back and forth, looking for deals, and trying to make it rich. Or at least stay flying. The merchants are the lifeblood of the interstellar economy, with the smaller groups and even individuals filling in the gaps around the big shipping concerns.

**Starting Money:** Lv300

**Navy:** Whether the American Space Force, the British Royal Space Navy, or the German *Sternen Kriegsmarine*, the Navy is the line of ships and people that serve to defend their nations and worlds from others, or project force to serve their

## Top ENTERTAINMENT:

Total Immersion Theatre has been out for about 22 years now, and uses holographic projection and directed sound to place the members of the audience in the action, though usually only in passive roles, following along with the viewpoint of the hero or a companion. There are a few examples of games that take advantage of this technology as well, including the top game of 2319, "MindRaider."

## NOTABLE COLONIAL POLICE AGENCIES:

Several police agencies are widely regarded as being the stand-out examples of law enforcement on the Frontier. Among these are the Tanstaaf Rural Police, who suffered severe casualties at the hands of Kafers in several attacks, the Texas Rangers, a paramilitary police force holding sway on Texas' three holdings, and the Royal Canadian Mounted Police, who maintained order on the Canadian colony of Kanata even when the government collapsed under corporate pressure.

nations' ends. The French and British Navies, in particular, bore the brunt of the fighting in the Kafer War.

Add the Feat of Weapon Proficiency (Missiles and Drones) to the list of Career Feats.

**Starting Money:** Only from mustering-out benefits

**Professional:** Like in **T20**, the career of Professional is highly skilled, highly technical, and these people are not afraid to get their hands dirty in the field.

**Starting Money:** Lv900

**Rogue:** The highly-regulated nature of life on the Core worlds provides opportunities to those who can slip through the cracks. For those in the colonies, the often wide-open nature of the extra-solar settlements provides more opportunities, though the rewards are typically smaller.

**Starting Money:** Lv900

**\*Sailor:** Sailors are the Wet Navy of **2320AD**, and comprise a significant fraction of local defense units, especially on the Core Worlds. Indeed, on the Core Worlds, the Wet Navy is often considered the senior service, though it is not looked at as being as glamorous as the space forces.

**Starting Money:** From mustering-out only

**Scouts:** The scouts are employed by a variety of agencies, from national governments to corporations such as Trilon, to Foundations like the AR-I.

In **2320AD**, Scouts are not considered a Service class, but instead are a Core class. They do not have the paramilitary trappings of the **T20** scouts. Feats such as Weapon Proficiency (Marksman) are solely for defensive and survival purposes. In addition, **2320AD** does not have the tradition found in **Traveller** that a scout never really retires. There are no detached-duty scouts in **2320AD**, nor can a scout in **2320AD** receive a small starship for his/her own personal use.

Under Feats, change Vessel (Grav) to Vessel (Aircraft).

Add the Feats of Vessel (Missile and Drones) and Vessel (Remote Objects) to the list of Career Feats.

**Starting Money:** Lv600

**Traveler:** The Traveler is an adventurer, bent on exploring on his or her own terms. They often wander from place to place and job to job, never really caring so long as they keep travelling. This has caused others, especially those in

the employ of corporations or foundations, to label them as bums or ne'e'r-do-wells.

**Starting Money:** Lv400

## USING PRIOR HISTORY IN CHARACTER GENERATION

The Prior History method of producing characters is very powerful, and produces characters with a detailed background. If the Director and the Players have the time and inclination, they are encouraged to use the Prior History method. When using it to generate characters, some points should be kept in mind. The biggest is to not use the mustering out benefits found in each character section, but rather to use the mustering out table provided in **2320AD** on page 00. This setting has many changes from **T20**, and one of the major ones is the availability of ships. As well, **2320AD** has no equivalent to the Traveller's Aid Society or low passage.

Prior history for military character should keep in mind that the Kafer War ended seven years before the start of play, and most characters in the military at that time would likely have served in that war in some respect.

## A NOTE REGARDING RETIREMENT AND MUSTERING OUT

It is not possible to retire or muster-out into a military service class. At the first level-up after retiring, the character must multi-class into another, non-military class. This class can be any that the character has the prerequisites for, and permits multi-classing. The character would start play as a first level member of that class.

## PRESTIGE CLASSES

Prestige Classes are specialty classes, dedicated to more singular pursuits than most standard professions and careers. Prestige Classes can only be gained by experienced characters.

### TROUBLESHOOTER (Prestige Class)

The Troubleshooter is an experienced professional who takes on the often hazardous task of investigating problems in the colonies at the behest of Core-based institutions. These institutions are usually large corporations or even governments, but can also include any organization or association. REBCo SAR, found in the Organizations Chapter is a typical troubleshooting organization that often hires out troubleshooters for corporations or agencies that don't have their own.

**Characteristics:** The Troubleshooter often works alone or as part of an ad hoc team, thrown together for their skills for a particular jobs. These are rarely long-term associations, but sometimes these teams will just click, and will form permanent groups. They are typically very loyal to their



parent organization, and are amongst the most trusted employees that organization may have.

**Background:** The Troubleshooter can come from a variety of backgrounds, whether they are a corporate professional, an armchair researcher flung into field-work, or some military professional looking to take a step back from the violence of their former career. All share a love of problem-solving, and no fear of action.

**Adventuring:** The Troubleshooter is a character who is always poking her nose into places where it does not belong. This trait makes for natural adventures. Troubleshooters are not, typically, bureaucrats, but rather are hands-on problem-solvers.

**Requirements:** To become a Troubleshooter, a character must meet the following requirements:

**Attributes:** Strength 10+, Constitution 10+, Intelligence 12+, Wisdom 12+, Charisma 10+

**BAB:** +3

**Skills:** Profession 5+ ranks, Gather Information 4+ ranks, Sense Motive 3+ ranks

**Feats:** Alertness, Weapon Proficiency (Marksman), Connections, Armor Proficiency (Vac Suit)

**Class Features:**

**Stamina Dice:** d6 + Con modifier per level

per week, per class level, to cover expenses and any unusual purchases. All expenses must be tracked and accounted for. Any equipment purchased will revert to the company at the completion of the job it is needed for.

**Connections:** Beginning at 2<sup>nd</sup> level and at every fourth level after that (6<sup>th</sup>, 10<sup>th</sup>) you develop an increasing range of contacts and informants in your personal news and information-gathering network. Add +1 per Connection bonus to any Gather Information checks when utilizing these contacts.

**Research:** The character is skilled at sifting and analyzing data and information from various sources for the clues and evidence needed to put a report together. This Feat allows the synergetic use of Knowledge or another information-related skill together with Gather Information skill. Beginning at 4<sup>th</sup> level and again at 7<sup>th</sup> level, the character earns a +1 Research bonus.

Circumstances	Gather Knowledge Roll Adjustment
Multiple Sources	+1 per Knowledge or other skill used, if more than one is involved.
Per Research bonus	+1
Per Successful Source	+5
Skill Check (DC15)	

## Troubleshooter

Level	Base Attack Bonus	Base Fort Bonus	Base Reflex Bonus	Base Will Bonus	Special
1 <sup>st</sup>	+0	+0	+2	+1	Expense Account
2 <sup>nd</sup>	+1	+0	+3	+2	Connections +1
3 <sup>rd</sup>	+1	+1	+3	+2	Bonus Feat
4 <sup>th</sup>	+2	+1	+4	+2	Research +1
5 <sup>th</sup>	+2	+1	+4	+3	Bonus Feat
6 <sup>th</sup>	+3	+2	+5	+3	Connections +2
7 <sup>th</sup>	+3	+2	+5	+4	Bonus Feat
8 <sup>th</sup>	+4	+2	+6	+4	Research +2
9 <sup>th</sup>	+4	+3	+6	+4	Bonus Feat
10 <sup>th</sup>	+5	+3	+7	+5	Connections +3

### Bonus Feats

At 3<sup>rd</sup>, 5<sup>th</sup>, 7<sup>th</sup>, and 9<sup>th</sup> Level, the Troubleshooter can choose a Feat from the following list. If they already have all the Feats listed, they can instead choose any other Feat that they are eligible for.

**Feats:** Armor Proficiency (Light), Armor Proficiency (Medium), Weapon Proficiency (Combat Rifleman), Jack of All Trades, Hacker, Obscure Knowledge, Override Ship's Security System, Negotiator, Interrogation, Weapon Proficiency (Lasers), Vessel (Aircraft), Stealthy Abilities

**Expense Account:** This represents the Troubleshooter's ability to call upon the financial resources of the company that hired her. The Troubleshooter has access to Lv1000,

Class Skill	Key Ability
P/Administration	Wis
Bribery	Cha
T/Computer	Edu
Gather Information	Cha
Knowledge/Any	Edu
Profession	Wis
Sense Motive	Wis
Bluff	Cha
T/Communications	Edu
Liaison	Cha
Intimidate	Cha
Listen	Wis
Read/Write Language	None
Speak Language	None

**Skill points:** (4+Int Bonus) per level

## SPECIAL FORCES (Prestige Class)

The Special Forces Prestige class is used to cover elite light troops, whether army, marine or mercenary. They are typically adept at deep-insertion missions and covert assaults. They

are not line troops, however, and should not be expected to perform as such. Special Forces units were the first to land on Gamma Serpentis III, the Kafer homeworld, in preparation for the invasion of 2311. They provided intelligence and scouted landing zones for the assault forces which followed.

**Characteristics:** Special Forces troopers work best alone or, more typically, as part of a small, closely-knit team. Smart, tough and self-reliant, they also tend to be introspective and restrained.

**Background:** Special Forces characters are usually the veteran of a government military, usually Army, but sometimes Marines. A few exceptional mercenary units may also have true Special Forces teams, though this is quite rare.

**Adventuring:** The Special Forces trooper is often thought to be a one-man army, but the truth is somewhat less than that. They are ideally suited for small engagements, particularly those requiring stealth and/or long-range, deep-insertion tactics. They are not trained as stand-up-and-fight troops, but attack-and-fade sort of troops.

**Requirements:** To enter Special Forces, a character must meet the following requirements:

**Attributes:** Strength 12+, Dexterity 12+, Constitution 14+, Intelligence 10+, Wisdom 10+

**BAB:** +3

**Skills:** Demolitions 2+ ranks, Survival 3+ ranks, Move Silently 1+ ranks

**Feats:** Endurance, Weapon Proficiency (Combat Rifleman), Weapon Proficiency (Marksmen), Weapon Proficiency (Swordsman), Tactics

**Other:** Must have passed one turning point for Army, Marines or Mercenary, or 1 term if using Prior History character generation.

**Class Features:** Special Forces Troopers have the following features.

**Stamina Dice:** d10 + Con modifier per level

	Base Attack Bonus	Base Fort Bonus	Base Reflex Bonus	Base Will Bonus	Special
1 <sup>st</sup>	+0	+1	+1	+1	Feat (Toughness)
2 <sup>nd</sup>	+1	+1	+1	+1	Feat (Alertness)
3 <sup>rd</sup>	+2	+2	+2	+2	Specialization
4 <sup>th</sup>	+3	+2	+2	+2	Bonus Feat
5 <sup>th</sup>	+3	+3	+3	+3	Defensive Roll
6 <sup>th</sup>	+4	+3	+3	+3	Bonus Feat
7 <sup>th</sup>	+5	+4	+4	+4	Specialization Cross-training
8 <sup>th</sup>	+5	+4	+4	+4	Personalized equipment
9 <sup>th</sup>	+6	+5	+5	+5	Bonus Feat
10 <sup>th</sup>	+7	+5	+5	+5	Specialization Cross-training

## Abilities

### Specialization/Specialization Cross-training:

Many Special Forces troops learn specialized skills useful in their mission, and cross-train with those in their team. The Special Forces trooper receives a Feat or Ability dependant upon his specialization (must have required prerequisites). The same specialty may not be selected twice.

Choose from the following list:

Specialization	Effect
Demolitions	Amount of damage to breach or destroy and object (see THB page 156) is reduced by 20%.
Forward Observer	+2 to Forward Observer and T/Comms skill rolls (must have Forward Observer skill)
Point Man	Spot Trouble - The same as the Rogue class ability of the same name (must have Spot skill)
Rifleman	Rapid Shot Feat
Sniper	Sniper Feat
Deadly Strike	Improved Critical Feat
Assassin	Assassin Feat
Team Leader	Tactics Feat (must have Leader skill)

**Defensive Roll:** The same as the Mercenary class ability of the same name

**Bonus Feat:** Choose from the following list. If all Feats from the list are already possessed by the character, he may choose freely from all available Feats.

Armor Proficiency (Combat Walker), Armor Proficiency (Light Armor), Armor Proficiency (Medium Armor), Armor Proficiency (Heavy Armor), Drop Trooper, Weapon Proficiency (Lasers), Weapon Proficiency (High-Energy Weapons), Weapon Proficiency (Marksmen), Vessel Proficiency (Remote Piloted Vehicle)

Class Skills	Key Ability
Climb	Str
Combat Engineering	Int
Demolitions	Int
Driving	Dex
Forward Observer	Int
Hide	Dex
Intimidate	Cha
Intuit Direction	Wis
Jump	Str
Leader	Int/Cha
Listen	Wis
Move Silently	Dex
Navigation	Edu
Spot	Wis
Survival	Wis
Swim	Str
Technical (Communications, Computers, Medical, or Sensors)	Edu

**Skill points:** (3+Int Bonus) per level.

### NOTES FOR USE IN PRIOR HISTORY CHARACTER GENERATION

If any levels of this Prestige Class are taken in Prior History increase all Survival DCs in the following term by 2 and decrease all XP bonus and Decoration DCs by 1.

The Prestige Class may only be taken while serving as a special forces trooper with a military or mercenary unit. Further levels may be taken only when special forces activities or training are being undertaken regularly.

## ALIEN CULTURAL AND TECHNOLOGIES EXPERT (ACTE) (PRESTIGE CLASS)

**Characteristics:** The alien technologies expert is a field scientist, traveling beyond the lab and the library to observe alien races and their tools in their natural environment, from the biological wonders of the Pentapods and the soaring towers of the Sung, to the squalor of the Kafer homeworld and the trap-laden ruins of the Beta Aquilae cluster.

**Background:** Alien Technologies Experts come from a range of backgrounds, from academic to military. They are often well-traveled; their curiosity about aliens whetted by chance encounters, and often the fortunes of war. Their background not only determines what extra skills they bring to the job, but also their approach. Most are intelligent and well-educated, approaching their subjects with the courtesy and respect they deserve. There are also some real morons out there, crashing their way around looking for the answer (and treasure) after seeing a documentary on the Beta Aquilae ruins.

**Adventuring:** Approaching aliens looking for answers into their culture and technology is an adventure all by itself. The ACTE may also need to finance his expeditions, and most have a large array of skills, not to mention exotic tools, that they can bring to bear on a problem.

### GAME RULE INFORMATION

**Class Type:** Prestige Class

**Requirements:** To become an Alien Cultural and Technologies Expert, a character must possess the following skills and feats:

**Skills:** K/Aliens 5+ ranks, Gather Information 5+ ranks

**Feats:** Research/Aliens

**Multiclass Restrictions:** An Alien Cultural and Technologies Expert may multiclass freely

**Abilities:** Education 10+, Intelligence 12+, Wisdom 12+

**Class Features:** The Following are features of the Alien Technologies and Contact Expert

**Stamina:** 1D6 + Con modifier per level

**Starting Funds:** Cr500

### THE ALIEN CULTURAL AND TECHNOLOGY EXPERT

Level	Base Attack Bonus	Base Fort Bonus	Base Reflex Bonus	Base Will Bonus	Special
1 <sup>st</sup>	+0	+1	+0	+2	Xeno-empathy
2 <sup>nd</sup>	+0	+2	+0	+3	Tech breakthrough
3 <sup>rd</sup>	+0	+2	+1	+3	Bonus Feat
4 <sup>th</sup>	+1	+2	+1	+4	Xeno-empathy
5 <sup>th</sup>	+1	+3	+1	+4	Tech breakthrough
6 <sup>th</sup>	+1	+3	+2	+5	Bonus Feat
7 <sup>th</sup>	+1	+4	+2	+5	Xeno-empathy
8 <sup>th</sup>	+2	+4	+2	+6	Tech breakthrough
9 <sup>th</sup>	+2	+4	+3	+6	Bonus Feat
10 <sup>th</sup>	+2	+5	+3	+7	Xeno-empathy

### Class Skills

Class Skill	Key Ability
Gather Information	Cha
Knowledge (any)	Edu
P/Prospecting	Wis
Read/Write Language	None
Technical (any)	Edu
Intuit Direction	Wis
Navigation	Edu
P/Survey	Wis
Speak Language	None
Use Alien Devices*	Wis

\* Exclusive Skill

**Skill Points per Level:** 6 + Int modifier

### FEATS

Xeno-medicine, research, first aid, armor proficiency (light), armor proficiency (vac suit), Fast Talk, sixth sense, vessel (ground), vessel (water)

### CLASS FEATURES

The following are class features of the Alien Cultural and Technology Expert:

**Xeno-empathy:** The character has a special "feel" for a specific alien race. This Feat must be chosen separately for each alien race. This Feat allows skills such as First Aid, Innuendo, Sense Motive, Bluff and Liaison to be used with no penalty. It also gives an automatic bonus of +2 to all spoken and written language checks for the specific alien race chosen.

**Tech Breakthrough:** This specialized Feat must be chosen separately for each race, and allows the character to ignore up to a -3 penalty in Use Alien Devices for that race's equipment only.



## Special Skills

**Decipher Script** and **Use Alien Devices** are standard **T20** skills, useable only by the Alien Cultural and Technologies Expert.

**Alien Cultures:** This skill must be selected separately for each alien race, and allows the character to use the skill to figure out, or remember, aspects of the alien's society based on available information and his or her own special insight. For example, upon being confronted with an unusual situation deep in the bowels (so to speak) of a Pentapod enclave, a character could use this skill to remember that Pentapod corridors always spiral up and to the left, allowing the character a chance to figure out which way to go in order to escape.

## Guidelines for using the Alien Cultures Skill

Even with extensive knowledge and background on them, it is more difficult with some races than other to intuit information. Use the following table for modifiers to the Alien Cultures Skill, based on race.

Alien Race	DC Modifier
Aquilans	+4
Ebers	0
Enemy	+8
Kafers	+2
Klaxun	-1
Little Guys	+2
Medusa	+7
Pentapods	+4
Sung	0
Xiang	+3
Ylii	+4

DCs should be determined based on how esoteric the information needed is. The above example on Pentapod Architecture would have a DC of 10, +4 for being Pentapod, and so relatively easy to figure out.

## PRESTIGE CLASS MASTER SKILL LIST

Skill	Trouble-shooter	Special Forces	ACTE	Un-trained	Key Ability
Alien Cultures	X	X	C	No	Wis
Animal Empathy	X	•	X	No	Cha
Appraise	•	•	C	Yes	Int
Balance	•	•	•	Yes	Dex*
Bluff	•	•	•	Yes	Cha
Bribery	•	•	•	Yes	Cha
Broker	•	•	•	No	Int
Climb	•	•	•	Yes	Str*
Combat Engineering	•	•	•	No	Int
Craft [cascade]	C	•	•	Yes	Int
Decipher Script	X	X	C	No	Int
Demolitions	•	•	•	No	Dex
Disguise	•	•	•	Yes	Cha
Driving	C	•	•	Yes	Dex
Entertain [cascade]	•	•	•	Yes	Cha
Forgery	•	•	•	Yes	Int/Dex
Forward Observer	•	•	•	No	Int
Gambling	•	•	•	Yes	Int
Gather Information	C	•	•	Yes	Cha
Gunnery	•	•	•	Yes	Wis
Handle Animal	•	•	•	No	Cha
Hide	•	•	•	Yes	Dex*
Innuendo	•	•	•	No	Wis
Intimidate	•	•	•	Yes	Cha
Intuit Direction	•	•	•	No	Wis
Jump	•	•	•	Yes	Str*
Knowledge [cascade]	C	•	•	No	Edu
Leader	C	•	•	Yes	Int/Cha
Liaison	C	•	•	No	Cha
Listen	•	•	•	Yes	Wis
Move Silently	•	C	•	Yes	Dex*
Navigation	C	•	C	No	Edu
Pilot	•	•	C	No	Int/Dex
Profession [cascade]	•	•	•	No	Wis
P/Administration	C	•	•	No	Wis
P/Prospecting	•	•	C	No	Wis
Read/Write Language	C	•	•	No	None
Recruiting	•	•	•	Yes	Edu
Ride	•	C	•	Yes	Dex
Search	•	•	C	Yes	Int
Sense Motive	•	•	•	Yes	Wis
Speak Language	C	•	•	No	None
Spot	•	C	•	Yes	Wis
Survival	C	C	•	Yes	Wis
Swim	•	C	•	Yes	Str
Technical [cascade]	C	•	C	No	Edu
T/Mechanical	C	C	C	No	Edu
Technosavvy	X	X	X	No	Int
Trader	•	•	•	Yes	Int
Tumble	•	C	•	No	Dex*
Use Alien Devices	X	X	C	No	Int

\* Armor check penalty, if any, also applies.

**C** Class Skill

• Cross-Class Skill

**X** You can't buy this skill because it's exclusive to another class

## CHARACTER GENERATION EXAMPLE

Earl decides that he wants to create a Journalist character, with the intention of specializing in Alien cultures.

### STATS

After rolling and arranging his stats, he gets the following: STR 12 DEX 17 CON 14 INT 12 WIS 13 CHA 11 EDU 12 SOC 10. He decides on a Body Type of Ectomorph, and so gets -3 To STR, -2 to CON and +2 to DEX, for totals of 9 STR, 12 CON and 19 DEX.

### HOMEWORLD

For his homeworld, he chooses Chengdu, a normal-gravity frontier world along the Chinese Arm. (From the table near the beginning of **Chapter 7: Frontier Worlds**).

### STARTING SKILLS AND FEATS

For starting skills, like all Humans Earl gets K/Homeworld and T/Computer at rank 0, plus T/Mechanical at rank 0 since he is from the Frontier rather than the Core. He starts out with Speak Language and Read/Write Language in his native language (English) and with his Intelligence Modifier of +1 he gets Speak Language in an additional language, which he chooses as Mandarin.

As a native of Chengdu (Normal Gravity Frontier World), Earl gets the following Homeworld Feats: First Aid, Vessel/Ground (he chooses Wheeled), and Weapon Proficiency (Marksman). For a Homeworld Gravity of Normal, he also receives a extra Feat, for which he chooses Trustworthy.

He also gets the Human Bonus Feat, and another for his first character level. He chooses these two bonus Feats as Weapon Proficiency (Swordsman), and Connections (Government Officials).

### FIRST TURNING POINT

Earl rolls 1d6+4 to find the number of years until his first turning point. He rolls a 5, giving him 9 years, and 11,250 xp. His first turning point is a Wis check vs. DC 6. He rolls a 7, with his +1 Wis mod gives him an 8. He passed the turning point, and so gets another 1000xp.

### SECOND TURNING POINT

This time Earl rolls 1d10 to find the number of years until his second turning point. He rolls a 5, giving him 5 years, and another 6250 xp. He needs to roll a Wis check vs. DC 10 now to pass the second turning point. He rolls a 9, +1 for his Wis mod, for a total of 10, and just barely makes it. He gets another 1000xp for passing the turning point.

### THIRD TURNING POINT

Earl rolls another 1d10 to determine the number of years until his third turning point. This time he rolls a 3, only three years, and 3750xp. The roll to pass the turning point is now a 12, and Earl rolls a 17, +1 for his Wis bonus, and easily passes. He receives another 1000xp.

At this point, Earl decides to end the background part of character generation, and use his accumulated xp to buy levels and build a character.

He receives a total of 24,250 xp, and was in his career for a total of 17 years. Earl will begin play at age 35. At this age he does not receive any stat reductions due to aging.

Earl decides to be a 6<sup>th</sup> level Journalist and a 1st level Alien Cultural and Technology Expert. For his Journalist class, he can have a Maximum class skill rank of 9, and a cross-class skill rank of 4. He also receives 3 General Feats (for class levels, 1/3/6) which come from the general feat list in THB chapter 5 rather than his class Bonus Feat lists, and an Ability Increase at character level 4. However, he already used his level 1 General Feat, so only actually gets 2 General Feats.

He applies the Ability increase to his Intelligence, raising it to 13. For the General Feats, he chooses Research/Aliens and High-Gravity Adaptation.

For his time as a Journalist, Earl gets to 6<sup>th</sup> level. This gets him his starting Feats plus three Bonus Feats. For his starting Feats, he receives Armor Proficiency (light) and the special class ability of Credibility. For his Bonus Feats he consults the chart for Journalist and selects Credit Line, Carousing and Hacker.

As a Journalist, Earl will start with 36 skill points (7 + Int Mod of 1 = 8, 8 x 4 = 32, +4 for being Human), and will receive another 45 skill points (7 + Int Mod of 1 = 8 per level, plus 1 per level for being Human = 9, multiplied by 5 levels = 45) over the course of his career. He gets to spend 81 points on skills, with a maximum rank of 9.

He chooses the following class skills: P/Journalist +9 ranks, Entertain (written) +9 ranks, Speak Language (French), Speak Language (German), Read/Write Language (French), Read/Write Language (German), Gather Information +9 ranks, Sense Motive +8 ranks, Driving +5 ranks, Survival +6 ranks, T/Computer +6 ranks, K/Aliens +9, Liaison +8, and Innuendo +4 ranks.

For his next career, Earl chooses the Alien Cultural and Technologies expert. He has only 1st level, though he does have 3250 XP towards the next.

From his 1 level as an ACTE, Earl receives the Xeno-empathy Feat, and he chooses the Ebers as the preferred race. Earl receives 8 skill points for being a 1<sup>st</sup> Level ACTE, and chooses the following: Speak Language (Eberese), Decipher Script (Eber) +2, Alien Cultures (Eber) +3, and another +1 to each of Gather Information and Liaison.

Earl's Life Blood is equal to his Constitution stat (12). He is Level 6 Reporter, Level 1 ACTE. His Stamina will be 6 for Character Level 1, +6d6 for his later levels (5d6 from Reporter, 1d6 from ACTE), +1 per level for his Constitution (12). He starts with 6, rolls 25 on 6d6, and adds 7 for Constitution bonus, giving a total of 38 Stamina.

Earl ends up looking like this:

STR 9 Mod -1  
DEX 19 Mod +4  
CON 12 Mod +1  
INT 13 Mod +1  
WIS 13 Mod +1  
CHA 11 Mod 0  
EDU 12 Mod +1  
SOC 10 Mod 0

**Homeworld:** Chengdu (Frontier World, Normal Gravity)

**Body Type:** Ectomorph

**Life Blood:** 12

**Stamina:** 38

**Feats:** First Aid, Vessel/Ground (Wheeled), Weapon Proficiency (Marksman), Weapon Proficiency (Swordsman), Connections (Government Officials), Armor Proficiency (Light), Credibility, Credit Line, Carousing, Hacker, Research/Aliens, High-Gravity Adaptation, Trustworthy and Xeno-empathy

**Skill Ranks:** T/Mechanical +0, Ride (horses) +1, K/Homeworld +0, P/Journalist +9, Entertain (written) +9, Gather Information +10, Sense Motive +8, Driving +5, Survival +6, T/Computer +6, Liaison +9, Innuendo +4, K/Aliens +9, Speak Language (Eberese), Speak Language (English), Speak Language (Mandarin), Speak Language (French), Speak Language (German), Read/Write Language (English), Read/Write Language (French), Read/Write Language (German), Decipher Script (Eber) +2, Alien Cultures (Eber) +3.

To get Earl's final Skills, add his Ability Bonuses to his Skill Ranks:

**Skills:** T/Mechanical 1, Ride (horses) 5, K/Homeworld 1, P/Journalist 10, Entertain (written) 9, Gather Information 10, Sense Motive 9, Driving 9, Survival 7, T/Computer 7, Liaison 9, Innuendo 5, K/Aliens 10, Speak Language (Eberese), Speak Language (English), Speak Language (Mandarin), Speak Language (French), Speak Language (German), Read/Write Language (English), Read/Write Language (French), Read/Write Language (German), Decipher Script (Eber) 3, Alien Cultures (Eber) 4.

He will also be able to use any other skills that are usable untrained, adding his ability bonus to the implied skill rank of +0.





# RULES ADDITIONS

## PERSONAL COMBAT

### PERSONAL ARMOR

The descriptions of armor in the Equipment Section assume the use of this rule.

Armor Class is equal to 10 plus the Armor Rating of the Torso, plus Dexterity, cover, and size mods, while Armor Rating can vary on a per location basis. Different locations can, and do, have different AR. Other than that, AR rules are the same as in T20.

### ARMOR LAYERING

Armor can be layered, but there are restrictions. Only one layer of armor can be added on. The armor with the highest AR is the base armor, and to that add half the AR of the other armor. Armor check penalties are added together, while the Max Dex Bonus is the lowest of the two armors, with an additional -1 penalty. Vedette armor doesn't suffer this penalty, as it is designed to be worn over top of other armor.

Battlesuits and vacuum combat armor cannot be layered with anything, even the vedette half-plate. They are too bulky as it is.

#### ARMOR LAYERING Example:

Mike wants his character to wear a rigid breastplate over his protective vest. The AR of the breastplate is 6, while the vest is only 2. Divide the AR of the vest by two, and add that to the AR for the breastplate, so he gets an AR of 7 in the entire Torso. However, the breastplate has a Max Dex Bonus of +4, and the Vest has a Max Dex Bonus of +8. Subtract one from the value of the breastplate to get the layered Max Dex Bonus, which would be +3. The vest has an armor check penalty of -1, while the breastplate has a -2, for a total of -3. So this combination has the same protective value as a battlesuit but for the torso only, with the same penalties.

### HIT LOCATIONS AND WOUND EFFECTS

The variant armor rules above are combined with the hit location and damage table to provide a more realistic treatment of combat. All aliens and animals have a different hit location table. These are all located in Appendix 2: Hit Loca-

tions. The use of the Alien and Animal hit location templates is optional, as they do add a further level of complexity.

### HUMAN Hit Locations

2d6 Roll	Location	Damage Effect
2	Foot	Half
3	Lower Leg	Half
4	Upper Leg	Half
5	Groin	Full
6	Torso	Full
7	Torso	Full
8	Torso	Full
9	Chest	Double
10	Upper Arm (and Shoulder)	Half
11	Lower Arm	Half
12	Head	Double

### Wound Effects (optional)

It is unrealistic to expect a character to remain unaffected by gunshot wounds until Lifeblood reaches 0, whereupon he collapses and starts to die. Instead, as Lifeblood and Stamina are reduced, apply the following wound effects.

### Wound Effects- Lifeblood

Wound State	Condition	Effect
0-25%	—	No Effect
26%-50%	Flesh Wound	All actions at -1
51%-75%	Serious Wound	All actions at -2
76%-99%	Major Wound	All actions at -3
0 or below	Unconscious and dying	

### Wound Effects – STAMINA

Wound State	Condition	Effect
0-25%	—	No Effect
26%-50%	Strained	All physical actions at -1
51%-75%	Winded	All actions at -1
76%-99%	Exhausted	All actions at -2
0 or below	Unconscious	

Wound Effects are cumulative between Stamina and Lifeblood, so if a character had a Serious Lifeblood wound, and was winded as well, then he would suffer -3 to all actions.

## VEHICLE COMBAT

**Armor and Facing:** All military vehicles have different armor ratings for each facing. This reflects the fact that

military vehicles concentrate their armor on the front of their hulls, where the majority of incoming fire will hit, leaving the sides and rear less defended. Naval vessels like-wise have the bulk of their armor in their hulls, with any superstructure substantially less-protected. While the D20 rules do not normally consider facing, they are required for vehicular combat in 2320AD. Spacecraft, combat walkers, and submarines do not have varying Armor Ratings by location, however.

If a grid or similar system is not being used, then represent facing by modifying the AC of any area to represent how difficult it is to hit.

Vehicle	AC Modifier	Surface Ship	AC Modifier
Front	+0	Hull	0
Hull Side	+0	Superstructure	+2
Rear	+2		
Top	+4	Aircraft	AC Modifier
Turret Front	+2	Fuselage	0
Turret Other	+4	Control Surfaces	+2

The first control surface hit on an aircraft reduces Agility by 4 points. Negative results are possible. The second hit sends the aircraft out of control.

**Damage (Optional):** Much like a person, a vehicle can't keep simply taking damage with no ill effect until it hits an SI of 0. Therefore, if desired, the following rules apply to vehicle combat in 2320AD. Note that implementing these rules will slow combat down.

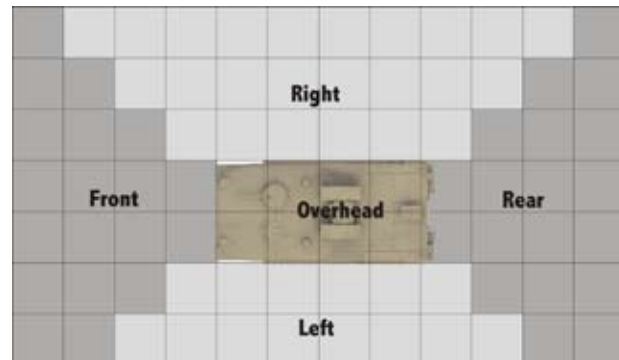
- 25% When a vehicle takes 25% of its SI in damage, reduce speed by 10% and Agility and Initiative by 1 point (negative Agility and Initiative is possible.)
- 50% When a vehicle takes 50% of its SI in damage, roll twice on the Vehicle Internal Hit Location, reduce speed by 50%, and reduce Agility and Initiative by 2 points.
- 75% When a vehicle takes 75% of its SI in damage, roll twice on the Vehicle Internal Hit Location, reduce speed by 75%, and reduce Agility and Initiative by 3 points.

## COMBAT WALKERS

Humanoid combat walkers are laid out quite differently from standard vehicles, and so should use the normal character hit location table. Note that pod-type walkers use the standard Vehicle Internal Hit Location chart.

## SIGNATURE

A vehicle's signature determines how hard it is to spot. The Signature rating is an abstraction of several different factors, including electronic emissions, noise, dust, and heat, and the effect of masking systems. Signature is used as a modifier on all rolls to spot a target, whether visually or elec-



tronically. Signature is a measure of how easy or difficult a vehicle is to Spot or Target compared to other vehicles in the same size category.

A vehicle's base signature is used as a modifier for spotting it, either visually or by electronic means. It is also used as a to hit modifier for smart missiles. Thus, a vehicle with a +2 Signature is +2 to be spotted, and +2 to be hit by a smart missile.

The vehicle's base signature is used when it is sitting still, not broadcasting or using weapons. If desired, signature can remain that way. Additional situational factors can change this base rating, and are offered here as an optional rule. Again, like most optional rules, they increase complexity and can slow things down.

A hover vehicle in Jump-jet mode adds 2 to its signature, while a supercavitating submarine or torpedo adds 8 to its signature.

## MOVEMENT

Movement	Modifier
Sitting Still	0
Moving up to 10km/h	+1
Moving up to 100 km/h	+2
Moving up to 1000 km/h	+3
Moving up to 10000 km/h	+4

## ELECTRONICS

Action	Modifier
Using Electronic System (Radio, Active +1 per system used Sensor, Targeting system)	

## WEAPONS FIRE

Weapon	Modifier
Missiles and Rockets	+1
Stealth Torpedoes	-1
Standard Torpedoes	+2
Mass drivers	-1
Small Caliber Guns (20-40mm)	+1
Large Caliber Guns (40mm+)	+3
ETC Gun	+1
Artillery	+2
Mortars	+1
Lasers	-

## MISSILES

### Missile Guidance Systems

Missiles have four types of guidance systems.

**Unguided:** The first type is unguided, used in conventional short-range rocket launchers and supercavitating torpedoes. It suffers a -2 on all To Hit rolls.

**Automatic After Gunner Lock-on:** This is the second type of missile guidance. This missile type grants a To Hit bonus to the firer, and requires the Heavy Metal Feat to use. This missile type is considered a smart missile.

**Automatic:** The third type is Automatic, where the missile takes care of all targeting by itself. It grants a To Hit Bonus to the Firer, but does require the Heavy Metal Feat. Against targets that have not been downloaded into the missile's memory, this weapon loses the To Hit Bonus, and is treated as an unguided weapon (-2 To Hit). This missile type is considered a smart missile.

**Laser-homing:** These weapons home in on the reflected light of a laser designator. If the designator is still on the target when the missile comes into range, it will hit the target. Using the designator requires the operator to have the Forward Observer Feat, and Weapon Proficiency (Marksman). The roll is made as a normal attack, save that it ignores the target's AR when calculating AC. This missile is not considered a smart missile.

### Missile Attack Angle

Missiles attack from two angles: Direct and Overhead.

Missiles using a Direct angle attack strike the facing presented to them when they are fired. This method is the fastest, and least vulnerable to Point Defense System fire.

Missiles fired using the Overhead angle attack will "pop-up" a moment before striking the target, and will attack the more typically more vulnerable Overhead facing, where the armor is generally weaker. Because of the "pop-up" at the end of their flight, these missiles are more vulnerable to PDS fire, and any vehicle equipped with a PDS system gains a +2 circumstance bonus to their AC versus this missile type. See the rules, above, on vehicle armor and facing.

### Spoofing Missiles

Smart missiles can be spoofed by ECM/ECCM (Electronic Counter Measures/Electronic Counter Counter Measures) systems on-board vehicles. These systems require a skilled operator to function effectively, though automatic systems are available. Success on a spoofing roll throws the target-lock off, and the missile misses.

All ECM/ECCM systems have a signature rating, which is added to the vehicle's signature when the systems are in operation.

Spoofing a smart missile is a task, T/Sensors vs. a DC of 20 plus the missile's To Hit Bonus. It is not possible to Take 10 or Take 20 on this roll. Each failure of this task versus a specific type of missile results in a +1 circumstance bonus (cumulative, maximum bonus +3) to all subsequent T/Sensor skill checks to spoof the missile. However, if the opponent reprograms the missile (GM's discretion), this bonus is lost. This task requires ECM/ECCM equipment to be installed in the vehicle. Automatic systems use the skill rank listed in the chart below:

ECC/ECCM Systems	Range	Auto Skill	Sig
TL11	2 km	3	+2
TL12	3 km	5	+1
TL13	5 km	7	+0

## POINT DEFENSE

Any auto-firing weapon with a RoF of 5 or more can be used in a point defense role. Such weapons add +1 to the vehicle's AC when used, but are considered to be firing at their maximum rate of fire. They can only be used against one incoming missile per combat round, and cannot be used to make any other attack in that round.

Dedicated point-defense weapon use their listed AC bonus against incoming missiles. Weapons can target any number of incoming missiles up to their Rate-of-Fire, but suffer a penalty on the AC bonus for multiple missiles targeted, as listed in the description.

### Dedicated Point Defense Systems

As the modern battlefield becomes more deadly, a small hover jeep with a missile launcher can take out a modern battle tank. This was common throughout the ground portion of the Kafer War, where troops of both sides used hand-carried launchers to attack tanks, often from hidden ambush locations. Anti-missile systems help alleviate this threat, with the more advanced systems of the Humans allowing them an advantage on the battlefield.

Anti-missile systems have evolved to meet the threat, from the first ad-hoc linkages of a vehicle's anti-personnel charges to the fire-control radar, and on to more sophisticated designs, point defense has become a priority for modern machines of war.

Weapon	AC Bonus	Damage	Range	RoF (PD)	RoF (Normal)
Laser	+4/+2	0/1d4	200m/50m	8	5
Minigun	+3	1d6	100m	5	5
Explosive Flechette	+4	1d4	50m	N/A	N/A
BG PD Laser	+2	1d4	100m	2	1

Cost is per unit. RoF (PD) is the weapon's RoF in Point Defense Mode, while RoF (Normal) is the weapon's RoF when



engaging any other target.

**Laser:** The laser point defense system consists of a rapid-cycling free electron laser that fires through a universal ball-mounted mirror. The laser itself is safe behind armor. The mirror mount is able to rapidly engage targets, and the weapon has a range against missiles of nearly 1000 meters. The primary effect of the laser is to confuse the missile's targeting system, throwing off the lock. At close range (<100 meters) the laser is powerful enough to burn the missile down, but that takes longer, and so is only a consideration if there are a small number of targets. The first AC bonus is for the laser in blinding mode, while the second is for the laser in burn mode. Likewise in blind mode the laser causes no real damage to the missile, while in burn mode it causes 1d4 damage.

A laser system can engage as many targets as its RoF. Note that this is different from the standard Burst-Fire rules on page 151 of the THB. The listed AC bonus applies to all engaged targets, unlike the other systems. Note that dumb-fire missiles will not be thrown off by the laser system, but laser-homing and drone systems will. If the operator chooses instead to burn the targets down, the range goes down to the second value in the chart, and ROF is reduced by 4 for each target burned. In burn mode, the system has an AC bonus of only +1. Each missile hit receives 1d4 damage, which is enough to knock out any but the largest anti-vehicle missiles.

**Minigun:** The minigun is a radar-controlled 9mm, 7-barrelled binary Gatling gun that attempts to shoot down incoming missiles. Not quite as effective as the laser system, is it considerably cheaper, at least until you start factoring in ammunition costs. The minigun can also be disengaged from the radar fire control (1 full action) and used as an anti-infantry weapon. This is rarely done, as the point-defense role is considered far more important. Each point of ROF uses 100 rounds of ammunition.

A minigun can engage as many targets as its ROF. The system is automatic, and has an AC bonus of +4 vs. missiles and rockets. This bonus declines by 1 for each target engaged (first missile would be +4, second +3, third +2, etc). Each missile that misses is destroyed. The system typically only carries enough ammunition for a few bursts, however, as the extremely high rate of fire uses an enormous quantity of ammunition. Each full burst (ROF 5) takes up 5 vols of space.

**Explosive Flechette:** Developed from the anti-personnel charges that many modern tanks have to prevent close infantry assaults, the explosive flechette attempts to down missiles by spraying a large cloud of ceramic darts at the incoming missile, hopefully damaging it and/or confusing its sensors.

An explosive flechette system engages all targets in its firing arc. The system is detonated automatically when a mis-

## Starships vs. Vehicles:

Due to the normal operating ranges and high power of starship weapons, when used at close planetary ranges, they are scaled up as normal for T20 (+5 Dice of damage) when attacking vehicles. They are also scaled up when attacking starships at these short ranges. However, vehicle weapons are NOT scaled down when attacking starships. Starships and spacecraft in 2320AD are notably more fragile than their T20 counterparts, and consequently suffer normal damage from vehicular weapons.

sile or other large object enters the defensive envelope of the system, which can be set for 5-50 meters. The explosive flechette PDS has a base AC bonus of +4, which is reduced by one for every two missiles in range. So if four missiles are fired, the AC bonus is only +2. Each missile hit is destroyed. The system works on both smart missiles and dumb-fire missiles. The AC bonus is permanently reduced by 1 for every 4 missiles intercepted, to represent the use of the flechette packs.

**BG PD Laser:** The Blue-Green Point Defense laser is a last ditch defense mechanism for submarines and surface ships, and is used to intercept torpedoes within a 500m engagement envelope around the vessel. The BG laser is a very powerful design, but even at that its range in water is sharply limited, and it thus only has 5 range increments, rather than 15. The BG PD laser Adds its AC bonus to all attacks, but can only engage as many targets as its RoF. Each torpedo that misses is detonated or destroyed, (1d6, 1-4 detonated, 5-6 destroyed). If the firing vessel is in the AoE of the torpedo, it can be damaged by the explosion of a detonating weapon.

## Combat Walker Point Defense

Missiles and rockets are the bane of any armor unit's existence, and the larger anti-missile defenses were developed for vehicles. The smaller size of a combat walker requires smaller and admittedly less-capable systems. Due to power constraints, there are only two types of anti-missile systems available for combat walkers: explosive flechette and minigun. Both systems provide a defense bonus vs. all incoming rocket, missile, and grenade attacks.

The minigun uses a 5mm 5-barrel Gatling gun, with enough ammo carried to defend the CW five times. The listed Defensive bonus is reduced by 1 for every two incoming rounds, and so is overwhelmed by firing four rounds at it.

The explosive flechette system uses a harness similar to the one used by anti-personnel mines, and links the flechette packs to a point-defense radar, which will detonate a pack

facing an incoming missile in the hopes of intercepting it. The Defensive bonus of the Flechette pack is degraded by 1 for every two weapons intercepted, to represent consumption of the packs.

Weapon	Def Bonus	Damage	Range	ROF
Minigun	+2	1d4	20m	5
Exp. Flechette	+3	1d4	10m	N/A

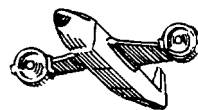
## TORPEDOES

**Jamming:** Modern torpedoes are smart weapons, with nothing to jam. They are direct-fire, high-speed weapons, which will usually hit their targets on the round they are fired. The exceptions to this are the so-called stealth torpedoes, which approach their targets on the virtually silent MHD drive, and then go to a full-sprint supercav final approach, which is usually from within the target's "reaction envelope", the distance from the sub where its operators and automatic defense systems have enough time to react and engage an incoming torpedo. If the stealth torpedo is detected before it enters this envelope, it is possible to jam it. T/Sensors vs. a DC of 14 plus the torpedo's BAB.

**Evading:** Most modern torpedoes are supercavitating designs traveling at 800-1200 km/h. They are next-to-impossible to evade, unless the target sub is likewise a supercavitating design, and has its drive lit up. It takes several rounds to light up a supercav drive on a large vessel, and by then it is usually too late.

**Interception:** Torpedoes can be intercepted by either dedicated mini-torpedo interceptors, or by a blue-green laser carried by the target sub. The mini-torpedo is the most reliable method, as the blue-green laser has a very limited range. The mini-torpedo must roll vs. a DC of 16 plus the Attack Bonus of the attacking torpedo. The blue-green laser rolls against a DC of 18 plus the Attack Bonus of the attacking torpedo.

**Decoys:** Decoys are a combination of sonar decoy and bubble-maker that created an image of the target sub in an attempt to confuse the weapon operators on the attacking vessel. They add 2 to the carried vessel's AC.



# FOUNDATIONS

The Foundations are not governments, yet they fulfill governmental responsibilities in some places. They are independent and well-financed, yet rely on public support and public opinion to perform their role. Foundations are rigorously administered to ensure that they perform their tasks properly, and their finances are a matter of public record. Public trust for the Foundations is high, as even those with agendas have obvious and popular ones.

Some Foundations support research, while other supports colonization efforts. Some are public service organizations, while others have clearly stated nationalist goals.

## THE MAJOR FOUNDATIONS

Foundations and their activities cover the entire spectrum of human activity. The background, interests, and motivations of each foundation varies greatly.

### ASTRONOMISCHEN RECHEN-INSTITUT

**Headquarters:** Heidelberg, Germany, Earth, Sol, Core.

**Mission Statement:** The pursuit of pure research into stars, planets and astronomical processes.

**Products/services:** Knowledge, colonial surveys, starship design.

**Language(s):** German, French, English.

**Culture:** Open, similar to a university.

**Staff Levels:** 42,000 + students and interns (50,000+).

**Scope of Operations:** Primarily the French Arm and the Bayern Corridor.

The Bavarian Astronomischen Rechen-Institut was originally part of the University of Heidelberg. Endowed by Azania with tantulum and funding to support a squadron of interstellar scouts, the ARI is a foundation pursuing pure research into the nature of stars and their planetary systems.

The ARI sponsors exploratory missions to strange star systems and phenomena. Most of these are directed at the immediate Frontier systems, but there are several expeditions operating beyond 50 light-years from Sol, some of which are not expected to return for more than a decade.

Missions for the Astronomischen Rechen-Institut will usually be purely exploratory. This might be anything from a voyage to an interesting stellar body to the search for, and

## OTHER FOUNDATIONS:

**Academia Del Lincei:** Based out of Rome, the Academia is focused on the quest for antiquity, its artifacts, its ideals, and its knowledge, making it an almost totally Earth-centered foundation. It has a reputation for eccentricity.

**AECA:** The American Extrasolar Colonization Administration supports American exploration and colonization efforts throughout the American Arm and the Beta Aquilae sector. A well-meaning, but somewhat ponderous bureaucracy.

**Alberta Farmers' Cooperative:** Based out of Calgary, Canada, the AFC has a major role in the exploitation of newfound worlds along the Canadian branch of the Manchurian Arm, along with the provision of genetically-engineered seed stock and grain supplies to many worlds throughout Human space.

**Foundation For Practical Knowledge:** With its headquarters in the Wellon city of Swansea, on Tirane, the Foundation for Practical Knowledge focuses on pure research: anything from ground-based laboratory studies on genetics to the maintenance of a data collection facility in an asteroid belt.

**L 'Institut Des Etudes Xenologiques:** The IEX, an academic institution funded by the French government, is the foremost organization on Earth dedicated to studying the diversity of alien life forms, including intelligent life.

**Instituto Nacional De Astronomia Practica:** INAP is a joint venture by the governments of Argentina and Mexico, and its activities center mainly on the exploration of the Montana-Procyon branch of the Chinese Arm. There has been some strain inside INAP after Mexico's change of government, and Argentina's ongoing war introduced schisms along nationalistic lines.

**The Pioneer Society:** An independent organization whose goal is the exploration and exploitation of the Beta Aquilae Cluster, independent of any other group. Billionaire William Staunton, the society's founder, continues to direct its operations from his suite in a low-gravity orbital habitat in Earth's L-4 zone.

**Paix Avec les Xenos:** PAX is a pacifist organization that insists that all the problems humanity has had with the Kafers are simply the result of a misunderstanding, or even Human aggression. PAX is extremely unpopular on the French Arm, and sees most of its support from the Core, mostly Earth. There is anecdotal evidence to link PAX to the Coyfederacy terrorist group.

**The Royal Society:** Chief catalyst in British interstellar activities, the Royal Society has the Royal Family's blessing, the parliamentary government's tolerance, and endowments and popular support from all of Britain to promote all sorts of colonial and exploratory expeditions on the Frontier.

**The Transhuman League:** Just as the terrorist group ProVolution supports the cause of directed human evolution through violence and revolution, the Transhuman League advances it through political action and protest. The chief aim of the League is to restart research in DNA modifications, and to make the technology legally available everywhere.

There are numerous smaller, less well-known organizations performing similar functions to the listed Foundations and organizations.



exploration of, colonizable planets. First priority in these missions is the acquisition of new knowledge, though often with an eye to exploiting that knowledge for the benefit of the ARI.

## THE LIFE FOUNDATION

**Headquarters:** Isle of Summer, Wellon, Tirane, Alpha Centauri, Core.

**Mission Statement:** To promote colonization efforts.

**Products/services:** Colony planning, infrastructure design, transportation.

**Language(s):** Esperanto, English, Spanish.

**Culture:** Open, forward-thinking, idealistic.

**Staff Levels:** 8000 at headquarters, another 17,000 throughout human space, plus personnel at the colony on Austin's World.

**Scope of Operations:** All of human space, but concentrated on the Latin Finger of the Chinese Arm.

Devoted to colonization, and increasingly to humanitarian efforts, the Life Foundation has its beginnings in the initial colonization efforts on Alpha Centauri. Grants are provided to willing and talented individuals who wish to colonize other worlds, but who might otherwise not have been able to do so due to national or economic considerations. In its beginning years, the Life Foundation was at the service of nations seeking particular individuals and skills which might have been in short supply. From that base, the Life Foundation has become its own entity, promoting throughout human space.

The Life Foundation's greatest achievement has been its colonization effort on DM-3 1123 (Austin's World) on the route from Montana (Omicron2 Eridani) to Procyon (far along the Chinese Arm) – an effort accomplished using solely the Foundation's assets.

Their current major project is the construction of two deep-space stations to effectively recreate stutterwarp tug ranges without requiring the proprietary technology. Built in cooperation with the governments of Texas and Brazil, these stations are being built with first generation stutterwarp tuning systems, allowing tug operations between Earth and the further reaches of the Chinese Arm. The stations, located between Earth and the outpost at Qingyuan (UV Ceti B) are expected to come online with the next two years, and could cut months off transit time from Earth to the Latin Finger, not to mention many other worlds deep in the Chinese Arm. This route is the most advantageous for all colonies along the Chinese Arm and so furthers the Foundation's goal most effectively. However, many outposts and the Manchurian colony at Cold Mountain stand to lose considerable trade if the shortcut proves viable.

Missions for the Life Foundation will focus on new colonization efforts. This does not always mean new worlds,

## COPYRIGHT AND PATENT RIGHTS:

The Foundations and Corporations are vitally concerned with the issue of copyrights and patents, for this is what their fortunes are made on. Most governments enforce limits on copyrights and patents, however, with copyrights expiring after 20 years, and patents after 10. The government's reasoning is that these times are sufficient to accrue a reasonable profit and pay for development costs, without stifling further innovation. Some nations, like Indonesia and the Inca Republic, however, do not recognize international copyright and patent law at all.

however. Often, it is as difficult a job to begin a colony on a new continent as on a new planet.

## NORTH AMERICAN RESEARCH LEAGUE

**Headquarters:** Vancouver, Canada, Earth, Sol, Core.

**Mission Statement:** To prevent the ravaging of any ecosystem, and to promote peaceful interactions between nations, cultures and species.

**Products/services:** Environmental assessment, alternative technologies.

**Language(s):** English, French, many others.

**Culture:** Open, but somewhat paranoid at the same time, very skeptical of government and, in particular, of large corporations.

**Staff Levels:** 10,000+ throughout human space, along with millions of supporters, mostly in the Core.

**Scope of Operations:** Throughout human space.

The name "North American" was derived from the chief source of charitable support for the organization at its conception. Today the League enjoys interstellar support of its activities to keep planetary ecologies safe from overexploitation, and the mediation of national disputes. Though sometimes employing unorthodox tactics, the League and its far-flung membership can be found pursuing peaceful solutions to critical situations in all corners of human space. Most of their support, however, comes from the Core Worlds, and it there that the Foundation's policies are decided. Their most notable operation until recently was their successful mobilization of world opinion to free the Xiang slaves from the Sung.

Their most difficult and contentious operation nowadays is their effort to observe the occupation of the Kafer homeworld to prevent further atrocities. For this reason they have lost a great deal of support on worlds along the French Arm, which suffered the brunt of atrocities during the Kafer War. However, they have retained their support in the Core, due in no small part to an extensive public relations and manipulation campaign.

Missions for NARL are usually begun by whatever local personnel discover the problem, augmented by hired troubleshooters. For this reason, the organization keeps a file of expert agents for hire who can be trusted to travel to the location and solve the problem in a manner approved by NARL headquarters. These agents often face personal danger, but they reap the rewards of travel to exotic places, as well as having large expense accounts.

## ZAPAMOGA

**Headquarters:** Gdansk, Poland, Earth, Sol, Core.

**Mission Statement:** To provide opportunities for those who lack them to resettle on new worlds in an atmosphere of hope and prosperity.

**Products/services:** Colony planning and support, emergency services and aid.

**Language(s):** Polish, Russian, English, French, Chinese.

**Culture:** Dedicated, driven, orderly.

**Staff Levels:** 110,000 throughout human space.

**Scope of Operations:** Throughout Human space.

Zapamoga was formed in the chaos that followed the Twilight War, providing succor to refugees in and around Poland. Zapamoga's mission gradually changed as the organization transported Europeans to settlements in Africa, Asia, and South America, and later carried Earthers to colonies on distant worlds.

Zapamoga has been extremely busy since the end of Kafer War, relocating refugees all over human space, but largely to the Chinese Arm, and to a lesser extent, the American Arm. Though well-intentioned, this displacement of millions of people has started to generate a backlash, much of which is aimed at Zapamoga. Conditions at their resettlement camps seems to be the main issue.

Missions for Zapamoga will usually involve the transportation of people or goods to a colony site, especially refugees. Zapamoga is currently discretely hiring operatives to investigate the complaints against them, in an attempt to find a solution before they lose all their good-will.

## TRANSNATIONAL CORPORATIONS

The Transnational Corporations, or Transnats, exist in a peculiar grey zone. They are nominally based out of one country, but the scope of their operations covers many worlds. In these situations, there is a delicate balance between loyalty to nation and loyalty to corporation. As the Transnats expand, and offer greater services and rewards to their employees, this loyalty shifts away from the nation. Some of the Transnats are powerful enough to have colonies, and Trilon has even laid claim to an entire world.

## REBCO SAR

**Headquarters:** Lansdowne, Wellon, Tirane, Alpha Centauri, Core

**Mission Statement:** To provide the best and most appropriate human resource to tackle any problem, anywhere.

**Products/services:** Employment services, troubleshooting, security and mercenaries.

**Language(s):** English, Urdu, French.

**Culture:** Free-wheeling, but at the same time very cautious. All operations must be above-board.

**Staff Levels:** 125,000 throughout Human space, including contractors.

**Scope of Operations:** Human Space, Kafer homeworld.

In the year 2244, two financial institutions on Earth, the Rawal Pindi Trading Company of Pakistan and the National Express Bank of America, merged to become Rebco.

The majority of Rebco's business involved financial services on Earth, but in 2257, after developing a large internal security force, the corporation created a splinter group dedicated to providing short-term security forces to organizations on colony worlds. This began with uniformed guards for corporations, and over time ranged up to include mercenary troops for small colonial governments, and even rescue operations. Rebco located their new organization's offices to Wellon, on Tirane, and they called it "Rebco Search and Rescue," or, more succinctly, "Rebco SAR." Since then, Rebco SAR has expanded from providing security forces to matching persons seeking employment with employers looking for experienced personnel. RebCo even provides much of the support staff to the Human occupation forces on the Kafer homeworld, as the normal civilian contractors were not available on that alien world.

Missions for Rebco SAR can include anything which might be dreamed up. If there is money to be made, Rebco SAR will most likely be willing to get involved, although its coordinators pride themselves upon their honest reputation and will avoid overtly criminal activities.

### Scandal:

Rebco SAR has always relied on its reputation. Late in 2319, however, that reputation became sullied when a group of freelancers hired out to AmeriCo turned on the beverage company. The reasons for the betrayal are unknown.

## TRILON

**Headquarters:** Arnor, Kie Yuma, Xi Ursa Majoris, French Arm.

**Mission Statement:** Providing the best quality products and services, at a reasonable price, and with an appropriate rate of return.

**Products/services:** Consumer products, computers, starships.

**Language:** English.

**Culture:** Guarded, somewhat conservative, security-conscious.

**Staff Levels:** 720,000, mostly on Earth and Kie Yuma.

**Scope of Operations:** Core, American Arm, French Arm.

Founded in 2167 in the wake of the settlement of Alpha Centauri, Trilon has grown from a starship maintenance company to the largest private starship construction firm in Human space.

Trilon is now one of the largest corporations in Human space, with extensive Earthside and colonial holdings. In addition to its starship business, Trilon also has a large consumer product division, and Trilon products can be found in virtually every home.

Trilon was the first Transnational to break away from its national roots and go independent. Though Trilon still has strong ties with the American government, it is an independent nation in its own right, with its own colony world as the seat of its power.

## AMERICO

**Headquarters:** New York, America, Earth, Sol, Core.

**Mission Statement:** Our mission is to be the premier consumer products company in Human Space, focused on convenient foods, beverages and personal grooming products. We seek to produce healthy financial rewards to investors as we provide opportunities for growth and enrichment to our employees, our business partners and the communities in which we operate.

**Products/services:** carbonated beverages, snack foods, personal grooming products, smuggling.

**Language(s):** English, Mandarin, French.

**Culture:** Profit is paramount.

**Staff Levels:** 650,000.

**Scope of Operations:** Core, American Arm.

AmeriCo began in America in the late 22nd century as a door-to-door operation selling health and beauty products. Over the years, AmeriCo spread into other markets, such as beverage bottling, light manufacturing, and other consumer goods. Eventually the corporation was established as an American tradition. As the colonization of the stars began, AmeriCo began to target the colonial market and soon it became a multi-world organization.

As AmeriCo's original members died, they left their cor-

## OTHER LARGE CORPORATIONS AND TRANSNATIONALS:

**Aberdeen Mineral Exploitation Company (AMEC):** Mining, investments.

**Arno:** Small Arms.

**Aerotech SA:** Aerospace Manufacturing.

**Aquitaine Corporation:** Sensor Drones.

**Bridgeport-Swift:** Vehicles.

**British Exospace:** Space drones, missiles, and small starships.

**DunArmCo:** Armament Systems.

**Darlan Optophysique:** Energy weapons and fusion systems.

**General Service Transport:** Large-scale transport.

**Gorman Systems Ltd:** Heavy industrial products.

**Hundeman Industries:** Sensor Drones.

**Hyde Dynamics:** Spacecraft, missiles, drones.

**Kaskaskia Arms:** Military small arms.

**Leyland-Armstrong:** Reaction-drive spacecraft.

**Microtechnica Computers:** Hardware and software.

**Mineria Recursos de Argentina (MRA):** Mining and mineral processing.

**Momotaro Technologies:** Japanese consumer electronics firm with military ties.

**Niyazawa International Bank:** One of the largest investment banks in Human space.

**Sortech Enterprises:** Robotics and Drones.

**Sumatro-Fabrique:** Heavy Industry, including weapons systems.

**Tiranefabrik:** Heavy industry, especially large vehicles and hovercraft.

**Vannoccio:** Luxury vehicles.

porate holdings to their descendants. One of these saw the opportunity to use AmeriCo's numerous, far-flung factories as fronts for smuggling operations. Today, it is estimated that nearly 30 percent of all AmeriCo manufacturing locations serve periodically as ports of entry for illegal goods.

This problem is the most severe on the American Arm, where AmeriCo has the majority of its holdings.

## TERRORIST GROUPS

Terrorist groups often start out dedicated to a cause they feel is just, but end up descending into an endless circle of violence as the original cause becomes lost in rhetoric and cycles of revenge.



## PROVOLUTION

**Headquarters:** Dispersed.

**Mission Statement:** The reigning social order must be removed in order for Humanity to realize its true destiny. Natural evolution is done, humanity must finish the job.

**Products/services:** Cybernetics, prosthetics, nihilistic terrorism.

**Language(s):** English, French, Mandarin, Russian.

**Culture:** Violent, secretive, will go to any lengths to accomplish a goal. Not overly subtle, however.

**Staff Levels:** Unknown, likely 500 or so core members, plus many affiliates

**Scope of Operations:** Core Worlds, and terrorist actions along the Chinese and French Arms.

Early in the 21st century, a small group of Russian and Chinese scientists decided that the communist revolution had lost its purity of vision. Rejecting the individualism of Western society, they believed that nothing mattered but the advancement of the human race. They saw in the sciences of cybernetics and genetic engineering the potential to increase the abilities of humans immeasurably. In order to achieve their goals, they plotted to seize political power. They never got the chance. Their plans were uncovered and the principals arrested. When news reached the West, a British journalist labeled it, "The Pro-Evolutionist Plot." In public parlance, the group became known as "Provolution."

Late in the 23rd century, Provolution took credit for a terrorist bombing on Tirane. At first it was dismissed as a hoax, but attacks along the Chinese Arm soon made it obvious that Provolution was in existence once again. The group stated its goal as "the destruction of Earth's power over the colony worlds to prepare for the next step in evolution, which is human-directed evolution."

Provolution genetically and mechanically enhances its agents, but, because of limited resources and unconcern for the individual, worries little about side effects. Provolution agents are often powerful, but they pay for it in terms of shortened life expectancy, constant pain, and/or mental instability. Also, it is believed that a few of society's missing persons end up as experiments on Provolution lab tables each year.

## COYFEDERACY

**Headquarters:** Unknown, but thought to be somewhere on the French Arm.

**Mission Statement:** Human oppression of other intelligent races must end.

**Products/services:** Try to draw attention to human oppression of aliens, conduct attacks against human embassies.

**Language(s):** French, English, Mandarin, some alien languages.

**Culture:** Prefer statements to direct action, but employ multi-species strike teams when appropriate.

**Staff Levels:** Unknown, likely 500 or so core members, plus many affiliates.

**Scope of Operations:** Core Worlds, and terrorist actions largely aimed at human enclaves on alien worlds.

Starting in 2318, a string of what were assumed to be nuisance letters aimed at the Canadian Office of Sung Affairs spiraled into violence when a small explosive device went off in their Ottawa offices. Four people were killed, and several more were injured. The previously unknown group calling itself the "Coyfederacy" claimed responsibility. In their statement, they said the bombing was to draw attention to the Canadian failure to honor their agreements with the Sung, and that more would follow if action wasn't taken. The most worrisome part of the whole episode, however, was the discovery that the bomb used Kafer-made explosives. Further investigation revealed that the bomb had been planted by a couple of employees of another government office that shared the building, who had subsequently fled. The origin of the name "Coyfederacy" is unknown.

Coyfederacy attacks are currently small in scope, but quite troubling, as it appears that individuals of many different races, including Eber, Sung, Human, Pentapod and even Kafer are involved. How this is even possible is unknown.

## CRIMINALS AND SMUGGLERS:

Many criminal organizations have made the leap to the stars. The Italian Mafia still maintains its reputation as the premier criminal organization, but it faces heavy competition from the Russian Organizatsiya, the Japanese Yakuza, the Franco-Corsican Union Corse, the Cantonese Triads, the Freihafen Blackhands, and many others. All of these groups have their hands in various pots, including the traditional vice operations and high-risk loans. They have also branched out into biologicals smuggling, refugee smuggling (and selling), and starship theft.



## CORE WORLDS

The Core encompasses the worlds of Tirane and Earth, but can also be used to describe the lifestyle of any of the more advanced urban areas of certain long-settled colony worlds like Nibelungen or Beta Canum.

Life in the Core is generally seen by the rest of humanity as extremely hectic, dominated by endless work, endless traffic, endless commuting, and an overwhelming feeling of being watched. There is some truth in these stereotypes, but there is much more to life at the Core than that.

Most people in the Core, at least in the better developed nations, are knowledge workers, who work with their minds rather than their hands, with rare exceptions. Automated production has eliminated most factory labor, and resource extraction is largely automated or conducted in the extra-solar colonies.

### World of Tiers:

The nations of Earth are divided into four Tiers, reflecting several factors, primarily economic strength, off-world colonies, and global political influence. Tier 1 is at the top, Tier 4 is down at the bottom.

Life in most of the Core nations is a luxurious one, but also carefully controlled. Watchdog systems monitor a citizen's every move, from transponders and GPS locaters in cars to the omnipresent video cameras on every corner. Phones and portacomps are likewise monitored, both for content and location. Visitors to the Core nations are often taken aback at the level of scrutiny the average citizen accepts. In return, however, the citizens expect security and convenience. If they get lost, they know they will be found. If their truck breaks down in a remote mountain location, help is already on the way. If a criminal should break into their home, chances are the police know who it is before the door is fully opened, and are already on their way.

This does place some constraints on the style of play in the Core nations. It doesn't mean that characters can't do anything, but that they have to be very careful, and thoughtful, of how they do it. As well, not all nations on Earth and Tirane properly fall into this category. Many, like the Central Asian Republic and Iran on Earth, and Santa Maria and Tundukubwa on Tirane, do not have developed enough infrastructures to have this level of surveillance. This lack of a link

infrastructure can be due to a lack of resources, as is the case for the CAR, or a disinclination on the part of the government to closely monitor its citizens, as in Tundukubwa.

## CULTURE

Within the Core nations, culture varies greatly. Most nations identify themselves by their cultural heritage, and display the language, festivals and other trappings of that heritage proudly. At the same time, the global communications network has also forced a kind of uniformity. Everyone has seen the same shows, listened to the same music, read the same books, though the language may be different. Publishing and media conglomerates, aided by powerful translation software, purvey the same entertainment to everyone, though in their native tongue. Near real-time translation software provides instant translation for everyone, simply by putting on an earpiece and tapping into the local link network. This cultural homogeneity is one of the driving factors in the colonization movement, as those who wish to avoid assimilation move out to the stars.

The average Coreworlder spends approximately 20-30 hours a week at their job, and another 10-20 hours a week

### Popular Foods:

**The Foot-Long Hard-Boiled Egg:** The signature product of Food-Extruder's (the ubiquitous fast food emporium) is still the extremely popular Foot-Long Hard-Boiled Egg. The corporate motto: "Say When!" has become a catch-phrase among urban youth. Lv1.5 for a 30cm length.

**Perka-Cola:** A combination energy drink/soft drink, this AmeriCo product enjoys brisk sales, thanks in part to its extensive advertising campaign aimed at commuters and students. Lv0.25 for 500 ml.

**Curry Loaf:** Another Food-Extruder's product, Curry Loaf is a loaf of bread with one of several different types of curry baked right inside. Choices include chicken, beef, goat, or vegetable. Lv2 for a 0.5kg serving.

**Montana Dark Chocolate:** Something in the soil of the colony world of Montana adds an extra richness and depth to the flavor of cocoa grown there. Truffles made with Montana chocolate go for more than Lv20/100 grams.

at various “leisure” occupations, like hobbies, sports, etc. However, there is a certain pressure to excel at these activities, which prevents them from being the release that they should be. Couple that with the ever-present competition for employment, and you have a recipe for a great deal of stress. Unemployment rates run at 25% or more for most Tier 2 and Tier 3 nations, a little higher for Tier 4, and a little lower in Tier 1.

Another thing that takes visitors to Earth aback is the level of advertising a person is subjected to as they walk down a street, or worse yet, in a shopping mall. Here, the omnipresent surveillance systems are turned towards commerce. Computers read the RFID tags in customers’ implants, or in their charge cards and credit cards, and bombard them with personalized advertising. Using directional sound systems and projected holograms, these ads are often inaudible to those even less than a meter away, and the imagery is blurred and out of focus. The computers access the potential customer’s purchase history and construct, on the fly, a pitch tailored to that person. The average store can usually handle up to twenty people at a time, bombarding them with five-second mini-commercials as they walk past. The ads are often targeted at those who can afford the services offered by the store, and ignore those who can’t. Visitors find this sensory bombardment bewildering and unnerving, but to a resident of the Core worlds, it’s just the way things are, and they take no further notice of it than a person of 20<sup>th</sup> century Earth would take of billboards.

### Snaps:

Despite the emphasis on shorter work-weeks and a more leisurely life-style, life on the Core Worlds can be very hectic and demanding. There is a strong pressure to succeed, and the shorter official work week just means less time to do more work. Add to this the ever-present buzz of the predominantly urban life, the pressures of directed advertising, and the constant feeling of being watched, and some people just can’t take it.

The official term is “stress-related psychosis” but the more common term for it is Snap. A word used to describe people who have essentially gone mad with the pressures of modern life. Often times, this manifests itself as random violence, though other manifestations are common as well, including catatonia and psychosis.

A powerful uniting influence on the Core Worlds, in particular on Earth, is a strong sense of environmentalism. Earth came close to destruction in the Twilight War, and the importance of the environment is central to public thinking on Earth. On Tirane, the inhabitants see their world as an

unspoiled gem, and aim to keep it that way.

That leads back to another hallmark of Core culture, especially on Earth. Everything, and everyone, is under the constant watchful eye of the various governments, security agencies and corporations. Cars, phones, computers and even watches all contain GPS locators, and often some sort of monitoring hardware or software. Many people elect to get RFID chip implants, which in addition to acting as keys, bank cards and ID, also act as short-range tracking devices. If a person ever gets into trouble, the authorities will almost always know where they are. Of course, the same holds true for anyone who causes trouble, and the constant watching means that the state will have the evidence it needs as well. Life is very regulated, and controlled. Most people accept it, and even appreciate it. Society is very safe and secure. Some choose to leave, however, and go to find a new life in the off-world colonies. Some are even encouraged to leave, through subtle pressures that can lead all the way to official harassment.

### GOTTA GET AWAY:

Even in the face of this omnipresent monitoring, there are places on Earth where one can escape the ever-watching eyes. Wilderness areas have little in the way of monitoring, typically limited to portable GPS devices, which are also used as emergency locator beacons. There are still a few wilderness areas on Earth, and more on Tirane, but these are dwindling over time. Some older urban areas even contain areas, that, for one reason or another, or not monitored, where often even the Link network is cut off. Such urban areas, which are extremely rare are known as Blights to the authorities and Havens to other, less law-abiding, types

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## EARTH/SOL

The center of human space, Earth still has more people than all the other worlds combined, and boasts the best of everything. To many people from the Frontier, Earth’s society and culture is every bit as alien as that of the Sung or even the Pentapods.

### SYSTEM DATA

**Primary Name:** Sol “the Sun”

**Spectral Class:** G2 V

**Magnitude:** 4.7

**X, Y, Z Coordinates:** 0, 0, 0

**Number of Planets:** 9 (Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus, Neptune, Pluto)

**Number of Asteroid Belts:** 1

In addition to Earth itself, the Solar System boasts eight



other planets, many of which have some level of human habitation. None of these other worlds are particularly amenable to life, and were settled before the invention of the stutterwarp drive gave humanity the stars.

## THE SOLAR SYSTEM

The return to space a few decades after World War III produced a succession of interplanetary expeditions. The Manchurians established a base on Mercury, the French placed one on Mars; several nations prospected the asteroids. Until the development of stutterwarp, the solar system was the only frontier available in space. The other planets were a haven for scientists and researchers looking for clues on the nature of the universe, but of little use to those looking to escape Earth for other worlds.

### OQC:

The Orbital Quarantine Command is a quasi-military police force charged with protecting Earth from biological contamination. Any Human-compatible biosystem carries with it the risk of infection. OQC is organized to stop that, with a network of ships and boarding cutters, along with staff on every port-of-call station in Earth orbit. The OQC is supported by all Tier 1, 2, and 3 powers, along with Russia. They have the power to search any vessel, any cargo, and deal with any threat. Since the end of the Kafer War many colony worlds have instituted a service like the OQC, though typically not so large, powerful, or paranoid.

When stutterwarp opened up interstellar space, planets of the solar system became second-class locations. It was easier and cheaper to place colonists on garden planets around other stars than to exploit inhospitable planets such as Mars or Mercury. The American settlement on Mars and the Manchurian settlement on Mercury were originally established as colonies, but they are now simply commercial mines and bases, with their populations rotating in and out on a regular basis.

Travel between the worlds of the Solar System is generally accomplished with stutterwarp vessels for passengers, and reaction-drive vessels for cargo. Though the difference in travel time is considerable (hours vs. many days) few commodity cargos are required urgently enough to require shipping via stutterwarp.

As in most outpost-level facilities, firearms and other weapons are strictly forbidden in any of the planetary bases. The chances of catastrophe are just too high. Law Level in these installations is always at least 8, and can be higher.

**Mercury:** Manchurian commercial interests maintain

a consolidated base of about 12,000 people in the craters at the North Pole of Mercury, sending out expeditions onto the bright face of the slowly turning planet to exploit pools of liquid self-smelting metals. Expeditions into the dark face recover pockets of frozen water and gas which are used for life support and chemical synthesis. Organizations and other nations rent space at the consolidated base for scientific research or prospecting. Despite the sheltered location at the Mercurian poles, these bases are tunneled several hundred meters into the surrounding rock, primarily for protection from radiation and the occasional solar flare.

**Venus:** Venus sees little in the way of visitors, aside from the occasional manned lab floating high in this planet's corrosive atmosphere. These balloon labs are usually funded by one of the science-based foundations investigating the runaway greenhouse effect, and devising ways to avoid it in the ongoing terraforming efforts of distant worlds. Some have investigated using robots and drones to mine the surface, but only a discovery of tantalum would be worth the expense involved, and so far no evidence had been found of that particular metal.

**Mars:** The American base on Mars is primarily a scientific endeavor, with fewer than 12,000 people, most of them scientists, technicians and their families devoted to developing a greater understanding of desert worlds. It was scheduled to be abandoned in 2265, but the discovery of a small lode of tantalum near Olympus Mons prompted reconsideration, and America maintains the base in hopes of finding more. In 2309, the continued requests by the Pentapods to place an embassy on Earth led to the establishment of a Pentapod enclave on Mars. Though the Red Planet isn't very suitable for the amphibious aliens, they seem satisfied with the close access to Earth, and are busy transforming their domed settlements into a more suitable environment. The process is taking far less time than anyone anticipated, and some interested Terran corporations are said to be conducting talks with the Pentapods concerning commercial applications for the bubble-terraforming technology.

**The Asteroids:** Most space-faring nations maintain mining operations in the asteroid belt. Supported by com-

### BELTERS:

The Belter community in the Sol system has been in decline for the past 50 years, as rich finds grow less frequent, and Earth's control grows heavier. Many feel the final straw was the Trilon Corporation building a honeymoon hotel on Vesta, with its tagline of "Love Below the Belt." Many Belters have abandoned the Earth system for other systems, looking for that elusive strike, and to get away from the encroachment of Earth's consumer culture.

mercial interests offering high rewards for rare finds, the Belt attracts rugged individuals interested in getting rich quickly. There is a substantial community of nearly 100,000 Belters in Sol's asteroid belt, despite the rarity of a lucrative strike here. This community is centered on Ceres, and maintains an active and dynamic culture. Extensive use is made of large habitat structures to house the populace. The first tests of the Zero-G DNAM were undertaken here, though with some protest from many in the Belter community. Long years of living in weightless and very-low gravity environments had rendered most Belters incapable of visiting Earth or any normal-gravity world, and even visiting Earth's moon meant time in a wheelchair. In that isolation, a new society had developed, different from that of Earth or any other settled world. With the OG DNAM, though, a Belter can travel practically anywhere, and the Belter's enforced isolation was ended. Many older Belters feel that the DNA modification robbed them of their special society, and are bitter about it.

**Jupiter:** France maintains a scientific base on Gany-mede for the study of Jupiter and its accompanying moons, along with a research outpost under the ice of Europa. The outpost has made a few, very conservative, reports of possible life under Europa's ice, but nothing beyond primitive thermotropic microorganisms.

France also maintains a Foreign Legion base on Almal-thea, using the other moons for hostile environment training. This Jovian satellite also houses a naval base, largely as a fighter training ground, but also as a system defense post. The French base is home to two squadrons of fighters, along with several heavier vessels, including a few destroyers and cruisers.

**Saturn and Beyond:** Various nations (America, France, Azania, Argentina, Japan, and Indonesia) have established temporary bases at Saturn, Neptune, and even Pluto.

It wasn't until 2312, in the midst of the Kafer War, that a permanent facility was established on Titan. This new settlement is owned by the Xenon Group, a medium-sized Indonesian Transnational Corporation. They are exploiting Titan's large sub-surface reservoirs of hydrocarbons to produce chemical feedstock for synthetic materials and industrial chemicals. With the war damage to the infrastructure of the frontier world of Kimanjano, which has previously produced a large fraction of these chemicals, Xenon has become one of the preeminent chemical feedstock suppliers to the industrial nations of Earth.

The Xenon installation consists of hundreds of drill and pump rigs and a large processing facility on the moon, which combined employ over 30,000 people, and has a catapult facility to move cargo into orbit. Once in orbit, further processing is performed at a large factory/habitat complex before the various chemicals are loaded on freighters bound for Earth. One of the advantages to the Xenon setup is their ability to

use slow system vessels. The chemicals are a bulk commodity, and do not require fast shipping. No one outside the solar system can come close to their shipping rates. Even the sky-mines of Bessieres can't come close to competing.

It is worth noting that Saturn is well outside the Sun's FTL shelf, and so the Xenon facilities are extremely vulnerable to attack. A hostile ship can make most of its approach to Titan at FTL speeds, and be gone before help could ever reach the moon from Earth, or anywhere else. For this reason, Xenon maintains a large defensive fleet, which does offset its profit margins somewhat. Technically, this defensive fleet is attached to the Indonesian military, but in practice it serves the Board of Directors of Xenon. The defense force consists of a pair of Indonesian-flagged Tunghu-class frigates, along with a squadron of fighters.

Beyond Saturn, there are no permanently-manned settlements. Indeed, the only installations of any note are the automated telescopes of the Euro-American Long Baseline Array, a large, synthetic-aperture telescope project just past the orbit of Neptune. It was the first observatory to note the growing discrepancies in the Pleiades, which led to the Bayern mission of 2301.

## EARTH

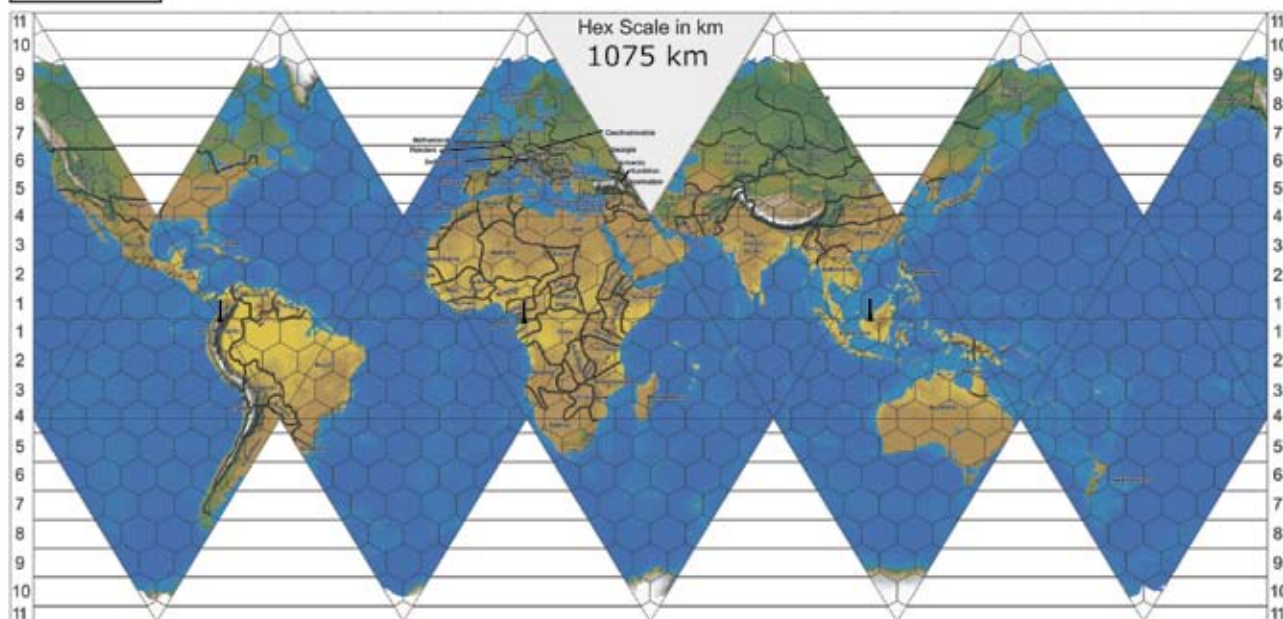
The jewel of the solar system, and despite occasional claims to the contrary, still the most suitable world in known space for Human life.

### PLANET DATA

<b>Name:</b>	Earth (Terra)
<b>Distance from Primary:</b>	1 AU
<b>Year Length:</b>	365.25 days
<b>Size:</b>	12,756 km in diameter
<b>Day Length:</b>	24 hours
<b>World Type:</b>	Garden
<b>Surface Gravity:</b>	1 G
<b>Atmospheric Pressure:</b>	1 atm
<b>Average Temperature:</b>	Temperate
<b>Water Presence:</b>	74%
<b>Atmospheric Composition:</b>	N <sub>2</sub> (78%) O <sub>2</sub> (21%) Ar (1%)
<b>Biodiversity:</b>	Diverse
<b>Natural Resources:</b>	5
<b>Satellites:</b>	1 (Luna)

From the standpoint of the 20<sup>th</sup> century, Earth is much cleaner, and a little bit warmer. As fossil fuel use has been eliminated for at least 200 years, the cause of the global warming has been attributed to a slight increase in solar output. Sea levels are a little higher as well, either inundating coastal regions or forcing the construction of ever-growing seawalls and dikes to protect cities and farms. Little on Earth has escaped the touch of man.

## Earth



Please note that details have been omitted from the Earth map for purposes of clarity.

**Culture**

Earth seems to be a chaotic jumble of cultures and languages, with 127 nations and over 7 billion people. At the same time, a certain set of common values seems to bind most people on Earth, at least those in the 1<sup>st</sup> to 3<sup>rd</sup> Tiers, commonly identified as the space-going nations. Most of these nations are liberal democracies (with a few notable exceptions), wealthy and prosperous. Most have free-market economies, and the average worker makes about Lv15,000 per year. Tier 4 nations tend to have somewhat lower standards of living, and are less likely to be part of the global culture that permeates the other nations.

**The Tribal Nations:**

With the collapse of central authority in United States, Australia, Brazil, and Canada, the native peoples in each country saw an ideal moment, and need, to reclaim some of their lost land and achieve a measure of self-reliance. This was accomplished with a minimum of violence, as most people in the affected regions were only too grateful to see some measure of control that they didn't particularly care where that control came from. When central authority renewed contact with the Tribal Nations, it was decided it would be much easier to allow them to keep their new lands and resources, and focus on rebuilding with them as partners. Nations within nations, the Tribals have successfully mixed their traditional values and living with the complexities of modern technology and urban life.

**Law Level**

Law Level determines what sort of weapons can be legally carried, and how much harassment one can expect from local law enforcement. Law Levels on Earth and Tirane are uniformly high, with private ownership of firearms largely illegal (Law Level 8). Typically only those who can prove a genuine need can own firearms.

**Things to do on Earth:**

Many of Earth's greatest architectural and cultural treasures managed to survive the Twilight War, and survive in such places as the Pyramids in the UAR, Machu Picchu in the Inca Republic, New Orleans in the United States, and Stonehenge in Britain. Earth also has the best museums and art galleries, the best live music, and probably the most vibrant night-life anywhere.



**NATIONS AND LANGUAGES:**

<b>Nation</b>	<b>Language(s)</b>
<b>North America</b>	
America	English
Canada	English, French
Mexico	Spanish
Texas	English, Spanish
<b>South America</b>	
Argentina	Spanish
Bolivia	Spanish
Brazil	Portuguese
Chile	Spanish
Inca Republic	Spanish
Paraguay	Spanish
Uruguay	Spanish
Venezuela	Spanish
<b>Africa</b>	
Angola	Portuguese
Azania	English
Biafra	English
Ethiopia	Amharic
Kenya	English
Madagascar	French
Malawi	English
Mali	French
Mozambique	Portuguese
Nigeria	English
Somalia	Somali
Tanzania	English
Ubangi Shari	Ubangi Shari
Zambia	English
Zimbabwe	English
<b>North Africa</b>	
Berbera	Arabic
Eritrea	French
Kanuri	Kanuri
Mauritania	French
Morocco	Arabic
Polisaria	Arabic
Tunisia	Arabic
UAR	Arabic
<b>Middle East</b>	
Arabia	Arabic
Armenia	Armenian
Baluchistan	Farsi
Iran	Farsi
Iraq	Arabic
Kurdistan	Kurdish
Palestine	Hebrew, Arabic
Syria	Arabic
Turkey	Turkish
<b>Asia</b>	
Azerbaijan	Azerbaijani
Burma	Burmese
Canton	Cantonese
Central Asian Rep	Russian
China	Mandarin
Far East Rep	Russian
Georgia	Georgian, Russian
Indochina	French
Indonesia	Bahasa Indonesian
Korea	Korean
Manchuria	Mandarin
Mongolia	Mongolian
Tibet	Mandarin

<b>Nation</b>	<b>Language(s)</b>
<b>Europe</b>	
Albania	Albanian
Austrovenia	German
Britain	English
Bulgaria	Bulgarian
Catalonia	Catalan
Croatia	Serbo-Croatian
Czechoslovakia	Czech
Flanders	Dutch, French, German
France	French
Germany	German
Greece	Greek
Hungary	Hungarian
Ireland	English, Gaelic
Italy	Italian
Latvia	Latvian
Netherlands	Dutch
Poland	Polish
Portugal	Portuguese
Romania	Romanian
Russia	Russian
Scandinavian Union	Scandinavian
Serbia	Serbo-Croatian
Spain	Spanish
Switzerland	French, German, Italian
Ukraine	Ukrainian
<b>French Empire</b>	
Algeria	French
Burkina Faso	French
Cameroon	French
Chad	French
Djibouti	French
French Polynesia	French
Gabon	French
Guinea Coast	French
Guyana	French
Katanga	French
Senegal	French
Zaire	French
<b>Oceania</b>	
Japan	Japanese
Nauru	English
New Zealand	English
Philippines	Filipino, English
<b>Australia</b>	
Australia	English
Papua	English
Tasmania	English
<b>Indian States</b>	
Afghanistan	Pashto, Dari
Bengal	English, Bengali
Bhutan	Dzongkha
Bihar	English, Hindi
Bombay	English, Marathi
India	English, Hindi
Madras	English, Tamil
Mysore	English, Malayam
Nepal	Nepali
Pakistan	Urdu
Punjab	English, Punjabi
Rajastan	English, Hindi
Sri Lanka	Sinhalese, Tamil

## NATIONS OF EARTH

## Description of Terms

## Tier Data

Each Tier shares many demographic and industrial characteristics, which are detailed at the beginning of each Tier section.

**Life Expectancy:** years life expectancy for someone born to that nation

**Literacy:** Average literacy rate of adult (18+) population

**College Education:** Average rate of college education for adult (18+) population

**Resources: Farming, Mining, Heavy Industry, Orbital Industry:** This indicates what sort of resources are available to the nation

**Military Presence (Orbital Defense Installation, Military Base, Naval Base):** Orbital Defense Installations are orbital forts, heavily-armed, but immobile. A Military base is an installation for ground-based forces, while Naval Base is for space naval forces, and is usually in orbit.

**Interface Capability:** Publicly available surface-to-orbit transportation. Some nations will have interface capability different from their peers, and this will be noted in the individual nation description.

## INTERFACE Capabily and Starports.

In most versions of Traveller, the first digit of the Universal World Profile (UWP) represents starport type. In 2320AD, the meaning of the first digit has been changed to reflect the type of interface transport publicly available. Each type assumes that all other lower grades of interface travel are available

- A Beanstalk
- B Catapult
- C Spaceplane
- D Roton
- E Cargo rocket
- X No publicly available interface transportation

**Fusion Plant:** Indicates the presence of a large fusion power plant

**Solar Power Satellite:** Indicates that the nation owns a solar power satellite

**Rectenna:** A receiver station for power from a solar power satellite. A nation does not have to have a Solar power satellite to have a rectenna, as it can share in another nation's solar power satellite array.

**University:** This is an institute of higher learning. If a nation lacks one, young people have to go abroad to study advanced subjects.

**Powernet (%):** Percentage of the claimed area of the

nation that has access to the local power distribution network

**Road Net (%):** Percentage of the claimed area of the nation that has access to the local road network

**Rail Net (%):** Percentage of the claimed area of the nation that has access to the local rail network

**Link Network (%):** Percentage of the claimed area of the nation that has access to a local data network

**Airship Net:** Indicates whether a nation has an airship transport network in place. Airship networks are flexible, so a percentage isn't needed

**Weather Satellites:** Indicates whether the nation has access to weather satellites

**Communications Satellites:** Indicates whether the nation has access to communications satellites. This is separate from the local link network.

**Surveillance Satellites:** Indicates whether the nation has access to surveillance satellites.

**Orbital Terminal:** Almost all nations of Tier 1 to 3 have an orbital terminal, where passengers and cargo can transship from starships to interface vessels.

**Civilian Shipyard:** Indicates whether the nation is capable of building civilian (TL10-11) starships and system ships

**Military Shipyard:** Indicates whether the nation is capable of building military (TL10-12) starships

## SPACE-BASED WEAPONS:

The Melbourne Accords set Earth orbit aside as a demilitarized zone. All signatories recognized that limitation until 2304, when Manchuria, worried over possible Kafer incursions, decided to beef up its space navy with static defenses, citing the emergency clause of the Accords. Within five years, most other nations had followed suit as Kafer fleets drew closer and closer to Earth. Even after the Kafer War, most nations retained these defense stations, and some have even upgraded them.

## NATIONAL DATA

**Nation:** Name of the individual nation

**Colony Population:** Total population

**Major City(s):** Names of cities or towns with highest populations

**Currency:** Type of money

**Government Type: ( )** General type of government plus the corresponding UWP Government Code

**Tech Level:** General Tech level corresponding to T20 levels

**Trade Data:** Trade data, for use with the commerce system and character generation.

**Principal Trading Partners:** Three countries or colonies that are the main trading partners

## TIER 1

France is the only Tier 1 nation – the French Empire includes not just European France, but also French holdings throughout the globe.

**Life Expectancy:** 99 years

**Literacy:** 100%

**College Education:** 89%

**Trade Data:** Ri, In

**Resources:** Farming, Mining, Heavy Industry, Orbital Industry

**Military Presence:** Orbital Defense Installation (10), Military Base, Naval Base

**Services:** Solar Power Satellite, University, Powernet, Road Net (100%), Rail Net (100%), Link Network (100%), Surveillance Satellites, Weather Satellites, Communications Satellites, Orbital Terminal, Civilian Shipyard, Military Shipyard

### FRANCE

**Nation Name:** France

**Population:** 109 million (European France)

**Major City(s):** Paris Metroplex (15 million), Rhine Metroplex (22 million), Marseilles (7 million)

**Currency:** Livre

**Government Type:** Charismatic Dictator (A)

**Tech Level:** (12)

**Principle Trading Partners:** French Empire, Britain, offworld colonies

**Interface Capability:** Beanstalk (in Imperial Territory), spaceplane, catapult (A)

**Colonies:** Nous Voila, Sans Souci, Kimanjano, Aurore, Tirane, Beowulf, Beta Canum

France managed to mostly keep out of the Twilight War, and so escaped with comparatively minor damage. While other nations were slowly rebuilding, France used that time to expand and grow stronger. The history of the 21<sup>st</sup> and 22<sup>nd</sup> centuries is very much the history of France.

French Empire holdings include territory across the globe, but are largely concentrated in Africa and the South Pacific. Imperial African holdings include the nation of Gabon, which is the location of the first Beanstalk built on Earth. Just the Beanstalk alone has provided a great deal of France's current prosperity, as cargos can be sent to and from orbit at vastly cheaper prices than conventional rockets, spaceplanes, or even catapults.

Culturally, France has tried to preserve its reputation for style and elegance, even as the 3-V plays French translations of Mexican soap operas. French wines and French fashions are still the standard by which others are judged, though France is starting to lose out to Freihafen in the wine department.

## EMPEROR Nicholas Ruffin:

Proclaimed Emperor by the National Assembly in 2298 in its last act before dissolving itself, Ruffin currently rules the most powerful nation on Earth and in space. Ruffin himself is a man of modest, though elegant, taste. As a former industrialist and shrewd business man, he is a very careful head of state.

Though he has now ruled the Empire for 22 years, Ruffin does not appear to have aged a day. Rumors constantly make the rounds of French underground link houses that he is using illegal DNA modifications to stay young, but there has never been any proof. He himself credits his health to exercise, good food, and a glass of fine Bordeaux every day. As an individual, Ruffin is quite personable, though there is a very sharp mind at work behind that veneer of affability. He can be quite ruthless when need be, as witnessed by his handling of the Kimanjano secession attempt.

In 2299, France became an Empire, with Nicholas Ruffin, a noted industrialist, crowned Emperor. The Empire replaced a failing military junta, which had itself replaced a faltering civilian government. The Empire has held sway for 21 years now, and the search for a successor to the 78 year old Ruffin is on. There is growing dissatisfaction with the Empire, however, which has been partly countered by granting more power to the Chamber of Deputies, a democratically-elected legislature tasked with advising the Emperor.

Quality of life is very high for the average citizen of France, in particular European France, though it has been slipping somewhat since the end of the Kafer War, primarily due to the demands of rebuilding the colonial infrastructure.

## THE FRENCH NAVY:

France still possesses the largest and most advanced space force, and demonstrates why France is still the pre-eminent world power.

### French Space Force, 2320

- 2 Dreadnoughts
- 4 Battleships
- 2 Carriers
- 3 Planetary control cruisers
- 2 Aerospace carriers
- 5 Assault carriers
- 12 Battle cruisers
- 14 Missile cruisers
- 18 Destroyer/Destroyer Escorts
- 20 Light frigates
- 32 Line frigates
- Plus fighters and auxiliary vessels



## TIER 2

At Tier 2 we find the largest colonial powers, those with the most colonies and the biggest fleets to defend them. Tier 2 nations have strong economies as well, fed by off-world resources and orbital factories.

Most Tier 2 nations are a little resentful of France, and its position as the preeminent nation in Human-controlled space. They tend to chafe at their "second-place" status, and constantly struggle to increase their status and prestige.

**Life Expectancy:** 100 years

**Literacy:** 100%

**College Education:** 88%

**Trade Data:** Ri, In

**Resources:** Farming, Mining, Heavy Industry, Orbital Industry

**Military Presence:** Orbital Defense Installation (10), Military Base, Naval Base

**Interface Capability:** Spaceplane, catapult (B)

**Services:** Solar Power Satellite, Fusion Plant, University, Powernet, Road Net (100%), Rail Net (100%), Link Network (100%), Surveillance Satellites, Weather Satellites, Communications Satellites, Orbital Terminal, Civilian Shipyard, Military Shipyard

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## AMERICA

**Population:** 235 million

**Languages:** English

**Major City(s):** "Megalopolis" Metroplex (70 million), San Francisco (2.2 million)

**Currency:** American Dollar

**Government Type:** Democratic Republic (4)

**Tech Level:** (12)

**Principal Trading Partners:** Australia, Canada, Britain, off-world colonies

**Interface Capability:** Spaceplane, shuttle, catapult (B)

**Colonies:** King, Ellis, Avalon, Hermes, Tirane

The United States of America (popularly known as America or the USA) in 2320AD is slowly coming out of a long isolationist period. The losses of the Twilight War, and the civil war that followed, served to make America a more introspective nation than when it was a super-power. The three-way civil war between the Military Government (MilGov), the remnants of the civilian government (CivGov) and a white supremacist militia calling itself New America created chaos and unrest for a long period of time. By the time the civil war ended, America was nearly a generation behind the rest of the world in its rebuilding efforts, and had lost Texas, and parts of New Mexico, Arizona and California to an opportunistic Mexico.

The loss of Texas, along with most of Arizona, New

Mexico and Southern California still seethes in the hearts of many Americans, but few are willing to risk war over events 300 years in the past. Texas is a strong friend and ally, and the United States still flies a flag with 50 stars. Granting statehood to Puerto Rico, Ellis, and a reorganized Arizona (incorporating the American remnants of New Mexico and Arizona) made up the loss. Hermes is likely to become the 51<sup>st</sup> state sometime in the next ten years, possibly necessitating a change in the design of the American flag for the first time in over 300 years.

With the end of the Kafer War, America is embarking on an aggressive expansionist phase, with the new colony on Avalon and the new outposts at Highland and Alighieri. These efforts are generally well-supported, though there has been some grumbling at the increased taxes to pay for this new expansion.

The unofficial metroplex known as "Megalopolis" consists of an almost solid urban and suburban belt connecting Boston with Norfolk, and extending through Pittsburgh and Detroit to Chicago and Milwaukee, with a slim branch from Chicago to Bettendorf and south along the Mississippi to St Louis. Although population density varies, there is nothing within the Megalopolis that can be considered rural by any reasonable definition.

## NEW ORLEANS:

A side effect of the Twilight War was the temporary de-population of the cities on the Mississippi below Baton Rouge. The chaos and dislocation of the war caused the breakdown of the Mississippi's flood control system, and the river did what it has been trying to do since the 1920s: change course. The mouth of the Mississippi is now through what used to be known as the Atchafalaya, and the old river below Baton Rouge became sluggish, the surrounding land turned into salt marsh, and its cities (primarily New Orleans) became ghost towns due to a lack of fresh water. With the development of advanced desalination techniques, New Orleans has been reclaimed from the marsh and remains a popular tourist attraction, despite the rise in water levels that require a far more extensive system of dikes and levees than the city had previously.

## BRITAIN

**Population:** 112 million

**Languages:** English

**Major City(s):** Thames/Birmingham Metroplex (28 million), Leeds (8 million), Edinburgh (4 million)

**Currency:** Pound

**Government Type:** Constitutional Monarchy, with elected lower house (4)

**Tech Level:** (12)

**Principal Trading Partners:** France, extra-solar colonies, Canada, America

**Interface Capability:** Shuttle, Spaceplane, Catapult (B)

**Colonies:** Beowulf, Beta Canum, Crater, Joi, Tirane

Britain (officially the United Kingdom of Great Britain, but commonly referred to as Britain or the UK) was hit hard by the Twilight War. Two things enabled Britain to recover: the indomitable spirit of the British people, and the personal example of Prince William, who survived the war and served as a rallying point for the nation during its darkest hour. After the Twilight War, Britain emerged as a major European power. Income from trade with its interstellar possessions, along with a continued emphasis on scientific research, has ensured that the British economy remains strong, and British technological expertise, particularly in aerospace, is still much in demand.

The current Monarch, King James III, has reigned for 11 years, since his mother, Queen Margaret, stepped down. He has spent much of his energy on trying to reinvigorate the nobility. When he came to the throne, he saw an upper class more concerned with privilege than with responsibility, and more focused on perquisites than duty. He has made some steps to improve the situation, but most of Britain's advancement is still at the hands of commoners, her engineers and industrialists. The new outpost at Gamma Virginis is the first step in expanding after the Kafer War.

The Kafer War saw the British people rise to the challenge, with Earth's defenses being led first by Admiral Sir Richard Graham, and then Admiral of the Fleet Dame Samantha Warkington, who would go on to lead the attacks that eventually led to the capture of the Kafer homeworld. Sadly, Dame Samantha perished in the final battle to destroy the last of the Kafer orbital forts.

In the years following the war, Britain has largely con-

cerned itself with rebuilding its former colonies. It is facing a growing problem on the French Arm from the large numbers of military men who have mustered out and "gone private," however. Many of them have gone so far as to organize privateer groups and raid shipping.

### WHAT ARE THEY UP TO?:

British Exospace is the foremost designer of missile systems and small spacecraft in Britain, and one of the finest in Human space. At their facility on the Isle of Man, they are said to be testing, or at least designing, something new. There have even been rumors of aliens, perhaps Ylii from the description, being seen at the site, though this would be a serious breach of OQC protocol. What could they be up to?

### GERMANY

**Population:** 106 million

**Languages:** German

**Major City(s):** Ruhr Metroplex (23 million), Berlin (7 million), Munchen (6 million)

**Currency:** Taler

**Government Type:** Representative Democracy (4)

**Tech Level:** 12

**Principal Trading Partners:** Britain, offworld colonies, America, Japan, Manchuria, European Community

**Colonies:** Joi, Dunkelheim, Beta Canum

Germany was divided for nearly three hundred years, and only became a nation again in 2293. Hanover, seeing an opportunity as France weakened and went through a stage of internal turmoil, opened talks with the other German nations, and succeeded in uniting them. Only Bavaria held out, with its strong off-world possessions and ties to France. With the other German nations behind it, Hanover exerted stronger pressure on the Bavarian government, resulting in a referendum on unification, which barely passed. France tried to intervene, and the War of German Reunification was the result. The united Germany won the war, but had to wrestle with many serious internal problems, along with the hesitancy of Bavaria's colonies to join the German fold.

Since that time, the new nation has undergone a great deal of soul-searching as to what kind of nation they should be. During the Kafer War, a militaristic faction became dominant, and as a result, Konteradmiral Lutke and his squadron used nuclear bombing to neutralize several Kafer worlds. Though public protest led to his arrest, the militaristic faction held sway for a few more years yet, before the general elections of 2314 turned them out. Since that time, Germany has been attempting to come to terms with its role in the genocidal attacks on several Kafer worlds, and many people are questioning Germany's whole role in space and defense. The

### THE BRITISH COMMONWEALTH:

Along with the French Empire, the British Commonwealth is the only true international organization on Earth. The Commonwealth is largely an economic alliance, though there are political and sporting ties as well. The Commonwealth was revived in 2167 to commemorate the Tirane colonies, and as an invitation to other nations to join the effort.

Britain	Ireland	Canada
Australia	New Zealand	Vanuatu
Nauru	Kenya	Tanzania
Uganda	Mysore	Sri Lanka
Barbados	Jamaica	Bermuda
Papua	Tonga	Wellon

government, however, is seriously considering a new colonization program, in part to unite the nation behind a true German colony, incorporating settlers from all Germany's provinces.

### NEW GROUND:

The ARI is quietly surveying several worlds in the French and American Arms looking for a suitable spot for a new colony. The main criteria is that is the world has to capable of supporting life, and cannot have an indigenous intelligent race, or even any species that seem close. The new laws coming down from the newly-elected Bundestag (parliament) are very strict in this regard.

## JAPAN

**Population:** 191 million

**Languages:** Japanese

**Major City(s):** Tokyo Metroplex (41 million), Yokohama (21 million), Osaka (9 million)

**Currency:** Yen

**Government Type:** Constitutional Monarchy (4)

**Tech Level:** (12)

**Principal Trading Partners:** America, France, Brazil

**Colonies:** Beta Hydri, Joi, Tirane

Japan was one of the few countries to survive the Twilight War with much of its infrastructure intact, though politically it was highly fragmented. Even more importantly, however, some of its merchant fleet survived. This allowed Japan to dominate trade during the rebuilding stage after the war, and to emerge as one the most powerful economies on the globe. It absorbed many of the surrounding island nations through the course of the 21<sup>st</sup> century, but recently some of them, including the Philippines, have been granted limited autonomy. Japan still controls Philippine foreign policy and security, but beyond that the islands have free reign.

Though Japan is a multi-party republic, it is also a constitutional monarchy, and the current Emperor holds more than just symbolic power.

Despite its economic strength, Japan is not a colonial powerhouse. This is largely due to cultural and spiritual beliefs – post-Twilight Japan turned inwards and became more conservative. Shinto in particular emphasizes the link between people and the spirit world, and so off-world living wasn't seen by the traditionalists as being proper. In the years since, colonists have established their own spiritual connections on their adopted worlds, and the resistance to colonization is beginning to fade.

Japan played a large role in the Kafer War, providing extensive naval and ground support, including the elite Imperial marines and their sophisticated weapons and equipment. Many of their technological innovations found their way into

the hands of Japan's allies during the war.

Japan is currently investigating several worlds far up the Chinese Arm, but is waiting until the Life Foundation completes its tug stations before venturing to establish an outpost on the Arm controlled by its main rival, Manchuria.

### DEEP BLUE SEA:

Along with Argentina, Japan is one of the nations most heavily involved in ocean utilization and resource exploitation. From the free-floating fish farms to the sprawling undersea settlement of Kaitel, Japan depends heavily on its oceanic resources. The North American Research League has always voiced its concern over the Japanese efforts, and heavily monitors the surface facilities, like the farms and power plants. There have recently been rumors of trouble at some of the deep-sea sites, however, and NARL is putting pressure on the Japanese government to allow closer monitoring.

## MANCHURIA

**Population:** 890 million

**Languages:** Mandarin Chinese

**Major City(s):** Beijing (47 million), Shenyang (25 million), Taiyuan (17 million)

**Currency:** Manchurian Ruble

**Government Type:** Imperial Dynasty (10)

**Tech Level:** (11)

**Principal Trading Partners:** Russia, Far East Republic, Korea, Canada

**Colonies:** Cold Mountain, Syuhlahm, Chengdu, Kwantung, Dukou, Tirane, Haifeng

Of all the Tier 2 nations, Manchuria is the closest to achieving Tier 1 status. Some analysts maintain that Manchuria, not France, is the true Tier 1 power. This ignores the military differences, in particular the somewhat outmoded Imperial Navy. Manchuria's vessels are largely long-range patrol vessels and raiders, not battle-line combatants, and would fare badly in a one-on-one space conflict with France. Manchuria's large numbers of vessels would certainly help in any such conflict, however.

Though Manchuria is currently ruled by the Hsien Dynasty, it also has an elected lower assembly whose duty it is to advise the current Empress, Hsien Li. The Twilight War left an additional legacy in the form of the regional governors, often called warlords in the foreign press. They are tied to the central government by a complex web of loyalty, obligations, bribes and threats. These governors control most of the troops, but the Imperial House controls the best troops, and the Navy, along with its ground control vessels.

The reverses suffered in the Second Central Asian War have many Manchurian officials looking to the other Chinese



territories as the most viable target for expansion, and recent talk of "Chinese territorial integrity" has China and Canton casting worried looks at their neighbor to the north.

Manchuria sat out most of the Kafer War, but did contribute ships to the Terran Reserve Fleet for the Battle of Nibelungen.

### Clay Soldiers:

During the Twilight War, many of the emergent warlords took advantage of the lack of central authority to loot cultural artifacts from historic sites. Since the establishment of the Hsien Dynasty in 2209, the government has been quietly tracking down these looted antiquities. It has recently learned that a cache of life-sized terra cotta soldiers from the grave of Qin Shi Huangdi (the first emperor of China), is located in a private museum in Mexico. Private overtures to purchase the collection back have been rebuffed, and now the Dynasty is prepared to take a more direct (albeit diplomatic) hand.

## TIER 3

Tier 3 nations are the remainder of the colonial powers. They lack the ability to project much in the way of force over interstellar distances, and the bulk of their fleets are smaller craft. Their colonial holdings are often more a source of national pride rather than economic benefits. In terms of quality of life, however, they are the equal/near equal of Tier 1 and 2 nations.

All Tier 3 nations have the following characteristics, resources and services:

**Life Expectancy:** 100 years

**Literacy:** 100%

**College Education:** 85%

**Trade Data:** Ri, In

**Resources:** Farming, Mining, Heavy Industry

**Military Presence:** Military Base, Naval Base

**Services:** Solar Power Satellite, University, Pownet, Road Net (100%), Rail Net (100%), Link Network (100%), Surveillance Satellites, Weather Satellites, Communications Satellites, Orbital Terminal, Civilian Shipyard, Military Shipyard

### Arabia

**Population:** 18 million

**Languages:** Arabic

**Major City(s):** Riyadh (2.8 million), Jeddah (2.3 million), Mecca (1.2 million)

**Currency:** Riyal

**Government Type:** Constitutional Monarchy (4)

**Tech Level:** (10)

**Trade Data:** Ri (Arabia has no heavy industrial capacity)

**Principal Trading Partners:** France, UAR, Japan

**Interface Capability:** Spaceplane (C)

**Notes:** Arabia lacks any shipbuilding capability, and has no military starships

**Colonies:** Beta Hydri (Dukou)

Arabia was a prime target during the Twilight War, and even after the war was over, French and British troops were able to occupy the nation's oilfields during the chaos following the collapse of the Saudi government. The monarchy that arose in the place of the Saudis was more populist, and accepted a French-drafted constitution putting some limits on the absolute powers the Saudis had enjoyed.

As France, Britain and Japan provided security for the nation, the new government was able to take its resources and use them to diversify the economy, building new industries against the time when the oil would run out.

Arabia was able to accomplish this, and by the middle of the 23<sup>rd</sup> century the country was able to place its first extra-solar colony, with support from Japan. Arabia has no intrinsic starlift capability of its own, but it does have program working in that direction.

During the Kafer War, the small nation made troops available and provided logistics support. Since Arabia lacks any appreciable space forces, it was not able to provide any ships.

### Exchange Rates:

As noted elsewhere, all prices are based on the French Livre, and it is the standard for all currency exchange. In general, the currency of Tier Two nations is worth about 75% of the Livre, while the currency of Tier Three nations is worth about 66%. Tier Four nations typically fare much worse, and have currency values of only about 50% of the Livre.

Specific Examples: American Dollar: 78% German Taler: 74% British Pound: 74% Nibelungen Mark: 71% Japanese Yen: 70% Manchurian Ruble: 69% Australian Dollar: 65% Canadian Dollar: 64%

### ARGENTINA

**Population:** 74 million

**Languages:** Spanish

**Major City(s):** Buenos Aires (33 million), Córdoba (5.9 million), Rosario (5.5 million)

**Currency:** Peso

**Government Type:** Democratic Feudalism (4) (Only land-owners entitled to vote)

**Tech Level:** (12)

**Principal Trading Partners:** Mexico, Inca Republic, Venezuela

**Interface Capability:** Spaceplane, shuttle, catapult (B)

**Notes:** Argentina maintains four orbital defense sta-

tions, and has already lost a fifth in the current war. All the stations have an orbital bombardment capability.

**Colonies:** Montana, Tirane

Like most South American nations, Argentina came through the Twilight relatively intact, though the collapse of the worldwide economy did strike it hard. Argentina spent the next century building itself into an industrial powerhouse, with the goal of dominating the South American continent. However, Argentina lacked Brazil's immense reserves of manpower, and conflict between the two nations almost always resulted in a draw. Argentina focused a great deal of energy on resource exploitation in the South Atlantic as well, which often brought it into conflict with a resurgent Britain.

When the ESA announced plans to monopolize the newly discovered worlds of Alpha Centauri, it was Argentina that disputed the claims of sole ownership, and (in cooperation with its allies) built the first interstellar warships to blockade the new world until all nations were allowed to settle the planet.

Since then, though, Argentina has lagged behind other nations in the exploitation of space. It instead chose to concentrate on sea-floor exploitation. It was only really been in the past century that Argentina has settled new worlds, all in the Chinese Arm. In the face of popular protest at home, Argentina contributed a squadron of warships to the Kafer War. They were primarily used in security roles at world close to the Core.

In late 2319, Argentina electrified the world when they revealed that they had independently developed the second-generation drive tuner that is the heart of stutterwarp tug technology. The Trilon Corporation and the Pioneer Society, developers of the original technology, filed suit in both Argentine and American courts, claiming industrial espionage and patent infringement. The cases have yet to be heard. Shortly after the announcement, Brazilian forces crossed into Uruguay, and the 4<sup>th</sup> Rio Plata War began.

### GAUCHO REVOLUTION:

For many years the agricultural workers of the Pampas and the Patagonian highlands have been protesting the land-holder-only democracy of Argentina. Though the land-holders are supposed to take the concerns of their tenants to heart when voting, for the most part this doesn't happen, and as a result the 2 million workers and farmers of these regions are effectively disenfranchised. The recent revolution in Mexico, coupled with the onset of the 4<sup>th</sup> Rio Plata War, have given these disaffected workers the break they needed, and they are demonstrating for the universal right to vote. Violence has broken out in some areas, but the government is unwilling to move troops in, leaving the matter in hands of local police.

## AUSTRALIA

**Population:** 29 million

**Languages:** English, Aboriginal languages

**Major City(s):** Sydney (3.9 million), Melbourne (3.1 million), Newcentre (2.9 million)

**Currency:** Australian Dollar

**Government Type:** Elected upper and lower chambers in Parliament (4)

**Tech Level:** (12)

**Principal Trading Partners:** America, Japan, France

**Interface Capability:** Spaceplane, shuttle, catapult (B)

**Colonies:** New Canberra, King, Kingsland, Botany Bay

Like most other nations, Australia was badly damaged by the Twilight War, and effectively ceased to exist as a unified nation for nearly forty years. Papua, along with much of the Northern Territory, went its own separate way during those long years of the collapse. After the re-establishment of central government, the nation saw over 100 years of unparalleled growth. Australian became a space-faring nation in the 2080s with the launch of a constellation of solar power satellites. From 2088, with the signing of the Melbourne Accords, Australia was often called upon to be a mediator and arbitrator in international disputes, a role that continues to this day.

Australia boasts four interstellar colonies, which is more than the average for a nation of her size. Australia has a history of exploring and conquering new territory, and continues that tradition to this day.

During the Kafer War, Australia supplied ships and troops, and her ship's captains became well-known for their aggressive tactics. Since the end of the war, the country has concentrated on improving their three colonies, and is preparing to launch a fourth at Highland (DM+38 3095), once a method of controlling the Ravvers (ravenous, armored predators that hunt in packs) can be found.

## AZANIA

**Population:** 126 million

**Languages:** English, Afrikaans, Swazi, Zulu

**Major Cities:** Johannesburg (21.4 million), Cape Town (11.1 million), Durban (8.9 million)

**Currency:** Rand

**Government Type:** Representative Democracy (4)

**Tech Level:** (11)

**Principal Trading Partners:** France, Britain, Nigeria

**Interface Capability:** Spaceplane, shuttle, catapult (B)

**Notes:** Azania makes do without the surveillance satellites used by other nations.

**Colonies:** Tirane, Kimanjano, Joi

In the aftermath of the Twilight War, the social structure of South Africa collapsed. By the time the nation had rebuilt itself, whites were definitely second-class citizens. Over the decades and centuries since, however, the nation has worked at true integration, and skin color is largely irrelevant. Azania has the best-developed economy in Africa, and now has a long tradition of personal freedom and tolerance. Azania has become a bit of a haven for people seeking relief from the constant surveillance of most nations, and Azania is a popular tourist destination. The rebuilt game habitats are the most popular attractions, along with the casinos and cabarets of Johannesburg and Durban.

Azania traded on her reserves of tantalum to become a member of the ESA, and has remained a major partner ever since. ESA exploration teams are often at least half Azanian, many occupying planning and leadership roles.

## Brazil

**Population:** 393 million

**Languages:** Portuguese

**Major Cities:** Sao Paulo (33.8 million), Rio do Janeiro (22.3 million), Belo Horizonte (7.3 million)

**Currency:** Brazilian Real

**Government Type:** Multi-party Republic (4)

**Tech Level:** (11)

**Principle Trading Partners:** Japan, French Africa, Britain

**Interface Capability:** Spaceplane, shuttle, catapult (B)

**Notes:** Brazil's three Orbital Defense Installations are though to be capable of orbital bombardment, though no one is completely sure.

**Colonies:** Tirane, Paulo

Like much of South America, Brazil weathered the storm of Twilight better than Europe and North America. Even so, the largest nation on the continent had its problems. Brazil's has always been somewhat isolated due to its Portuguese language and culture, and the events of Twilight did nothing to improve that situation. As a result, Brazil and the rest of the continent spent more time than many other nations in the rebuilding process. The series of Rio Plata Wars through the 23<sup>rd</sup> century did little to endear Brazil in the eyes of its Spanish neighbors, even when they weren't the aggressor.

Though Brazil has a couple of extra-solar holdings, colonial expansion has never been a priority for the nation. They prefer putting their energy in the colonies they already hold, in particular Paulo, than on creating new ones. Brazil itself has many resources still waiting to be developed, and the Brazilian government has placed a priority on doing so, while ensuring that a minimum of environmental damage is done. The resurgent Xavante natives, along with other native groups, keep careful watch on government and corporate

operations, and there is always some friction.

During the Kafer War, the Brazilian government sent a company of military police, more as a show of support than a real attempt at aiding the war effort. Tensions with Argentina were just too high to justify sending a larger force. That military police unit performed very well, however, drawing praise everywhere they were stationed.

In 2320, Brazil is a very modern nation, with a population and resources akin to the best of the Tier 3 powers, and even approaching Tier 2. However, the economy has been on a slow decline for decades. Rumors of a new tantalum find in Uruguay, along with the announcement by Argentina that they had developed the second generation drive tuner that makes a stutterwarp tug possible, finally sparked the long-feared war, and Brazil moved to take Uruguay's tantalum, and deny that resource to Argentina.

## Canada

**Population:** 34 million

**Languages:** English, French, various Native languages

**Major Cities:** Vancouver (3.1 million), Montreal (2.7 million), Toronto (2.2 million)

**Currency:** Canadian Dollar

**Government Type:** Representative Democracy (4)

**Tech Level:** (12)

**Principal Trading Partners:** America, Britain, Manchuria

**Interface Capability:** Spaceplane, shuttle, catapult (B)

**Colonies:** Kanata, Eriksson

Canada survived the Twilight War better than most, and was able to put its abundant natural resources to good use. Canada had always enjoyed close military ties with Britain, and in the devastation following the Twilight War was able to provide food and resources to assist in Britain's recovery.

After decades of careful study, Canada founded its first colony, at Kanata. Kanata, with the second colony (at Eriksson) are successful beyond all expectations. Canada provided support and escort ships during the Kafer War, and a sizable ground contingent.

### CANADIAN Education:

Canada's universities are world-renowned for the quality of their research and the quality of their students. They are also famous for the level of student activism. Lately there has been an increase in pro-alien rights rallies, and some of the universities have experienced some violence. The Royal Canadian Mounted Police is concerned that some of the student organizations may be influenced or even controlled by the Coyfederacy.



## CANTON

**Population:** 522 million**Languages:** Cantonese**Major Cities:** Hong Kong (22.1 million), Shanghai (19.2 million), Canton (16.1 million)**Currency:** Yuan**Government Type:** Feudalism (7)**Tech Level:** (10)**Trade Data:** - (Canton is poor, and has no heavy industrial capability)**Principal Trading Partners:** Manchuria, Korea, Indochina**Interface Capability:** Spaceplane, shuttle (C)**Notes:** Though Tier 3, Canton has much lower rates of literacy and college education than is typical: Literacy: 85%, College Education: 33%. Its standard of living is closer to the bottom of Tier 4 than Tier 3.**Colonies:** Syuhlham

Like all Chinese nations, Canton suffered heavily in the Twilight War, and took an extremely long time to recover. Even today its government is partially based on the old warlord structure, and is very feudal in scope. Regional governors have almost complete autonomy, and are answerable to Canton only if they fall behind in their quotas, whether agricultural or manufactured goods.

Despite its strong manufacturing economy, Canton is barely a Tier 3 nation. The lack of human rights and poor living and working conditions holds this Manchurian rival back. Its law level is higher than the average, at 10 (A). The nation's sole colony is more of an exercise in politics rather than a true source of economic benefit or national pride.

Canton maintains China as a buffer state between it and heavily-industrialized, and militarized, Manchuria. Recent talk of reunification have the political class very worried, for there is little they could do to stop a determined Manchuria.

## INCA REPUBLIC

**Population:** 144 million**Languages:** Spanish**Major Cities:** Bogotá (14.1 million), Lima (7.4 million), Quito (4.1 million)**Currency:** Peso**Government Type:** Single Party Republic (8)**Tech Level:** (9)**Trade Data:** Ag (The Republic is not rich, nor does it have any heavy industry)**Principal Trading Partners:** Argentina, Venezuela, Mexico**Notes:** The Inca Republic is the most backward of the Tier 3 nations, and only possesses colonies due to the generosity of Texas and the support of Argentina. Literacy is only 81%,

while the rate of college education is a bare 44%. Average life expectancy is only 67 years.

**Interface Capability:** Spaceplane, beanstalk (under construction) (C)**Colonies:** Heidelbergmat, Austin's World

The Inca Republic was created by Argentina as a buffer to Brazil, and consists of the former nations of Chile, Peru and Columbia. Internal turmoil wracks this nation, and the areas outside the large cities see little in the way of formal control unless absolutely necessary. Law Level is much lower in the countryside, at only 4.

The nation has rich reserves of minerals and agriculture, most of which remain to be exploited.

Hoping to attract foreign investment, the government of the Inca Republic started the construction of a Beanstalk, using the altitude and equatorial position of the nation as major advantage. The beanstalk project has attracted investment from all over the Americas, and the elevator is now in its initial test phase. It is expected to open for business in 3-4 years.

When Brazil crossed the border into Uruguay, the Incan Republic was expected to declare support for its old ally, Argentina. They have failed to do so, simply because they have too much to lose, and are trying to stay neutral.

## BEANSTALK SECURITY:

Since Brazil and Argentina went to war, there has been a marked increase in sabotage and sabotage attempts aimed at the new beanstalk being built outside of Quito. The Incan Republic takes these threats very seriously, and has contracted with REBCo SAR to provide additional security for both the ground station and the orbital facility.

## INDONESIA

**Population:** 322 million**Languages:** Bahasa Indonesian, Malay**Major Cities:** Jakarta (23.1 million), Surabaya (6.1 million)**Currency:** Indonesian Rupiah**Government Type:** Multi-party Republic (4)**Tech Level:** (12)**Principal Trading Partners:** Australia, France, America**Interface Capability:** Spaceplane, catapult, beanstalk (A)**Colonies:** Titan

Indonesia, like all manufacturing nations, was hit hard by the Twilight War and the resultant collapse of the world's economy. The recovery process was stalled for a long time, and when it finally came it was slow. Indonesia tried to speed up the process by attempting to seize Indochina in the mid-

21<sup>st</sup> century, but found itself stymied by France, though Indonesia was able to take and hold Malaysia. This earned the nation British enmity above even the French, as Malaysia was a Commonwealth nation.

Further imperialist actions served Indonesia well, and garnered it the Andaman islands, along with their tantalum ores. This gave Indonesia access to the stars. Even so, Indonesia never established a national extra-solar colony. They built ships, though largely trade vessels, and made a reputation for fast, effective shipping and passenger service.

In 2307, at the height of the Kafer War, Indonesia established a long-term settlement on Titan, and began to harvest that moon's vast oceans of hydrocarbons. Though their actions initially drew protest, as Titan supports a simple biosphere, the Xenon Corporations vow to avoid the designated biosphere zone managed to calm most of the protesters.

A military coup in 2312 ended decades of rule by the corrupt People's Associative, and the military vows to hold free elections by late 2320. It's even possible that they will keep this promise. One of the goals of the military ruling council is to finally get Indonesia an extra-solar colony, and several leased survey vessels are currently scouting out systems on the American and French Arms.

## Mexico

**Population:** 147 million

**Languages:** Spanish

**Major Cities:** Mexico City (31 million), Los Angeles (21 million), San Salvador (5 million)

**Currency:** Mexican Peso

**Government Type:** Representative Democracy (4)

**Tech Level:** (11)

**Principal Trading Partners:** Argentina, Incan Republic, France

**Interface Capability:** Spaceplane, shuttle, catapult (B)

**Notes:** Mexico possesses an orbital defense facility, which is rumored to have orbital bombardment capability.

**Colonies:** Montana, Kwantung

After the Twilight War, Mexico used the temporary collapse of the American government to seize Texas and large part of New Mexico, Arizona and southern California, along with much of Central America. Despite losing Texas at the end of the 21<sup>st</sup> century, Mexico managed to retain the other former American territories.

Mexico boasts a couple of extra-solar colonies, but colonization was never a priority for the succession of military-industrial juntas that ruled the nation until the early 2300's. In 2302, food rioting in Los Angeles and Mexico City turned violent, and eventually boiled over into all-out civil war. The conflict was between the isolated military leaders and industrialists and the extensive lower-class. Against expectations,

many military units sided with the lower-class rebels, and by 2312 the military government had been ousted, and a revolutionary council established in its place. Most expected the council to form a new dictatorship, but in 2315 the first multi-party free elections were held.

The war went largely unnoticed in the colonies, though most colonists privately sided with the civilian rebels. Relations with aristocratic Argentina have soured somewhat since the new government took control, but are still cordial.

Mexico provided little in the way of support for the embattled nations of the French Arm during the Kafer War due to its own civil war. However, many Mexicans volunteered on their own, including the famous Régiment de Mexique of the Foreign Legion, which fought nearly to the last man on Kimanjano.

## Nigeria

**Population:** 101 million

**Languages:** English

**Major Cities:** Lagos (10 million), Abuja (7.3 million), Ibadan (3.6 million)

**Currency:** Naira

**Government Type:** Representative Democracy (4)

**Tech Level:** (11)

**Principal Trading Partners:** America, France, Azania

**Interface Capability:** Spaceplane, shuttle, catapult (B)

**Colonies:** Avalon

Africa survived the nuclear portion of the Twilight War, but was devastated by the loss of international trade and commerce. When the African nations emerged from the chaos, they had become largely self-sufficient, and have managed to put colonialism behind them and build something new. Nigeria was at the forefront of that drive. Nigeria now boasts the second most-developed economy in Africa, after Azania.

Though Nigeria has long been a space-faring nation, they had never established a full colony of their own. That had contributed to several, and Nigerian trade ships are quite common, but they had never made that leap to a full colony. When word reached them of the opening of Avalon, they approached America about putting in a colony on the newly-opened world. America agreed, and also offered to provide assistance if need be. Nigerian engineers and technicians arrived on the world in 2316, with the first settlers coming in 6 months later.

During the Kafer War, Nigeria provided starlift capacity, but little in the way of actual military assistance. Nigeria's constitution prohibits the establishment of a standing military force, and the nation relies on the police for all internal matters, and international goodwill for external issues.

## SCANDINAVIAN UNION

**Population:** 45.6 million

**Languages:** Danish, Finnish, Icelandic, Norwegian, Swedish

**Major Cities:** Oslo Metroplex (13.2 million), Stockholm (9.3 million), Helsinki (2.8 million), Copenhagen (5.4 million)

**Currency:** Krona

**Government Type:** Multi-party republic (4)

**Tech Level:** (11)

**Principal Trading Partners:** European community, Australia, Mexico

**Interface Capability:** Spaceplane (C)

**Colonies:** Eriksson

The Scandinavian Union is a confederation of five nations: Sweden, Denmark, Norway, Iceland, and Finland. Commonalities of experience and climate unite these nations as much as a shared language or culture.

The Scandinavian nations were heavily involved in the fighting of the Twilight War, with Norway and Denmark receiving the worst damage. Their recovery phase was quite lengthy.

Though prosperous by terrestrial standards, the Union lagged along as a Tier 4 nation until Canada approached it in 2312. Canada had to step up its colonial program for AC+17 534-105 (Eriksson) and needed partners. The Union leapt at the chance, though they had also been considering Avalon as a first step. However, Avalon being a water-world decided the case for them, as settlement would be too costly. The resultant boom in space industries has pushed the economy out of its moribund state, and the nation is experiencing its first real growth in several decades.

## TEXAS

**Population:** 13.2 million

**Languages:** English, Spanish

**Major Cities:** Houston (2.3 million), Dallas (2 million), Galveston (1.9 million)

**Currency:** Texas Dollar

**Government Type:** Multi-party parliamentary democracy (4)

**Tech Level:** (11)

**Principal Trading Partners:** America, Brazil, Ukraine

**Interface Capability:** Spaceplane, shuttle, catapult (B)

**Notes:** Texas boasts a constellation of five orbital defense installations, all of which are thought to have orbital bombardment capability

**Colonies:** Austin's World, Kormoran, Beta Hydri, Heidelshemat

Texas was hit hard in the Twilight War. First the missiles

and bombs, and then the Mexican invasion. For nearly a century, Texas was a province of Mexico, until increasingly repressive treatment by the Mexican government of Texas citizens led to a revolt. America gave monetary and military support to the Texas uprising. After over a year of hard fighting, Texas was able to gain its independence. Though offered statehood by America, Texans in the end decided to walk their own path, and chose independence in a referendum in 2102.

Texas today is very similar in some ways to the Texas of the 20<sup>th</sup> century. Oil is still the foundation of the economy, as increasingly specialized methods are employed to completely drain each oil reservoir of every last scrap of petroleum. The law level in Texas is the same as most other nations on Earth, save in the area of firearms, where the level is much lower (4), which only prohibits light assault and military weapons, and even those can be owned with the proper permits.

Texas has two colonies, plus with their enclave on Kormoran (which a Texan will insist is a colony). These were done more out of national pride than any clearly stated economic reason. However, since the end of the Kafer War, they have become increasingly overextended trying to support the colonies and the enclave. Taxes have been raised twice since 2315, and there are rumors that taxes will have to go up again, or else the Kormoran enclave will have to be shut down. Neither option is particularly palatable to the Texan citizenry, however.

## Oil and Plastics:

Though plastics can be synthesized from alcohol, the easiest way to make them is from petrochemicals. Earth imports most of its oil from off-world colonies, usually in unrefined form. Orbital refineries break the raw crude down into whatever is desired. Some companies use mobile refineries, where the crude is refined during the 1-2 months transit time from the outer worlds to Earth.

## UNITED ARAB REPUBLIC (UAR)

**Population:** 98 million

**Languages:** Arabic

**Major Cities:** Cairo (10.2 million), Tripoli (4.3 million), Khartoum (899,000)

**Currency:** UAR Pound

**Government Type:** Representative Democracy (4)

**Tech Level:** (11)

**Principal Trading Partners:** France, America, Argentina

**Interface Capability:** Spaceplane, shuttle, catapult (B)

**Notes:** The UAR lacks any sort of starship construction facilities, military or civilian



Colonies: 82 Eridani (Kormoran)

The UAR is a major power in Africa, with the third largest developed economy on the continent. The UAR has long lacked the resources for a successful space program, but they were successful in a completely different project. Using modern irrigation and weather control techniques, the UAR succeeded in reversing the spread of the Sahara desert, and has gone a long way in the struggle to reclaim the desert for agriculture. Their success has been dubbed "The Miracle of the Sahara" and is one of the primary factors in the current success of the UAR.

The UAR maintains an extra-solar presence on 82 Eridani, and there are plans afoot to found a full colony, along the same lines as what Arabia has accomplished on Beta Hydri. Manchuria offered Haifeng, but a world that is 99.6% covered by water was just too foreign for the UAR, and they rejected Manchuria's offer. They are currently in negotiations to construct a colony on Austin's World, with support from the Life Foundation.

Lacking significant space military forces beyond a couple of old frigates and with no native space transport capacity, the UAR largely stayed out of the Kafer war, contributing only a small amount of material and weapons.

### ABANDONING KORMORAN:

The UAR still hasn't recovered from the debacle on Kormoran 20 years ago, when UAR agents tried to lead a native uprising against the Texan enclave. Since then they've been reducing their commitment to Kormoran in favor of eventually building a colony of their own. They are quietly auctioning off their trading rights on Kormoran, but will not sell to Texas or Texan allies.

### UKRAINE

**Population:** 41 million

**Languages:** Ukrainian

**Major Cities:** Kiev (7.1 million), Odessa (4.9 million), Kharkov (2.6 million)

**Currency:** Hyvna

**Government Type:** Representative Democracy (4)

**Tech Level:** (11)

**Interface Capability:** Spaceplane, shuttle, catapult (B)

**Notes:** Ukraine possesses a pair of orbital defense satellites, but they are not thought to have orbital bombardment capacity

**Colonies:** Aurore

The Twilight War was hard on Ukraine, and the nation suffered heavily, both in the bombings and the famine and plagues that followed. However, freed from domination by Russia, Ukraine was able to restructure itself and start the rebuilding process decades ahead of its neighbors.

Ukraine has always had one of the richest agricultural regions in the world, and this agricultural wealth made the nation a close ally of France through the post-war period.

Today, Ukraine is a modern and progressive nation, with a colony on the fringes of Human space. A colony that was, and is, at the forefront of the fighting against the Kafers. It was a Ukrainian, Sergei Borodin, who provided the tactical genius behind the naval actions that drove into the Kafer sphere, and though he died defending Aurore in the early part of the second phase of the war, he is remembered as a national hero.

### TIER 4

Tier 4 nations have little or no off-world interests, and are often typically somewhat backward compared to the spacefaring nations. The biggest exception to this is Iran, which up until now at least, has chosen to not pursue an off-world presence, but is a major player in the Middle-east and Asia on Earth. Tier 4 nations are the most independent of the Earth nations, and are often have truly unique cultures, separate from the other nations. Many Tier 4 nations seem resigned to their seemingly lowly status. For some of them, though, this contentment is starting to give way to a simmering resentment at being dealt out of humanity's most ambitious development, that of extra-solar colonization.

There are nearly one hundred Tier Four states, but only a few will be dealt with here.

### THE INDIAN STATES

**Population:** 1.1 billion

**Language:** English, Hindi, Malayalam

**Life Expectancy:** 89 years

**Literacy:** 93%

**College Education:** 63%

**Major Cities:** New Delhi (21 million), Mumbai (12.6 million), Islamabad (6.4 million)

**Currency:** Mixed

**Government Type:** varied. Democratic forms predominate (4)

**Tech Level:** (10)

**Trade Data:** Ri

**Interface Capability:** Spaceplane (C)

**Resources:** Farming, Heavy Industry

**Military Presence:** Military Base

**Services:** Fusion Plant, University, Powernet, Road Net (100%), Rail Net (100%), Link Network (98%), Weather Satellites, Communications Satellites, Surveillance Satellites

Though made up of a number of nations (Afghanistan, Bengal, Bhutan, Bihar, Bombay, India, Madras, Mysore, Nepal, Pakistan, Punjab, Rajasthan, and Sri Lanka), the Indian States are often painted with the same brush by the international media. These states have spent the better part of the past

century embroiled in low-scale warfare, with alliances forming, breaking and shifting fluidly. In the past decade, however, Mysore has started to form some solid alliances, ones that seem intent on lasting. Should Mysore and its allies extend this loose alliance, patterned in much the same way as the Confederation of Palestine, then experts feel that peace and stability may very well visit this troubled land. Britain has already extended Commonwealth membership to Mysore and its allies.

## IRAN

**Population:** 73 million

**Life Expectancy:** 94 years

**Literacy:** 93%

**College Education:** 87%

**Major Cities:** Tehran (7.2 million), Mashhad (2.7 million), Tabriz (1.4 million)

**Currency:** Rial

**Government Type:** Democratic Islamic Republic (4)

**Tech Level:** (11)

**Trade Data:** Ri, In

**Principle Trading Partners:** Central Asian Republic, Germany, Manchuria  
Interface Capability: Spaceplane (D)

**Resources:** Farming, Mining, Heavy Industry

**Military Presence:** Military Base

**Services:** Fusion Plant, University, Powernet, Road Net (100%), Rail Net (72%), Link Network (89%), Weather Satellites, Communications Satellites, Surveillance Satellites

Iran is the wild-card on the world stage. It is a well-developed and prosperous nation, yet has no extra-terrestrial holdings, or any real space presence at all. In the Kafer War, they sent ground troops and support, more than any other Tier 4 nation, and almost as many troops as Germany, a Tier 2 nation. Iran's primary goal is to ensure that no "foreign" state gain control over any of Iran's neighbors or in particular over Iran itself. They have been accused of exporting revolution to neighboring states, but their goals are simpler: they simply desire to be left alone. Iran is a thoroughly modern state, and while largely secular the ayatollah's still have an important, if largely symbolic, role to play in this parliamentary state.

### God of War:

Iran is quietly preparing a space program, concentrating on worlds of the solar system, and recently launched an expedition to Mars using a low-power staterwarp vessel built in Iran and assembled in orbit. The small amounts of tantalum required came from internal Iranian sources, though they are known to not have much. The expedition is fitted out with a large number of mining and survey equipment, landers, and over fifty crew.

## Russia

**Population:** 212 million

**Languages:** Russian

**Life Expectancy:** 96 years

**Literacy:** 99%

**College Education:** 98%

**Major Cities:** Moscow Metroplex (17.2 million), St. Petersburg (9.5 million), Gorkiy (7.1 million)

**Currency:** Russian Ruble

**Government Type:** Multiparty Republic (4)

**Tech Level:** (11)

**Trade Data:** Ri, Hi

**Interface Capability:** Spaceplane, shuttle, catapult (B)

**Resources:** Farming, Mining, Heavy Industry

**Military Presence:** Orbital Defense Installation, Military Base, Naval Base

**Services:** Solar Power Satellite, Rectenna, University, Powernet, Road Net (100%), Rail Net (100%), Link Network (98%), Airship Net, Weather Satellites, Communications Satellites, Surveillance Satellites, Orbital Terminal, Civilian Shipyard, Military Shipyard

Russia was the likely the most seriously damaged of all nations by Twilight, and had only barely managed to start the rebuilding process by the beginning of the 22<sup>nd</sup> century. Modern Russia is much reduced in size from its heyday before the Twilight War, but it is still larger than almost all nations on Earth, with abundant resources.

Russia lacks the tantalum resources to be a colonizing power, and seems to have its hands full with the ongoing development of their terrestrial holdings. Russia does seem intent on playing a role, though, and as a consequence is the second-largest contributor to the OQC after France. Many Russian vessels are purpose-built for the OQC role, and their ships are rotated in more often than those of other nations, who regard the OQC fleet as yet another tedious responsibility.

Russia's OQC contribution freed up warships from several nations for Kafer War duty, and at one point during the war, every single vessel under OQC control was Russian.

Russia is well-known for the quality of its computer programmers, even if their hardware is imported from the west. Unfortunately, they are best known for hacking, viral and datawar software, though 3 of the 5 most popular 3V games in the past year have also come out of Russia.

## CONFEDERATION OF PALESTINE

**Population:** 21 million

**Languages:** English, Hebrew, Arabic

**Life Expectancy:** 95 years

**Literacy:** 93%

**College Education:** 71%

**Major Cities:** Amman (3.2 million), Beirut (3.1 million), Jerusalem (1.7 million)

**Currency:** Sheqel

**Government Type:** Multi-party republic (4)

**Tech Level:** (11)

**Trade Data:** Ri, Hi

**Interface Capability:** -

**Resources:** Farming, Mining, Heavy Industry

**Military Presence:** Military Base

**Services:** Solar Power Satellite, Rectenna, University, Powernet, Road Net (100%), Link Network (100%), Weather Satellites, Communications Satellites, Surveillance Satellites

In the wake of the Twilight War, Israel and the surrounding nations found that they had to band together in order to survive. Over time, they found much in common, and the Confederation came into being.

The Confederation of Palestine is formed from the nations of Israel, Palestine, Jordan and Lebanon. The government structure is unique, though the Indian States seem to be following a similar model. The four nations share a common physical territory, but every citizen belongs to one of the four nationalities, and lives by that nation's laws. There is no restriction on where they live or what they can do, however.

Palestine has no colonies, but the Knesset is discussing the possibility of putting in a colony at Haifeng, or possibly Avalon. Both worlds are largely covered by water, and would be a culture shock to the natives of this dry nation. They currently have small observer teams on both worlds, and are expected to announce a decision in the next two years.

## FLANDERS

**Population:** 8 million

**Languages:** Dutch, French

**Life Expectancy:** 101 years

**Literacy:** 100%

**College Education:** 92%

**Major City:** Brussels (3.1 million)

**Currency:** Florin

**Government Type:** Representative democracy (4)

**Tech Level:** (11)

**Trade Data:** Ri, Hi

**Interface Capability:** Spaceplane (C)

**Resources:** Farming, Heavy Industry

**Military Presence:** Military Base

**Services:** Rectenna, University, Powernet, Road Net (100%), Rail Net (100%), Link Network (98%), Airship Net, Weather Satellites, Communications Satellites, Surveillance Satellites

Flanders is the newest nation on Earth, only 27 years old. It came into being during the closing days of the War of German Reunification, when a popular uprising led to the

expulsion of the French government officials and the creation of a new Flemish nation. The new nation of Germany instantly recognized Flanders' legitimacy, and forced France's hand into doing the same.

Despite the new nation's small size, it has been active on the world stage since its inception, and provided ground troops for the occupation of Gamma Serpentis III.

## IRELAND

**Population:** 5.1 million

**Languages:** English, Gaelic

**Life Expectancy:** 99 years

**Literacy:** 100%

**College Education:** 67%

**Major Cities:** Dublin (810,000), Belfast (790,000), Londonderry (122,000)

**Currency:** Irish Pound

**Government Type:** Representative Democracy

**Tech Level:** (10)

**Trade Data:** Ri, Ag

**Principal Trading Partners:** Britain

**Interface Capability:** None (E)

**Resources:** Farming

**Military Presence:** Military Base

**Services:** Rectenna, University, Powernet, Road Net (100%), Rail Net (100%), Link Network (98%), Weather Satellites, Communications Satellites, Surveillance Satellites

It took the Twilight War to achieve a union between Northern Ireland and the Republic. The need for survival in the wake of a nuclear war pushed the two sides to unite.

Now, three centuries later, Ireland is a quietly prosperous nation. Irish citizens seeking a change typically emigrate to a British-controlled colony, as ties between the two nations are strong.

During the Kafer War, Ireland provided police units for recaptured colonies, the effectiveness of which gained Ireland great renown in political circles.

## CENTRAL ASIAN REPUBLIC

**Population:** 220 million

**Languages:** Russian, Tajik, Uzbek, Kazak (all official)

**Life Expectancy:** 92 years

**Literacy:** 97%

**College Education:** 66%

**Major Cities:** Tashkent (17.5 million), Almaty (12.3 million), Dushanbe (9.2 million)

**Currency:** Ruble

**Government Type:** Single-party Republic (8)

**Tech Level:** (8)

**Trade Data:** Ri, Hi

**Principal Trading Partners:** Russia, France, Japan

**Interface Capability:** Rockets (D)



**Resources:** Farming, Mining

**Military Presence:** Military Base

**Services:** University, Pownet, Road Net (54%), Rail Net (16%), Link Network (12%), Airship Net, Weather Satellites

The Central Asian Republic is a now loosely-knit confederation of five nations which suddenly found themselves independent from the old USSR after the end of the Twilight War. The five countries, Kazakhstan, Turkmenistan, Tajikistan, Uzbekistan, and Kyrgyzstan, banded together against what they feared would be renewed Soviet imperialism after the USSR recovered from the effects of the Twilight War. The USSR never did, and Russia took a long time to rebuild to the state where they could attempt to get its former vassals to return to the fold. In 2280, that happened, and the largest-scale war on Earth since the Twilight War came to pass. The Central Asian War devastated the CAR's economy, and led to the coup which replaced the old federal government with a new one, centering on a cabal of generals and financiers. They, in turn, were driven out by another coup in 2304, one which nearly saw Russia drive for these territories once more. In 2309, a Manchurian provincial governor, emboldened by France's absence from the world stage during the Kafer War, made a drive for territory. The central Manchurian government was forced to back the errant warlord's play, but did so at the minimum possible level. Russian forces intervened, and proved themselves more capable than the last war. The war ended on a stalemate, with Manchurian forces driven from the country, but the nation itself fragmented into a looser confederation as a result of the conflict.

Now, the CAR and its limited space program are focused on exploration of the solar system in the hopes of finding deposits of tantalum and their ticket to the stars, and obtaining the resources to rebuild the war-ravaged nation.

## IMPERIAL FRANCE

**Population:** 212 million

**Languages:** French, local languages

**Life Expectancy:** 91 years

**Literacy:** 90%

**College Education:** 80%

**Major Cities:** Libreville (22 million), Kinshasa (4.2 million), Algiers (2.7 million)

**Currency:** French Livre

**Government Type:** Imperial Department (6)

**Tech Level:** (11)

**Interface Capability:** Spaceplane, shuttle, catapult, beanstalk (A)

**Resources:** Farming, Mining, Heavy Industry

**Military Presence:** Military Bases

**Services:** Fusion Plant, Solar Power Satellite, Rectenna, University, Pownet, Road Net (100%), Rail Net (100%), Link

Network (98%), Airship Net, Weather Satellites, Communications Satellites, Surveillance Satellites, Orbital Terminal, Civilian Shipyard, Military Shipyard

The Imperial French nations do not fit into any category. By themselves, they are clearly Tier 4 nations. However, due to their association with France, they have the resources of a Tier 1 nation to draw upon as well. Most of the Imperial nations are in sub-Saharan Africa, save for a few in the Polynesian Islands. They are all considered departments of France, and all have representation in the Chamber of Deputies, the lower legislative branch of the French government.

Gabon, in particular attracts a great deal of international attention, due both to the Beanstalk and the celebrated corruption of the city that rests at the Beanstalk's roots, Libreville.

## IMPERIAL FRENCH Holdings ON EARTH:

Algeria, Burkina Faso, Cameroon, Chad, Djibouti, French Polynesia, Gabon, Guinea Coast, Guyana, Kattanga, Senegal, Zaire

## EUROPE

**Population:** 462 million

**Life Expectancy:** 99 years

**Literacy:** 100%

**College Education:** 83%

**Major Cities:** Madrid (5.1 million), Athens (4.2 million), Rome (3.5 million)

**Currency:** various

**Government Type:** Representative Democracy (4)

**Tech Level:** (11)

**Trade Data:** Ri, Hi

**Principal Trading Partners:** France, Germany, Britain

**Interface Capability:** Spaceplane (C)

**Resources:** Farming, Heavy Industry

**Military Presence:** Military Base

**Services:** Rectenna, University, Pownet, Road Net (100%), Rail Net (100%), Link Network (100%), Weather Satellites, Surveillance Satellites, Communications Satellites

Europe is something of an anomaly. Though most of the nations are Tier 4, and dominated by either France or Germany, they have lifestyles more in keeping with that enjoyed by Tier 3 nations. Europe is wealthy, and these nations maintain their wealth largely by not getting involved in colonization endeavors. However, this cuts them off from the resources that off-world colonies can make available, and so they are trapped. Most are not willing to accept the temporary drop in their standard of living that would be required to settle another world, but by not doing so they are unable to advance that standard of living, and are actually facing a slow

decline as resources get harder to find and more expensive to purchase. A few countries have participated in joint-venture colonies, the most notable of which was the Bavarian colony of Garten, now the independent nation of Freihafen.

There has been talk in some circles of putting in a colony on one of the war-ravaged worlds of the French Arm, in part to take advantage of French resettlement allowances. Greece, Italy and Spain are the most heavily involved in these talks, and are in the process of establishing an outpost on Kimanjano, as a precursor to colonization.

### NATIONS of EUROPE:

These nations comprise the rest of Europe, and have not been detailed: Albania, Austrovenia, Bulgaria, Catalonia, Croatia, Czechoslovakia, Greece, Hungary, Italy, Latvia, Netherlands, Poland, Portugal, Romania, Serbia, Spain, Switzerland

### SOUTH AMERICA

**Population:** 276 million

**Life Expectancy:** 98 years

**Literacy:** 97%

**College Education:** 84%

**Major City(s):** Caracas (7.1 million), La Paz (5.1 million), Montevideo (3.2 million)

**Currency:** various

**Government Type:** Representative Democracy (4)

**Tech Level:** (10)

**Trade Data:** Ri, Hi

**Principal Trading Partners:** Brazil, Argentina, Mexico

**Interface Capability:** Spaceplane (C)

**Resources:** Farming, Mining

**Military Presence:** Military Base

**Services:** Rectenna, University, Pownet, Road Net (75%), Rail Net (80%), Link Network (85%), Weather Satellites, Surveillance Satellites, Communications Satellites

Aside from the three larger nations (Brazil, Argentina, and the Inca Republic), South America is composed solely of Tier 4 nations. The damage caused to many of these nations by the succession of Rio Plata wars is part of the reason for their status. Their economies are still primarily agricultural, and have not advanced to the point where they can consider investing in space and colonization. Venezuela, the richest of these nations, lacks the tantalum resources needed for interstellar settlement, and have only been able to purchase limited amounts to construct a small fleet of three vessels. These few vessels are involved in prospecting and mineral surveys in the solar system, looking for larger deposits of tantalum.

The current Rio Plata War is currently being fought in Uruguay but is already affecting all nations of South America, and is threatening to spill over to the rest of the continent.

### NATIONS of SOUTH AMERICA:

Aside from the Big 3, South America consists of Bolivia, Chile, Paraguay, Uruguay, and Venezuela

### Asia

**Population:** 372 million

**Life Expectancy:** 99 years

**Literacy:** 92%

**College Education:** 78%

**Major City(s):** Rangoon (11 million), Hanoi (6.1 million), Tbilisi (3.1 million)

**Currency:** various

**Government Type:** Various

**Tech Level:** (10)

**Trade Data:** Ri, Hi

**Principal Trading Partners:** Brazil, Argentina, Mexico

**Interface Capability:** Spaceplane (C)

**Resources:** Farming, Mining

**Military Presence:** Military Base

**Services:** Rectenna, University, Pownet, Road Net (75%), Rail Net (80%), Link Network (85%), Weather Satellites, Surveillance Satellites, Communications Satellites

Outside of Manchuria and Japan, most of Asia is solidly Tier 4, with lifestyles that reflect this. Even Canton, technically a Tier 3 country by virtue of its sole colony, really has a standard of living more reflective of Tier 4. Most Asian nations lack the resources to colonize other worlds, whether that's economic resources, technological resources or sufficient quantities of tantalum. Though in 2320 no one is actually starving, the nations of Asia typically make do with much less than those on the other continents. Lacking access to orbital industry, the nation of Asia must deal with more pollutants than Europe or North America, though conditions are still a far cry from the smog-laden days of the 20th century. Korea is a virtual satellite of Manchuria, and is a center of advanced manufacturing.

### NATIONS of Asia:

The following countries cover the remainder of the Asian nations: Azerbaijan, Burma, China, Far Eastern Republic, Georgia, Indochina, Korea, Mongolia, and Tibet

### Africa

**Population:** 1.1 billion

**Life Expectancy:** 98 years

**Literacy:** 97%

**College Education:** 64%

**Major Cities:** Addis Ababa (9.2 million), Maputo (5.9 million), Freetown (4.4 million)

**Currency:** various

**Government Type:** various

**Tech Level:** (10)

**Trade Data:** Ri

**Principal Trading Partners:** Brazil, Argentina, Mexico

**Interface Capability:** Spaceplane (C)

**Resources:** Farming, Mining

**Military Presence:** Military Base

**Services:** Rectenna, University, Powernet, Road Net (75%), Rail Net (80%), Link Network (85%), Weather Satellites, Surveillance Satellites, Communications Satellites

Africa revolves around four major centers of influence, and most of the nations are dominated by these centers. Azania and its clients are the largest power bloc on the continent, and control the southern portion. Centrally, Nigeria vies with Imperial France for influence and control, while in northern Africa the UAR and France dominate the local nations. Life in Africa outside of the UAR, Nigeria and Azania is still fairly poor, with the economies concentrating on agriculture and mining. Nigeria and Azania provide the bulk of foreign investment in these nations, but it is not enough to give them a sound foundation for industrialization. Again, no one is really starving in 2320, as most of these nations are self-sufficient, at least in food production. They are not as well fed as most other nations, though.

## NATIONS of Africa:

The other African nations are Angola, Berbera, Bifra, Eritrea, Ethiopia, Kanuri, Kenya, Madagascar, Malawi, Mali, Mauritania, Morocco, Mozambique, Polisaria, Somalia, Tanzania, Tunisia, Ubangi Shari, Zambia, and Zimbabwe

## Middle East

**Population:** 117 million

**Life Expectancy:** 99 years

**Literacy:** 98%

**College Education:** 82%

**Major Cities:** Ankara (4.6 million), Baghdad (4.2 million), Damascus (2.3 million),

**Currency:** various

**Government Type:** Representative Democracy (4)

**Tech Level:** (10)

**Trade Data:** Ri

**Principal Trading Partners:** Brazil, Argentina, Mexico

**Interface Capability:** Spaceplane

**Resources:** Farming, Mining

**Military Presence:** Military Base

**Services:** Rectenna, University, Powernet, Road Net (68%), Rail Net (80%), Link Network (85%), Weather Satellites, Surveillance Satellites, Communications Satellites

lites, Surveillance Satellites, Communications Satellites

The Middle East suffered through a great deal of turmoil as a result of the Twilight war, and didn't start to recover until well after most other nations. By 2320, most of these nations are fairly prosperous through the continued sale of their dwindling reserves of petroleum. Most are in the process of diversifying their economies, with nations like Turkey and Syria now producing high-end consumer electronics, but at the moment most of these nations are still resource-dependent.

## OCEANA

### NATIONS of the Middle-East:

Armenia, Baluchistan, Iraq, Kurdistan, Syria, and Turkey.

**Population:** 115 million

**Life Expectancy:** 99 years

**Literacy:** 98%

**College Education:** 82%

**Major Cities:** Manila (9.7 million), Auckland (1.1 million), Darwin (800,000)

**Currency:** various

**Government Type:** various

**Tech Level:** (9)

**Trade Data:** Ri

**Principal Trading Partners:** France, Australia, America

**Interface Capability:** None (X)

**Resources:** Farming, Mining

**Military Presence:** Military Base

**Services:** Rectenna, University, Powernet, Road Net (75%), Rail Net (30%), Link Network (60%), Weather Satellites, Surveillance Satellites, Communications Satellites

Throughout the oceans of the world are small island nations, the bulk of which are in the South Pacific, though there are some in the Indian Ocean and the Caribbean Sea as well. Of these small nations, New Zealand stands out as the most developed, while the Philippines, a semi-autonomous Japanese client-state, are the most populous. Most of these nations weathered the Twilight War fairly well, as they weren't targets and were largely self-sufficient. Any of them that relied on international trade were effectively destroyed in the aftermath of the war, though. In 2320, most of these nations live life quietly, perhaps as tourist destinations, though most are simply subsistence cultures. These nations are near the bottom of Tier 4, though quality of life is usually rated high.

### NATIONS of OCEANA:

Cuba, Bermuda, Nauru, New Zealand, Papua, Philippines, Polynesia, and Tonga.



## SEA FLOOR DEVELOPMENT

Japan is the nation most heavily involved in undersea development, with several small cities entirely under water, and a couple of them are quite deep. These cities usually consist of a series of linked modules and domes, in many ways similar to the architecture of the lunar settlements. Subs flit around these undersea cities, from small utility boats to the behemoth transport subs. Dolphins are a common sight at many of these cities as well, as there are several places for them to catch a breath. These cities are the center of sea floor mining and surface aquaculture efforts, and are also popular tourist destinations.

Supercavitating drives are not permitted to operate within several kilometers of these cities, due the shock-waves they generate.

### The Pacific 5000 Sub Race:

For the past 57 years, the Pacific 5000 has showcased the latest in civilian submarine design, with a variety of races, both short and long-endurance, for several types of subs. The Supercavitating designs are quite popular with the 3V viewers, as the effects of a rocket firing underwater are quite spectacular, and supercavitating subs can attain speeds close to 800km/h. Other races are more valuable for the designs, and the Marianas Endurance Run is one of the most important for proving deep-diving vessels.

## ANTARCTICA

The original treaty commitments against settlement of Antarctica expired prior to World War III, but implied agreement and a lack of recoverable resources restrained most nations from mounting more than research colonies. These bases, located in one of the most hostile environments on Earth, would later play a role in the design of the first outposts on Mars, and later around other stars. In the late 21<sup>st</sup> Century, both Argentina and Australia attempted to extract petroleum from Antarctica, but costs and climate, along with international pressure, made the efforts unprofitable. Antarctica is still the site of many scientific outposts, usually understaffed and under-funded, with living conditions little better than first stage colonial outposts.

Discovery of tantalum, however, could change all that. For various reasons, geologists believe that the Antarctic continent should contain tantalum deposits, but extensive efforts over centuries have yet to uncover anything more than minute, unexploitable traces. Exploration is expensive and dangerous, but continues on a low level.

### GREAT WHITE SOUTH:

Argentina has experimented with resource exploitation in Antarctica for over 100 years, but the difficulties have never been worth the expense. In the years leading up to the 4<sup>th</sup> Rio Plata War, Argentina once again tried its hand at winning resources out of this hostile continent. They even built a large inland facility adjoining an ice-shelf, and receive shipments via airship. Recently, however, British intelligence has become suspicious of this site, and is quietly trying to get a closer look.

## ORBITAL SPACE

Earth orbit is a very busy place. Gateway and Mataglap Stations can see upwards of several hundred ships a day, and the volume of traffic is steadily getting worse. In addition to all the ship traffic, orbit is filled with hundreds of factory and lab stations, solar power satellites, weather satellites, observation satellites and even hotels.

Several thousand people call orbital space home, even if only for limited tours on a small station or factory, and thousands more visit monthly.

Low Earth Orbit (LEO) extends from 180 kilometers to 1500 kilometers above the Earth, and is occupied by a variety of transfer stations and factories. This is the most densely settled region of orbit, so dense that Orbital Traffic Control Regions (OrCons) had to be established. Each of the three OrCons is named for the space station they are centered on: Johnson, Mbele, and Qin. Low orbit is also the location for most weather and observation satellites.

### Tinkers:

There are several small companies that do nothing but provide repair and maintenance services to the many small stations and labs in Low Earth Orbit. These tinkers, as they are often called, have their own small reaction-drive vessels, and live in these ships or in small stations scattered through the halo of satellites and debris in this orbital zone. They know where everything is, and are often overlooked by security forces. When not involved in maintenance contracts, they often turn to salvage operations, and sometimes fail to check if a satellite is truly salvage, or actually someone's property.

**Geosynchronous Orbit (GEO):** is at an altitude of just over 35,000 km above the Earth, and is the domain of communications satellites and the power stations. None of these smaller stations have permanent populations, but several of the larger ones do. GEO is relatively barren of manned stations, largely due to the cost in getting there. Even though this orbit is above the Van Allen radiation belts, increased

exposure to solar wind and radiation makes shielding very important. The only permanent stations in this region are the ESA-controlled Gateway, and the Indonesian station of Mataglap.

**Gateway:** Midway along the African Elevator sits Gateway Station, the commercial hub of Earth space, and home to over 7,000 people. This massive station has two habitation rings, each with three primary levels, and construction is underway on a third ring. Spreading out from the station's core are kilometers of docking bays, warehouse modules and temporary storage. Hundreds of ships a day call at Gateway, from small couriers to massive bulk freighters bearing ore from asteroid mines. Even the construction of the Indonesian Elevator has done little to stem the tide of commerce flowing through Gateway. It is expected that the Incan elevator currently under construction will drain some of the traffic from Gateway, as any trade destined for the Americas will likely filter through that route. Gateway is also the headquarters for the OQC, who share responsibility for the policing of the station.

Security on Gateway is extremely tight, and if anything is even more omnipresent than on the surface (Law Level 9). Nonetheless, not every corner of this huge station can be monitored, and there is a thriving black market in off-world goods, including drugs and biologicals.

**Mataglap Station:** Though not as large or well-developed as Gateway, Mataglap is quickly making a name for itself, providing easy access to the Asian markets, with lower storage, shipping and berthing costs than Gateway. OQC maintains a substantial contingent here as well.

Mataglap consists of one habitation ring, housing 2800 people in two primary levels. Construction is starting up on another ring, much larger than the initial habitat. Spreading out from the station core is a haphazard arrangement of hangers, warehouses, cargo modules and fuel tanks, all strung together with nanotube cable and drifting for many kilometers along the station's orbital path. There are persistent rumors of squatters living in the scattered cargo modules and warehouses, living off the scraps of the station. Control is much less rigorous at Mataglap than at Gateway, and much less monitoring occurs. Law Level at Mataglap is effectively 6, save for weapons, where it is 8.

## BEYOND ORBIT

Farther out than the orbital stations lie the lunar settlements and the great habitats residing at the LaGrange Points leading and trailing the moon.

### L-5

The European Space Agency selected the LaGrange point trailing Luna for its space settlement. The first module was thrust into place in 2061, and the original structure was completed in 2074. This old and immense structure is known by a simple name: L-5, and is the largest and most-heavily populated orbital structure in Human space. Indeed, only the abandoned habitats in Aquilan space are bigger.

L-5 is not so much a space station as a city -- a city of nearly 72,000 inhabitants from 39 nations, fully self-supporting, prosperous from trade and its own industries, and possessed of a unique culture and character.

Its appearance is spectacular. Four slender spindles, each five kilometers long, are joined by parallelogram-shaped platforms a kilometer and a half on a side. On each spindle turn four great wheels, each a kilometer in diameter. The wheels turn slowly but endlessly; the platforms jut with docking armatures, antennae, cranes, construction docks, and towers. Space for 100 kilometers around L-5 is crowded with ships, shuttles and solar collectors up to 100 hectares in area.

Upon its completion in 2317, the fourth expansion managed to generate some controversy. This expansion doubled the size of the connector plates, and added an additional spindle with four new habitats. Though they are ESA-controlled, they are not open to general migration from Earth. It seems that only the elite of the ESA nations are permitted to take up residence on the massive habitats. The official ESA explanation is that the high technical and professional requirements for the jobs available on the new habitats severely restricts the pool of suitable residents.

### L-4

America placed the first space settlement at the LaGrange point preceding Luna. Soon Japan and Argentina placed their own settlements at L-4. Originally, America objected to neighbors at L-4, but the cross-fertilization of technicians and scientists in close proximity and the natural trade that arose between the neighbors soon turned that opinion around. Over the succeeding decades, many nations placed stations and platforms here, including many corporations. As a result, there is a veritable constellation of stations at the L-4 point, in contrast to the singularly massive constructs at L-5. The largest of the L-4 stations is the American settlement of Goddard Station, a Bernal-sphere-type habitat approximately 5 km in diameter housing nearly 50,000 people. Another 4 dozen or so stations, from many different nations and corporations,

complete the array of settlements in this zone, with a combined population of over 150,000.

The L-4 stations have long been a conduit for contraband to Earth. Beyond the jurisdiction of the OQC, many of the smaller stations are virtual havens for bio-smugglers and drug-runners. Every so often, America or one of the larger stations tries to do something about the situation, but they keep running into diplomatic hurdles. The OQC tries to keep a sharp eye of these smaller stations, but since most traffic is reaction drive rather than stutterwarp, comings and going from these stations are hard to track.

## LUNA

The Moon was the site of extensive settlement prior to the discovery of the stutterwarp, and even now it has major cities and settlements, with a population close to 6 million. The major business of the Moon is mining, in particular the strip-mining of Helium-3, which is used as fuel for modern fusion reactors. He3 mining uses equipment that resembles a farmer's combine, and sifts through the top 3-5 m of dirt and dust to obtain the precious helium. Other valuable elements are also available from the lunar crust, including titanium, aluminum, and silicates, all industrially useful minerals, even in the age of synthetics.

Tycho City is the largest settlement on the moon, and has a population of over 800,000 people under its three primary domes. Most of the city is buried deep under the lunar regolith, but the three domes (Alpha, Beta, Gamma) house parks and commercial sectors. The largest tree in the solar system is housed in Alpha Dome, a birch tree 220 meters tall and 25 meters in diameter. Outside the domes are a confused complex of solar collectors, factories, warehouses and the array of catapults used to fling lunar materials into orbit.

Aside from the lower gravity, lunar culture is very similar to Earth. Anyone native to the moon is treated as if they came from a Zero-Gravity environment.

### Workin' in the Helium Mines:

Aside from tantalum, one of the most strategically important resources in Human space is Helium-3, used to fuel the fusion reactors that provide the power for most large military starships. For Earth, the Moon has always been a large supplier. Recently, however, stored Helium-3 has started going missing, and the Lunar Authority is getting worried.

## TIRANE, Alpha Centauri A

The first world out from Sol, Tirane is by far the single most important Human colony world. The oldest of the colonies, Tirane is a hub of commerce for virtually all other colonies and outposts.

## SYSTEM DATA

### Stellar Data

**Primary Name:** Alpha Centauri A

**Spectral Class:** G2 V

**Magnitude:** 4.35

**X, Y, Z Coordinates:** -1.7, -1.4, -3.9

**Number of Planets:** 3 (Tirane, Oikemenos, Neuerde)

**Number of Asteroid Belts:** 0

**Star Name:** Alpha Centauri B

**Distance from Primary:** 11.4-36 AU

**Spectral Class:** K0 V

**Magnitude:** 5.69

**X, Y, Z Coordinates:** -1.7, -1.4, -3.9

**Number of Planets:** 6 (Sheol, Hades, Limbes, Enfer,

Vorholle, Purgatoire)

**Number of Asteroid Belts:** 0

A relatively close companion to Alpha Centauri A.

**Star Name:** Proxima Centauri

**Distance from Primary:** 10,000 AU

**Spectral Class:** M5 V

**Magnitude:** 15.45

**X, Y, Z Coordinates:** -1.6, -1.2, -3.8

**Number of Planets:** 1

**Number of Asteroid Belts:** 0

### NOTABLE PLANETS (Orbiting B)

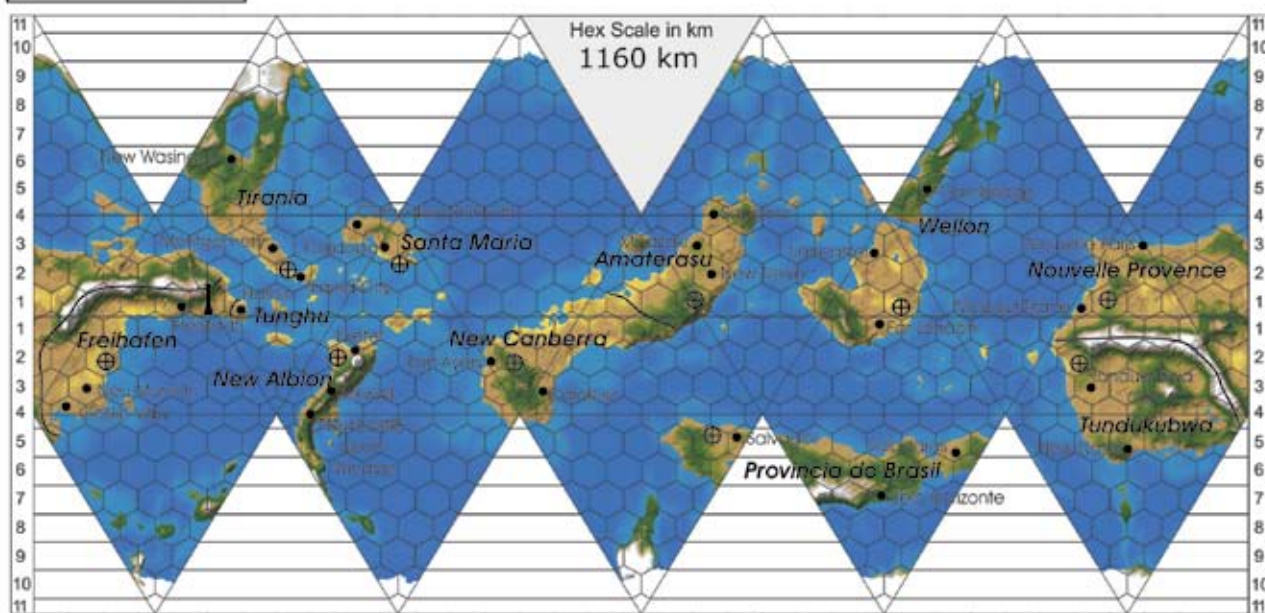
**Limbes:** Limbes is a former garden world sterilized by a runaway greenhouse effect, and it is of interest only to scientists and a few crackpots.

A joint ESA research station is maintained in orbit around the world, although its staff has been drastically reduced as the years have passed, and other, more interesting worlds have been discovered. Despite almost a century of study, no surviving life forms have been detected, but fossil evidence indicates a rich biosphere just under a billion years ago. Over 1800 separate genera have been described; although their exact relationships remain tentative since most of the remains are fragmentary.

**Sheol:** Sheol is a hothouse with fairly large mineral deposits, but the atmosphere and climate are particularly harsh, and the world remained unexploited because there were more economically exploitable deposits of the same miner-



## Tirane



## Legend

- Major City
- ⊕ Spaceport
- Catapult
- ! Beanstalk

Map Note: Special features omitted for clarity



Farming



Military Base



Solar Power Rectenna



Heavy Industry

72

als elsewhere in the system. Then in 2307, an Argentinean survey team found the first small quantities of tantalum, and the rush was on. The Mexican/Argentinean research station in orbit laid the first claim, and was best positioned to exploit the resources. Argentina's deep-sea mining experience paid off, as it could adapt many of the same techniques and technologies for use in the thick, hot atmosphere of Sheol. Other nations have made claims on Sheol since, but the Argentine/Mexican alliance has the best sites. The combined population is now over 9000, and continues to grow as the surface facilities are expanded. This has created considerable tensions, and there are reports of isolated incidents between various mining crews.

In late 2319, Argentina laid claim to a 3300 square kilometer area of Sheol, and within two weeks had placed a British prospecting team under arrest, along with seizing their vehicle and their data.

## Other Planets (Orbiting both A and B)

6 (Gallia, Britannia, Italia, Germania, Hispania, Lusitania)

## PLANETARY DATA

## Planet Data

**Name:** Tirane

**Distance from Primary:** 0.97 AU

**Year Length:** 345 days

**Size:** 12,900 km in diameter

**Day Length:** 22.31 hours

**World Type:** Garden

**Surface Gravity:** 1.01 G

**Atmospheric Pressure:** 1.02 ATM

**Climate:** Temperate

**Water Presence:** 74%

**Atmospheric Composition:** N<sub>2</sub> (79%), O<sub>2</sub> (18%), Trace (3%)

**Biodiversity:** Diverse; usable

**Resources:** 7

**Satellites:** 2 (Esa and Europos)

The biosphere on Tirane is a mixture of native and off-world types. The primary introductions are from Earth, but a few other worlds have contributed lifeforms as well. The biochemistry of Tirane was similar enough to Earth's that little had to be done to adapt Terran life to the world. This was a blessing and a curse to the early colonists: they and their livestock could eat the local plant and animal life with minimal problems, but the reverse was also true. Careful survey work (the identification of potential disease-causing organisms and the preparation of appropriate countermeasures) kept problems with disease to a minimum. All colonists and their livestock were inoculated before they arrived and strict quarantine procedures were in effect from the start. The larger forms of life on Tirane were not difficult to deal with – fences

and various environmental barriers kept the local equivalent of wolves from the colonists' meat animals and kept the local herbivores out of the grain fields.

There were a few problems, but by-and-large, the various colonization efforts have integrated themselves well into the local ecology.

**Grand Seasons:** In addition to the normal seasons caused by orbital conditions and axial tilt, there are "grand seasons" caused by the proximity of Alpha Centauri B. Though the radiation from Alpha Centauri B is not significant by itself (even at its closest approach, the companion star only comes within 11 AU), the few degrees added are enough to change the climatic zones of the world. These "grand seasons" each last 19.75 years and are similar to regular seasons, only more drawn out. Grandwinter makes the planet a few degrees colder, while Grandsummer make it a few degrees warmer. Grand autumn and Grandspring are the heralds of the gradual changes to the other two Grandseasons.

Because of the constantly shifting weather, farming has taken on a unique pattern. Instead of individual family farms, a system of farming corporations has arisen. A corporation will own large tracts of land in several locations, and a given tract of land will be used for various purposes depending on the season and grand season. Farm families will often undertake to farm a section of land for long-term periods (20 local years is an example of a standard contract). This laid the groundwork for the current system of corporate ownership of land and resources.

As a colony's climate shifts, the employment demands of agriculture also shift, and the population transfers from agricultural jobs to other jobs on a cyclical basis. Farm workers could be said to be migratory in one sense, but since they often spend two or more generations in one place, their life is relatively stable compared to other migratory agricultural workers.

### FARM TROUBLES:

Tirane has been shifting from Grand Winter to Grand Spring, and temperatures are rising. As a result, farm contracts are being renewed. However, there has been an increasing movement to automated farming, and many of the previous family contracts are not being renewed. This has led to massive protests in Nouvelle Provence, Freihafen and Wellon, along with scattered outbreaks of violence.

## COLONIAL HISTORY

Tirane is a garden world in the Alpha Centauri system and the site of the oldest human colonies in space (there are older out posts, but Tirane was the site of the first attempts at full-scale colonization). It was a tremendous coincidence that Alpha Centauri had a world similar to Earth, but this co-

incidence spurred the search for other such worlds. Had the system not contained any worlds suitable for human habitation, the course of future interstellar exploration might have been considerably different.

The first interstellar probe (an unmanned vehicle, launched under the auspices of the ESA) arrived in system in 2137 and made a detailed survey of the constituent worlds. The probe dropped an instrument package on Tirane, which included the flags of the member nations of the ESA. On the basis of this, when the data about Tirane arrived back on Earth, the member nations of the European Space Agency (at the time, the active members were France, Bavaria, Azania, and the United Kingdom) announced their discovery and claimed the system for their exclusive colonization. Several nations immediately filed diplomatic protests and began speeding up their interstellar programs. Argentina (in concert with Mexico) sent a probe to the system in 2138 to establish their claim to it. American and Japanese probes soon followed, but no human had yet set foot on the world. Oddly enough, Manchuria was the only major power to support the ESA, although many remained neutral (especially those without hope of an interstellar exploration program). In 2129 a joint ESA survey party went into orbit around Tirane and spent the next four years studying the first world outside the solar system found suitable for human life. The party landed and planted flags, reasserting their claim to exclusive colonization.

The ESA began construction of a large fleet of interstellar transports with a view to colonization (many of these were converted interplanetary freighters). Other nations followed suit, but Argentina quickly converted several transports to warships and sent them to Tirane. The Alpha Centauri War was the result.

Most of the war was conducted in the Alpha Centauri system: the Argentinean armed transports battling the hastily armed merchant ships of the ESA. Neither side could gain a clear advantage, but both sides were unwilling to expand the conflict to Earth.

When Australia offered to mediate, the two sides concluded a cease-fire which turned into an armistice. Both sides later claimed victory, and the war is still a touchy subject in some circles.

The Melbourne Accords which ended the war also opened Tirane to settlement by all spacefaring nations, and established the precedent of open settlement which continues to this day (though somewhat modified). The nations of the ESA had a head start, however, and Tirane's present demographic situation reflects this. A majority of the planet's 1.2 billion inhabitants are descendants of the ESA colonists. Several colonies failed for one reason or another and were absorbed into one or another of those listed below.

The two moons of Tirane, Esa and Europos, were named

after the European space agency and the continent of Europe, respectively, and they currently contain nothing but a few small observatories, research facilities, and navigational beacons. There are several orbital colonies, each holding upwards of 10,000 people, and large factory complexes orbiting Tirane, including the massive shipyards of Nouvelle Provence, Freihafen and Tirania. Along with the factories, there are nine solar power satellite arrays and numerous communications and land-use satellites. Construction of an international Gateway-style station is ongoing at the geosynchronous point of the Freihafen Beanstalk, and there is talk of forming a defense force along the lines of Earth's Orbital Quarantine Command.

Although Tirane is sparsely settled compared to Earth, the long period of settlement has led to social conditions similar to the home world, where security and safety are taking precedence over concepts of individual freedoms. The Kafer War has certainly hastened this process, so much so that some fringe groups have denounced the war as a fake, a conspiracy designed to do nothing more than allow the government to seize additional power. However, the current sociological situation on Tirane can easily be seen to be part of an ongoing trend, rather than a sudden break with the past. In part as a result of this trend, a large surplus population has left to settle in the outer fringe colonies. As the frontier areas of Tirane became more civilized and opportunities for land began to dry up, increasing numbers of colonists have emigrated from Tirane to other worlds where a person can make a fresh start, get in on the ground floor, and generally escape from the pressures of civilized life (such as surveillance cameras and identicards). In many ways, Tirane has become a second Earth. The Law Level on Tirane is slightly more tolerant than that of Earth as well, with most nations banning non-hunting firearms outright (Law Level 7) unless a person shows a demonstrable need.

Tirane has recently faced another sort of demographic pressure, as floods of refugees from further up the French Arm have arrived, looking for assistance. The nations of Earth are unwilling to deal with the refugees, fearing biological and cultural contamination. Likewise, the nations of Tirane have no real wish to deal with the flotsam of the Kafer war, and few refugees find their way to the surface. Most are sent up the American or Chinese Arm, to uncertain futures on Avalon, Dukou or Cold Mountain.

### SURVEILLANCE ON TIRANE:

Even though the nations of Tirane are far younger than those of Earth, they have still adopted the high-surveillance society of Earth. This is partly due to pressure from Earth, but is also due to the great comfort of the citizens of this world, and their desire to keep things that way. Tirane is no longer a frontier.

## COLONIES AND NATIONS

There are numerous individual colonies on Tirane. However, though Tirane boasts the largest population of any colony world, its 1.4 billion inhabitants are sprinkled rather thinly across the continents – Tirane's overall population density is fairly sparse.

The nations and enclaves of Tirane are uniformly well-developed, and sport very high standards of living. The following characteristics are common for Tiranean nations:

**Life Expectancy:** 101 years

**Literacy:** 99%

**College Education:** 75%

**Law Level:** All Firearms save Shotguns and Hunting Rifles Prohibited (7)

**Resources:** Farming, Mining, Heavy Industry

**Military Presence:** Orbital Defense Installation, Military Base, Naval Base

**Services:** Solar Power Satellite, University, Pownet, Road Net (100%), Rail Net (100%), Link Network (99%), Weather Satellites, Communications Satellites, Surveillance Satellites, Orbital Terminal

### NOUVELLE PROVENCE

**Colony Name:** Nouvelle Provence

**Colony Population:** 250 million

**Date Founded:** 2167

**Nationality:** French

**Major City(s):** Nouvelle Paris (2 million), Nice-sur-Tirane, (1.2 million)

**Currency:** Livre

**Government Type:** Elected council responsible to Chamber of Deputies on Earth (4)

**Tech Level:** (12)

**Trade Data:** Ri

**Interface Capability:** Spaceplane, shuttle, catapult (B)

**Notes:** Nouvelle Provence has a large-capacity civilian shipyard

Now a department of metropolitan France, Nouvelle Provence is the location of France's largest starship construction facilities, the Université du Tirane, the Institut des Études Exobiologiques' (IEX's) extensive zoological collection, and the famed Musée Xenologique. Without rival, Nouvelle Provence is the cultural capital of Tirane.

Though still a colony, Nouvelle Provence enjoys a great deal of power in the Chamber of Deputies in France. Her population is more than double that of European France, and easily surpasses all non-European French territories on Earth.

There have been some rumblings in recent years of independence, but the determination of France not to lose any more colonies has tempered this wish. The example made of



the remnants of the Kimanjano colony is too fresh in everyone's mind.

In addition to being the cultural center of Tirane, Nouvelle Provence is also the center of French commercial shipbuilding. While most of the military ships are laid down in the orbital yards above Earth, Nouvelle Provence is responsible for over 60% of the civilian ship construction in French space, and has the largest commercial yards in the French Arm, or indeed anywhere outside of the Sol system.

## Freihafen

**Colony Name:** Freihafen (formerly Garten)

**Colony Population:** 197 million

**Date Founded:** 2167, independent since 2293

**Nationality:** Independent

**Major Cities:** Neumunchen (3.1 million), Freistadt (1.7 million), Ceske Vary (1.1 million)

**Currency:** Freihafen Thaler (NOT Taler)

**Government Type:** Representative Democracy (4)

**Tech Level:** (12)

**Trade Data:** In, Ri

**Interface Capability:** Spaceplane, shuttle, catapult, Beanstalk (A)

**Notes:** Freihafen has both a military and a civilian shipyard

This former Bavarian colony was unwilling to become a part of a reunited Germany and is now an independent nation. Relations with the rest of the colonies are better for it, since a strain between two large colonies on Tirane would have possibly created a global conflict or economic hardship. Freihafen is heavily industrialized, and is noted for the manufacture of heavy vehicles and machine tools both for internal use and export. Freihafen is also notable as the site of the second extra-solar Beanstalk, which began construction in 2311, and was completed five years later. This has proved to be a major boon for the nation's industry, and for its economy in general. Freihafen is one of the richest, and likely the most powerful, extra-solar nation. Its economic clout is inline with many Earth-based nations, and the establishment of the country's first outpost (soon to be a colony) at Wolf 461 A has cemented their major power status.

During the Kafer War, Freihafen devoted a large percentage of its industrial production to the manufacture of the so-called intruder corvette. Used in large numbers, the corvette became a mainstay of the Human navies pushing into Kafer space, and remains the staple vessel of many smaller powers even today, seven years after the end of the war. Many of these ships were declared surplus after the war, stripped of all armaments, and made available for sale.

## POTENTIAL EMPLOYMENT:

The Freihafen Ministry of Industry needs some investigators to check out the yards responsible for decommissioning the old intruder corvettes. Recently a privateer vessel was intercepted with weapons from a corvette. Investigation of serial numbers revealed that the ship was officially broken up and destroyed three years ago.

## Tundukubwa

**Colony Name:** Tundukubwa

**Colony Population:** 69 million

**Date Founded:** 2167

**Nationality:** Azanian

**Major Cities:** Tundukubwa City (3.1 million), New Natal (800,000)

**Currency:** Azanian Rand

**Government Type:** Colonial Operations Board appointed by Azanian Parliament (6)

**Tech Level:** (10)

**Trade Data:** Ag, Ri, Ni

**Interface Capability:** None integral (E)

**Notes:** Tundukubwa has no surveillance satellites or navy base, nor any heavy industry

The Azanians made only a small effort on Tirane initially. Along with Nouvelle Provence, Freihafen, and Tunghu, Tundukubwa shares the largest of Tirane's seven continents. The colony itself is mostly concentrated in an original city complex built against a geologically recent crater (tundukubwa means great hole). Mines which used to be operated in the pit of the crater have long since gone out of business, but the colony's roots and center are still there. With the collapse of the mining, the economy has become more centered on agriculture, producing luxury crops or consumption across human space.

It's interesting to note that Tundukubwa lacks the extensive surveillance and monitoring networks of the other nations. This isn't, as often stated by other nations, due to a lack of technology or funding. It's a conscious choice on the part of the colony's government, and contributes to the relaxed atmosphere of the colony. Tourism has become a major industry, along with some other, less savory enterprises that seek to take advantage of the lack of the overwhelming surveillance. However, though the Tundukubwan government doesn't use the extensive monitoring networks of other nations, that doesn't mean that it is lax on crime, as their regular arrests of drug traffickers and other criminals demonstrates.

## New Albion

**Colony Name:** New Albion

**Colony Population:** 6 million

**Date Founded:** 2167

**Nationality:** British

**Major Cities:** Exeter (750,000), Newcastle-upon-Windsor (180,000), Kirkwall (90,000)

**Currency:** British Pound

**Government Type:** Constitutional Monarchy, with an elected Parliament, and appointed Upper House, answerable to the King. (4)

**Tech Level:** (11)

**Trade Data:** Ag, Ri

**Interface Capability:** Spaceplane (C)

**Notes:** New Albion has no mining, heavy industry, military base or naval base

British settlement of this colony was intense in the early days of colonization but soon tapered off as other avenues opened up. Still, to many British, the colony at New Albion marked the rekindling of the long dead empire and the pride associated with it. Now the English have colony worlds along the entire French Arm, but New Albion is arguably the "national favorite." Originally an agricultural and light industrial colony, New Albion is now also a retreat for the nobility, and fiefs granted here are known for their lavish upkeep and luxurious appointments. For the first forty years, Wellon was governed by New Albion, until the population and concerns of the larger colony outstripped the ability of the New Albion legislature to deal with them.

Wellon's subsequent independence had little effect on New Albion, as the balance of their trade was off-world, and the two still maintain amicable relations.

### TOURIST TRADE:

New Albion is the "in" destination for wealthy travelers from both Tirane and Earth. In addition to the beautiful beaches and palatial estates, this colony also boasts many high-class casinos, race tracks and other leisurely pursuits for the idle rich.

## Wellon

**Colony Name:** Wellon

**Colony Population:** 212 million

**Date Founded:** 2169 (independent in 2277)

**Nationality:** Independent

**Life Expectancy:** 102 years

**Literacy:** 100%

**College Education:** 91%

**Major City(s):** Far London (4.3 million), Lancaster (2.5 million), Cambridge (1.9 million)

**Currency:** Wellon Pound

**Government Type:** Constitutional Monarchy. Two elected houses, in theory responsible to the King but in practice independent (4),

**Tech Level:** (12)

**Trade Data:** Ag, Ri, In

**Interface Capability:** Spaceplane, shuttle, catapult

(B)

**Notes:** Wellon boasts both a high-capacity civilian shipyard and a very modern military yard

Wellon was originally the industrial component of the two-pronged British settlement plan for Tirane, and was governed from New Albion until achieving home rule in 2241. Of the two portions of the British colony, Wellon attracted much more interest from colonists, as it had greater opportunities, and settlers from many English-speaking nations favored this colony as their first choice.

Wellon's economy grew rapidly, as did her population, surpassing that of Earth-bound Britain in 2245. With this economic power came a desire for greater autonomy, and finally a strong desire to chart her own course, alongside Britain and the other Commonwealth nations. Britain's attempts to satisfy this desire led to home rule for the Wellon colony in 2241. This sufficed for a generation, but by the 2270's, Wellon wanted more.

In 2277, after a national referendum, Wellon declared its independence from the mother country, but still enjoys a close relationship. The island of New Albion elected to remain a Crown possession. Wellon is another colonial powerhouse, and though the country has yet to establish its own colonies, it is actively surveying several promising worlds. There are talks of a joint British-Wellon colony in the Wolf cluster sometime in the next 10 years, with Wellon industry supporting British knowledge and experience.

New Albion is regarded largely as a curiosity by the inhabitants of Wellon, and is their favorite destination for holidays, along with New Canberra.

### Military Buildup:

The government of Wellon is arguably one of the wealthiest in Human space. They have chosen to use much of this wealth in building up their military, both space forces and ground forces. They currently have one of the largest navies, and perhaps the fourth largest army. The only question is: What are they going to do with them?

## TIRANIA

**Colony Name:** Tirania

**Colony Population:** 31 million

**Date Founded:** 2167

**Nationality:** American

**Major Cities:** New Washington (2.2 million), Montgomery (1.6 million), Tirania City (990,000)

**Currency:** American Dollar

**Government Type:** Representative Democracy, with military oversight (4)

**Tech Level:** (11)

**Trade Data:** Ri

**Interface Capability:** Spaceplane, shuttle, catapult (B)

**Notes:** Tirania has a new military shipyard, along with an older, low-capacity civilian shipyard. To support its heavy industry, Tirania also has a fusion plant.

American settlement on Tirane was never extensive and was carried out largely by private corporations. As an interesting side note, no American colony has ever been named New America, as this phrase has a bad connotation to them (it refers to an extremist movement of the late 20th and early 21st centuries). Tirania had been on the brink of being labeled a “failed colony” as the local population had been in decline for over a decade. That is, until the advent of the Kafer War.

America’s colonies are all concentrated far up on the American Arm, and in the course of prosecuting the Kafer War, America required a second staging area. While Tirane isn’t on a direct route to the French Arm, it was ideally suited for a near-Sol naval base, and American investment flowed into the colony starting in 2308. Though the American efforts made heavy use of the industrial capacity of both Wellon and Freihafen, more was needed, and the yards of Tirania were designed and built to handle much of America’s military expansion.

The government of Tirania is elected, but the local commander of the Naval base has the power to overrule any civilian decision if he or she feels it will compromise base security or the base’s mission. Any base commander who does so will face a board of inquiry, but on the 12 occasions that this has happened over the past ten years, the board has sided with the base commander in all but 1.

## NEW CANBERRA

**Colony Name:** New Canberra

**Colony Population:** 61 million

**Date Founded:** 2167

**Nationality:** Australian

**Major Cities:** Port Ayers (12 million), Caroline (5.5 million),

**Currency:** Australian Dollar

**Government Type:** Representative Democracy (4)

**Tech Level:** (12)

**Trade Data:** Ag, Ri

**Interface Capability:** Spaceplane, shuttle (B)

**Notes:** New Canberra has no heavy industry.

The Australians received colonial guarantees on Tirane as a result of the Melbourne Accords and claimed them immediately. The Australian colony’s main claim to fame was that it was the site of the so-called “First-and-a-Half Interstellar War” between Australian and Japanese survey teams over a major tantalum strike.

With a population just more than double that of the home country, elements of New Canberra society have recently begun agitating for some variety of home rule. It is expected that they will receive it with 10 years, and likely be independent in 20.

## NEW CANBERRA POPULATION:

Fans of the old 2300 AD will notice a discrepancy between the population figure here and that published in the original *Colonial Atlas*.

## AMATERASU

**Colony Name:** Amaterasu

**Colony Population:** 121 million

**Date Founded:** 2167

**Nationality:** Japanese

**Life Expectancy:** 106 years

**Literacy:** 100%

**College Education:** 91%

**Major City(s):** New Tokyo (6.5 million), Miyazaki (4.5 million), Sapporo (2.6 million)

**Currency:** Japanese Yen

**Government Type:** Representative Democracy, with military and corporate representation (4)

**Tech Level:** (12)

**Trade Data:** Ag, Ri

**Interface Capability:** Spaceplane, shuttle, catapult (B)

For reasons which were never completely clear, Japanese survey teams began staking out claims which overlapped those of Australia. The situation was complicated by the fact that tantalum was discovered in the disputed area (called “Duffer’s Strip” by the Australians), and several small scale skirmishes resulted between Australian and Japanese survey teams before a mutually satisfactory settlement could be negotiated. The strip went to the Australians, but the tantalum would be mined by a joint Australian/Japanese corporation.

Since that inauspicious start, the Amaterasu colony has become the main source of tantalum for the Japanese shipbuilding industry, though the limited amount allowed under the treaty has Japan constantly on the lookout for additional sources.

Amaterasu is still a favored destination for Japanese colonists, close to Earth in distance and culture, but still less restrictive than the home islands.

Amaterasu has recently started importing deep-sea construction technology from Earth, and have started to build an undersea city 350 kilometers off their coast, near a series of dormant undersea volcanoes that have good prospects for tantalum reserves.



## Religion:

Religion is still very important in 2320AD. The major religions of the 20<sup>th</sup> century still survive, along with some new ones. However, religion is a private affair, especially in the Core. Here is a brief (and incomplete) list of the religions active in 2320:

Roman Catholic, Greek and Russian Orthodox, Anglican, Lutheran, Presbyterian, Baptist, Pentecostal, Unitarian, Latter-Day Saints, Society of Friends, Islam, Judaism, Shinto, Buddhism, Community of Sentients, Wicca, Hindu, and Native Spiritualism.

## PROVINCIA DO BRASIL

**Colony Name:** Provincia do Brasil

**Colony Population:** 102 million

**Date Founded:** 2167

**Nationality:** Brazilian

**Major City(s):** Belo Horizonte (3.2 million), Salvador (2.2 million), Valadares (1.3 million)

**Currency:** Real

**Government Type:** Colonial Council answerable to Brazilian National Congress (5)

**Tech Level:** (10)

**Trade Data:** Ag, Ri

**Interface Capability:** Spaceplane (C)

Brazil became a spacefaring power on the basis of its native tantalum deposits and purchased American and French technology in order to construct ships. Their colony on Tirane is still their proudest interstellar achievement, and is the equal of the mother nation in most, if not all, ways.

Provincia do Brasil is a well-developed nation, and is starting to feel the urge of self-direction. The home nation recognizes this, and steps are under way to grant the colony an increased measure of autonomy, though short of outright independence. Provincia do Brasil is widely known for the production of specialized luxury foods, along with its famed airship industry, probably the most advanced of its type in Human space.

## Tunghu

**Colony Name:** Tunghu

**Colony Population:** 3.1 million

**Date Founded:** 2167

**Nationality:** Manchurian

**Major City(s):** Harbin (2.2 million)

**Currency:** Manchurian Ruble

**Government Type:** Council appointed by Manchurian Empress (6)

**Tech Level:** (12)

**Trade Data:** Ri

**Interface Capability:** Spaceplane (C)

**Notes:** Tunghu has no mining or farming, no military or naval base, and no orbital defense installation

Manchuria was never overly interested in settlement on Tirane, having decided to exploit other possibilities in interstellar colonization. Nevertheless, Manchuria purchased a small area in one of the Bavarian claims (approximately 300 square kilometers), in order to maintain trade contacts. The small trade center is now a bustling metropolis and duty-free market for goods from all over human space. Its position literally in the shadow of the Freihafen beanstalk gives it unequalled access.

Harbin is the central city of the territory, holding most of the population. The outlying towns are the controlled suburbs for the elite of the city. The Tunghu colony exerts a greater degree of control over its citizens than the other colonies on this world (Law Level 9), resulting in more severe restrictions on personal freedoms. Given their lifestyle, however, the citizens on Tunghu seem little inclined to protest the restrictions.

## SANTA MARIA

**Colony Name:** Santa Maria

**Colony Population:** 9.1 million

**Date Founded:** 2167

**Nationality:** Argentinean

**Major City(s):** Córdoba (790,000), Comodoro Kimball (430,000)

**Currency:** Argentine Peso

**Government Type:** Representative Democracy (4)

**Tech Level:** (11)

**Trade Data:** Ri

**Interface Capability:** Space Plane (C)

**Notes:** Santa Maria has no heavy industry, and uses a fusion plant rather than relying on the ESA solar power satellite network.

Despite all the rhetoric surrounding the Alpha Centauri War, Argentina was never able to mount a successful colony on Tirane. Only sheer stubbornness has kept the colony alive. Argentina had originally chosen its location on the basis of stolen ESA survey data that indicated the site would have large mineral reserves, in particular tantalum. It wasn't until years later that INAP agents discovered that the report had been altered, and leaked to the Argentineans in an attempt to marginalize them.

Lately the Argentine colony has been using technology developed for deep-sea mining on Earth to explore and exploit resources along the mid-ocean rift system that the island colony straddles. These efforts have begun to yield results, but the Argentine claim is in contention, as the region they are mining is in international waters, and their claim is being disputed, largely by Wellon and Nouvelle Provence. During

the Kafer War, Argentina's small contingent of warships were based out of Santa Maria's orbital terminal, and injected fresh capital in the colony at a much needed time.

### NATIONAL ENCLAVES

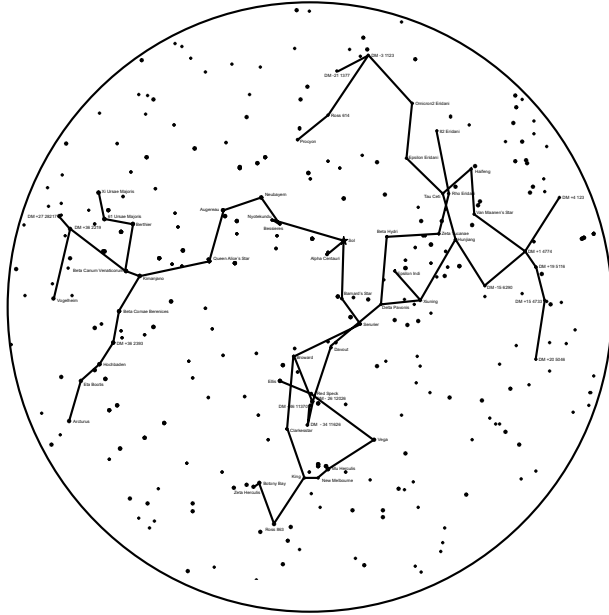
Aside from the large national colonies outlined above, Tirane is also home to many smaller operations from many different nations. These small enclaves rarely get above 100,000 people, and are usually located in or near the territory of an allied nation. So Canada's is near Wellon, Greece's is near Provincia do Brasil, and so on.

The following nations maintain enclaves on Tirane:

Austrovenia, Canada, Canton, Greece, Incan Republic, Indonesia, Italy, Mexico, Nigeria, Scandinavian Union, Spain, Texas, UAR, and Ukraine.



# FRONTIER WORLDS



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Life on the frontier is very different from life on Earth and Tirane. The pace is more relaxed, in particular for the agricultural worlds, though less so for the mining colonies. On the frontier, there is not the constant sense of being watched, no surveillance cameras drifting through the sky. People can say what they want, and live how they want. Most frontier worlds tend to be more socially conservative than their coun-

## NOTES ON THE UWP:

The UWP, Universal World Profile is a component of all versions of **Traveller** and related games. It is a shorthand description of a planet, for both physical and social aspects.

In **2320AD**, the meaning of the first digit has been changed to reflect the nature of the setting. In most versions of **Traveller** this is the starport type for a world. Given the costs and difficulty of interface travel in **T20**, this digit instead describes the type of interface transport publicly available. Each type assumes that all other lower grades of interface travel are available

- A Beanstalk
- B Catapult
- C Spaceplane and/or shuttle
- D Roton
- E Cargo rocket
- X No publicly available interface transportation

## Colonies and Tiers:

For currency values, colonies are considered to be on the same Tier as their mother countries. In all other respects, however, they are more like Tier 4 nations. The independent colonies and the Foundation and corporate-controlled colonies vary.

Stellar Nation	Tier
Wellon	2
Freihafen	2
Nibelungen	3
Heidelsheimat	3
Elysia	4
Adlerhorst	3
Kie-Yuma	2
Cousteau	3
Tanstaaf	4

terparts in the Core. Urban areas on frontier worlds do have a lot in common with the Core cities, but everything seems muted. The signs aren't as garish, the advertising not so loud. Few use implanted RFID chips, so the personalized ads of the Core are not found on the frontier.

## COLONIES

The following table identifies three different types of settlements. An outpost can be several things. Most outposts are way stations on the routes between stars, existing as refueling and repair stations. Some outposts are mining or science settlements in otherwise inhospitable systems. The last category for outposts is a colony precursor, a small settlement designed to test and prepare for a full-fledged colonization effort. Colonies are large settlements on clement worlds, typically subordinate to a controlling nation, Foundation or corporation. Enclaves in this context are small settlements or embassies on an alien-controlled world.

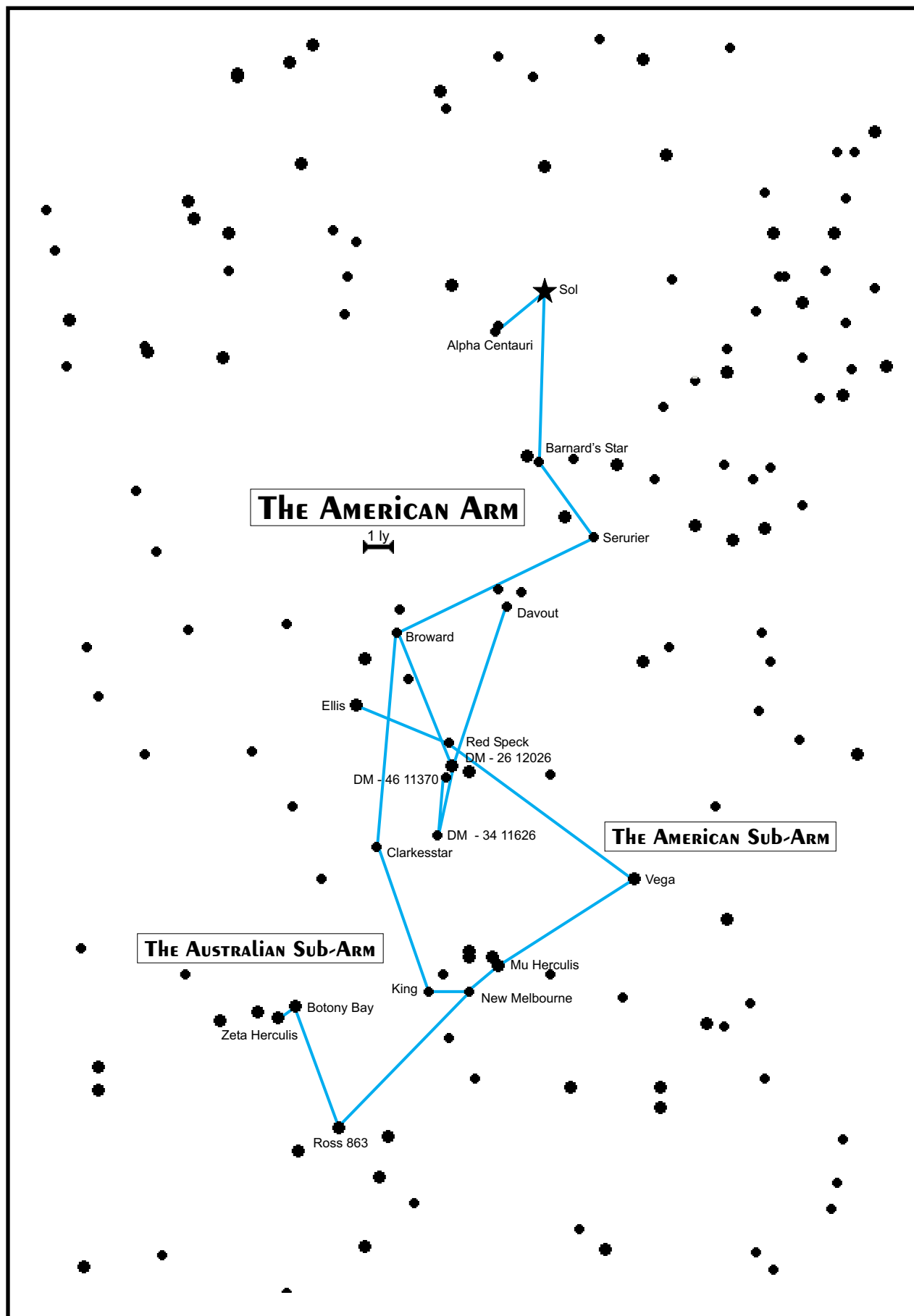
Between 2167 and 2320, a total of sixty-three human colonies were established on thirty-three habitable worlds. In addition to these colonies, there are a large number of outposts and scientific, military and corporate bases scattered across dozens of worlds, only some of which are named in the above table. These colonies and outposts were founded by a wide variety of groups, for a wide variety of purposes.

Of the sixty national colonies, seven have since gained



## Settlement List:

Nationality	System Name	Type	Colony Name	Gravity	UWP
America	Alpha Centauri	Colony	Tirania	1.01	A867977-C
America	Barnard's Star	Outpost	Lewis and Clark Station	0.71	D780377-7
America	Broward	Outpost	Armstrong Station	0.26	B221286-8
America	King	Colony	New Columbia	3.08	BD97675-B
America	New Melbourne	Outpost	FAR Station 7	0.39	C331276-9
America	Mu Herculis	Colony	Hermes	0.73	B668644-A
America	Vega	Outpost	FAR Station 17	0	D500289-B
America	Red Speck	Outpost	FAR Station 11	0.23	B210388-6
America	DM-34 11626	Colony	Avalon	0.72	D664475-2
America	Ellis	Colony	Ellis	0.92	B861666-9
America	AC+2 2155-242	Outpost	FAR Station 19	0	D500289-7
America	AC+20 1463-148	Outpost	Accey-Acey Station	0	D500289-7
America	DM+5 3409 A	Outpost	Erie	0.78	D667313-4
Arabia	Beta Hydri	Colony	Far Riyadh	0.66	BA54777-B
Argentina	Alpha Centauri	Colony	Santa Maria	1.01	A867977-C
Argentina	DM-26 12026	Outpost	Estación Escobar	0.97	C602378-8
Argentina	Omicron2 Eridani	Colony	Montana	0.98	C769543-9
Australia	King	Colony	Huntsland	3.08	BD97675-B
Australia	Alpha Centauri	Colony	New Canberra	1.01	A867977-C
Australia	New Melbourne	Outpost	Bandicoot Station	0.39	C331276-9
Australia	Ross 863	Outpost	Fisher Station	0	C000386-6
Australia	Botany Bay	Colony	Botany Bay	0.91	C769664-9
Australia	Zeta Herculis	Colony	Kingsland	0.99	D766645-7
Azania	Alpha Centauri	Colony	Tundukubwa	1.01	A867977-C
Azania	Nyotekundu	Outpost	Naragema	1.02	B7A0479-7
Azania	Kimanjano	Colony	Okavango	0.94	E799678-7
Azania	61 Ursae Majoris	Colony	Lubumbashi	1.05	BA66675-A
Ex-Bavaria	Rho Eridani	Nation	Heidelsheimat	0.44	B867778-C
Brazil	Alpha Centauri	Colony	Provincia de Brasil	1.01	A867977-C
Brazil	DM-21 1377	Outpost	Eshari Station	0.69	C6A5368-9
Brazil	Ross 614	Outpost	Amazon Station	0.48	C500469-A
Brazil	Procyon	Colony	Paulo	0.99	C967645-8
Britain	Alpha Centauri	Colony	New Albion	1.01	A867977-C
Britain	Queen Alice's Star	Colony	Alicia	1.05	B867775-B
Britain	Clarkesstar	Outpost	DeVilbis Station	0	D000367-8
Britain	Beta Canum	Colony	New Africa	0.94	A766775-B
Britain	Henry's Star	Colony	Crater	0.61	B7516AA-7
Britain	61 Ursae Majoris	Colony	New Cornwall	1.05	BA66675-A
Britain	Gamma Virginis	Outpost	Warkington's Drift	0.68	E656265-5
Canada	DM+19 5116	Outpost	Come-by-Chance Station	0.38	D320366-6
Canada	DM+3 123	Enclave	Stark	0.83	B767977-C
Canada	DM+15 4733	Outpost	Moosejaw Station	0.13	D200366-6
Canada	DM+20 5046	Colony	Kanata	0.87	C768564-9
Canada	AC+17 534-105	Colony	Eriksson	0.93	D664464-4
Canton	Zeta Tucanae	Colony	Lihngtou	1.02	B867665-A
France	Kimanjano	Colony	Fromme	0.94	D778676-8
France	Beta Comae	Devastated	Nous Voilà	1.05	X965500-0
Ex-France	Vogelheim	Nation	Adlerhorst	1.16	C986625-9
France	Eta Bootes	Colony	Aurore	0.73	C666674-B
France	DM+27 28217	Outpost	Bon Chance	0	C000378-A
France	Bessieres	Outpost	Bessieres Station	0.58	C431369-A
France	Augereau	Outpost	Augereau Station	0.47	C4A0369-9
France	Serurier	Outpost	Serurier Station	0.21	B201469-B
France	Alpha Centauri	Colony	Nouvelle Provence	1.01	A867977-C
France	DM-26 12026	Outpost	Point de Voie	0.97	C602378-8
France	Davout	Outpost	Ville de Glace	0.76	B635478-8
France	Nyotekundu	Outpost	Inferno	1.02	B7A0479-7
France	D'Arctagnon	Outpost	D'Arctagnon Station	0.65	C772468-5
France	Queen Alice's Star	Colony	Europe Neuve	1.05	B867775-B
France	Beta Canum	Colony	French Continent	0.94	A766775-B
France	DM+36 2219	Colony	Sans Souci	0.99	C766565-4
Freihafen	Alpha Centauri	Nation	Freihafen	1.01	A867977-C
Freihafen	DM+10 2531	Colony	Friesland	0.67	C550464-3
Germany	DM+36 2393	Colony	Dunkelheim	0.6	B464544-A
Germany	Hochbaden	Devastated	Hochbaden	0.29	X400000-0
Ex-German	Neubayern	Nation	Nibelungen	0.63	B463844-B
Germany	Beta Canum	Colony	German Continent	0.94	A766775-B
Ex-German	Vogelheim	Nation	Adlerhorst	1.16	C986625-9
Germany	61 Ursae Majoris	Colony	Halbinsel	1.05	BA66675-A
Germany	Augereau	Outpost	Hunsrück Station	0.47	C4A0369-9
Heidelsheimat	DM-56 328	Outpost	Geroellblock	0.25	C200468-8
Inca	Rho Eridani	Colony	Machu Picchu	0.44	B867778-C
Inca	DM-3 1123	Colony	Secura	1.25	BA89674-9
Independent	Eta Bootes	Colony	Tanstaaf	0.73	C666674-B
ex-British	Alpha Centauri	Nation	Wellon	1.01	A867977-C
ex-German	Alpha Centauri	Nation	Freihafen	1.01	A867977-C
ex-French	61 Ursae Majoris	Nation	Elysia	1.05	BA66675-A
Japan	Alpha Centauri	Colony	Amaterasu	1.01	A867977-C
Japan	Davout	Outpost	Shungen	0.76	B635478-8
Japan	Beta Hydri	Colony	Daikoku	0.66	BA54777-B
Japan	61 Ursae Majoris	Colony	Tosashimizu	1.05	BA66675-A
Life Foundation	DM-3 1123	Colony	Cousteau	1.25	BA89674-9
Life Foundation	DM+17 2611	Enclave	Klaxun homeworld	0.87	X767800-1
Manchuria	Alpha Centauri	Colony	Tunghu	1.01	A867977-C
Manchuria	Barnard's Star	Outpost	Fuyuan Station	0.71	D780377-7
Manchuria	DM-26 12026	Outpost	Zhong Ba Station	0.97	C602378-8
Manchuria	Delta Pavonis	Colony	Cold Mountain	0.83	C674766-8
Manchuria	Xiuning	Outpost	Xiuning	0.7	D630368-5
Manchuria	Epsilon Indi	Colony	Chengdu	1.12	B797745-B
Manchuria	Hunjiang	Outpost	Hunjiang	0.33	D311368-6
Manchuria	Zeta Tucanae	Colony	Chyuantii	1.02	B867665-A
Manchuria	Serurier	Outpost	Serurier	0.21	B201469-B
Manchuria	Tau Ceti	Colony	Kwantung	0.93	B667775-B
Manchuria	Epsilon Eridani	Colony	Dukou	1.57	BA8051A-8
Manchuria	DM-15 6290	Outpost	Yinchuan Station	0.86	D778457-8
Manchuria	Haifeng	Colony	Heaven's Water	0.81	C76A565-6
Manchuria	DM+1 4774	Outpost	Bayan Obo	0.37	C342368-5
Manchuria	DM+4 123	Enclave	Stark	0.83	B767977-C
Mexico	Omicron2 Eridani	Colony	Montana	0.98	C769643-9
Mexico	Tau Ceti	Colony	Kwantung	0.93	B667775-B
Multi-National	Gamma Serpentis	Enclave	Bugville	1.2	XA9386A-2
Pentapod	Beta Canum	Enclave	Beta Canum	0.94	A766775-B
Pentapod	Sol	Enclave	Mars	0.32	D310577-9
Pentapod	Gamma Serpentis	Enclave	Gamma Serpentis III	1.2	XA9386A-2
Pioneer Society	AC+8 142 393	Outpost	Pioneer Station	0.78	C655314-4
Scandinavian Union	AC+17 534-105	Colony	Eriksson	0.93	D664464-4
Sung	DM+20 5046	Enclave	Kanata	0.87	C768564-9
Sung	AC+17 534-105	Colony	Eriksson	0.93	D664464-4
Texas	DM-31 123	Colony	Austin's World	1.25	BA89674-9
Texas	Rho Eridani	Colony	Alamo	0.44	B867778-C
Texas	82 Eridani	Enclave	Kormoran	1.46	XA87874-3
Trilon Corp	Xi Ursae Majoris	Colony	Kie Yuma	1.21	BC97618-C
Trilon Corp	DM+5 3993	Outpost	Trilon 14	0.00	B0000619-B
UAR	82 Eridani	Enclave	Nasser	1.46	XA87874-3
Ukraine	Eta Bootes	Colony	Novaya Kiyev	0.73	C666674-B
Transhuman League	Van Maanen's Star	Outpost	Drexlar	0.08	D000303-9



their independence: Freihafen, Wellon, Elysia, Nibelungen, Heidelshiemat, and the German and French colonies at Vogelheim. Two more were utterly devastated by the Kafer War, with Hochbaden destroyed in the early phase of the war, and Nous Voilà destroyed by the retreating Kafer fleets towards the end of the final phase of the war.

In addition to the national colonies, three more were established by independent organizations: Tanstaaf on Aurore, Trilon's headquarters on Kie-Yuma, and the Life Foundation colony of Cousteau on Austin's world.

The national colonies enjoy a wide variety of relationships with their home governments. Some remain virtual protectorates, their external affairs managed by the mother country, while others enjoy home rule, and send representatives to the national legislatures. In addition to the colonies, there are numerous manned outposts on uninhabitable worlds or in deep space orbit around star systems. These serve as scientific research centers and refueling way stations on important star routes.

Along with these colonies and outposts, there are also eleven major human enclaves on worlds inhabited by indigenous intelligent races, one at Lightfall (DM+17 2611-1) the Klaxun homeworld, two each on Stark (DM+4 123-3), the Sung homeworld and Kormoran (82 Eridani-4), the Eber homeworld, and another six on the Kafer homeworld of Gamma Serpentis III, supervising the occupation.

It is easiest to examine the colonies in terms of explored "arms," the naturally occurring corridors of colonization that result from stellar geography. There are three arms, and they are almost universally referred to as the American, Chinese, and French Arms, after the major powers which have dominated their exploration and colonization. Along with these major Arms of exploration and settlement, there are a four other regions of special note, the so-called Alien Space regions: the Bayern Corridor, the Kafer Sphere, the Pentapod Finger and the Beta Aquilae Cluster.

## THE AMERICAN ARM

The American Arm is the smallest of the three colonial regions. Although the first American outpost was established in 2160 at Barnard's Star, the opening of the American Arm proper dates from the establishment of the outpost at Broward in 2172. This way station became the crossroads for the American and Chinese Arms, with one branch leading through Clarkesstar (outpost established 2187) to the rich colony systems of King, and then branching at New Melbourne into the Australian Sub-arm (to the colonies on Botany Bay and Zeta Herculis) and the American Sub-arm (to the colonies on Mu Herculis and Ellis). The second principal branch from Broward leads to DM-26 12026, the gateway to the Chinese Arm.

Until the opening of the Beta Aquilae Cluster, no indigenous intelligent life had been discovered along the American Arm. Even in the Cluster, the only evidence of intelligent life is the discovery of ruins on the first three explored worlds. In addition to the worlds of the Cluster, probes from DM-26 12026 to DM-46 1 1370 indicated another world suitable for colonization, and America's newest colony was established at DM-34 11626 in 2303, and dubbed Avalon by the colonists. Development of this colony was delayed by the Kafer War.

Until recently, the American Arm was seen as closed, with no further systems in range of a stutterwarp vessel. The opening of the Beta Aquilae cluster changed all that, as the cluster leads off into uncharted space. Two methods were used to surpass the conventional 7.7 light-year range to reach the cluster. The first was by finding and exploiting the brown dwarf ISO 417, a small sub-star that is about 14 times the mass of Jupiter. The presence of the brown dwarf gives interstellar vessels a safe haven to discharge their stutterwarp coil. Another method is the tug ship, which uses new technology to extend the range of a ship, out to 11.55 light-years under ideal conditions. Both of these technologies are used to gain access to the Beta Aquilae cluster. The AECA controls access via the Acey-Acey bridge and the ISO 417 brown dwarf, while the Pioneer Society and the Trilon Corporation use the stutterwarp tug. In order to reach the distant worlds of Ylii space, both methods have to be used, through the Backdoor Brown Dwarf and then a tug further on to bridge another long gap. Further information on the Beta Aquilae Cluster can be found in the section Alien Space, at the end of this chapter.

Colonies on the American Arm tend to receive more support than settlements on the Chinese Arm, but not as much as those found on the French Arm. The oldest colonies here are over 100 years old, long enough to have developed a unique culture, though derivative of the culture of the mother country. Colonists on this Arm tend to be socially conservative, placing value in self-reliance and a shared distrust of government, though they are loyal to their respective nations. Many of these settlers left Earth because of the encroachment of the surveillance society on their private lives, and a felt need to regain some control over their lives.

American colonies in particular enjoy a great deal of central support, at least in the construction and maintenance of their infrastructure. Individuals receive decidedly less, and have to work harder to survive and flourish. These colonies, more than those of other countries, were not just established for prestige, or to garner resources for the mother country, but also to provide a structured outlet for those who can't deal with the claustrophobic nature of life on Earth.



## DESCRIPTION OF TERMS

## STELLAR DATA

**Primary Name:** Name of the primary star in the system. There can also be companion stars.

**Spectral Class:** Spectral class and size.

**Magnitude:** Magnitude is a measure of the absolute brightness of a star, independent of distance.

**X, Y, Z Coordinates:** Location of the star on the map, with the Earth system at 0,0,0.

**Number of Planets:** Number of planets, their names and order out from the central star.

**Number of Asteroid Belts:** Number of asteroid belts. Usually not named.

## PLANET DATA

**Name:** Name of the planet.

**Distance from Primary:** Average distance from its primary.

**Year Length:** Time to complete one revolution around the central star.

**Size:** kilometers in diameter.

**Day Length:** Time it takes for the planet to spin completely around its axis.

**World Type:** Garden, Ocean, Post-Garden, Glacier, Pre-Garden, Desert.

**Surface Gravity:** Surface Gravity in gravities. Earth = 1.

**Atmospheric Pressure:** Air Pressure in atmospheres. Earth = 1.

**Climate:** Range for average daytime temperature, from p376, T20 Handbook.

**Water Presence:** Percentage of the surface covered by liquid water. Notes made for ice-caps.

**Atmospheric Composition:** ( %) ( %) ( %) Primary gases of the atmosphere and their percentages.

**Biodiversity:** Range of life-forms on the world (page 377 T20 Handbook).

**Natural Resources:** Value of resources available.

**Satellites:** Number of moons, names and order out from the main world.

## COLONY DATA

**Colony Name:** Name of the individual colony or nation.

**Colony Population:** Total population, including children.

**Date Founded:** Date when first colonists arrived, not survey teams.

**Nationality:** Nation that founded the colony, and whose citizens typically form the majority of the population.

**Life Expectancy:** years life expectancy for someone born on the world.

**Literacy:** Average literacy rate of adult (18+) population.

**College Education:** Average rate of college education for adult (18+) population.

**Major Cities:** Names of cities or towns with highest populations.

**Currency:** Type of money.

**Government Type: ()** General type of government plus the corresponding UWP Government Code.

**Law Level: ()** General level of law enforcement, weapons controls, plus the corresponding UWP Law Level Code.

**Tech Level:** General Tech level corresponding to T20 levels.

**Trade Data:** Trade data, for use with the commerce system and character generation.

**Principal Trading Partners:** Three countries or colonies that are the main trading partners.

**Interface Capability: Spaceplane, shuttle, catapult, roton, Beanstalk ()** Lists the types if interface transport available, and the corresponding UWP starport digit.

**Resources: Farming, Mining, Heavy Industry, Orbital Industry** These are man-made improvements to the colony, aimed at extracting resources or producing industrial materials.

**Military Presence: Orbital Defense Installation, Military Base, Naval Base** Orbital Defense Installations are orbital forts, heavily-armed, but immobile. Military base is an installation for ground-based forces, while Naval Base is for space naval forces, and is usually in orbit.

**Services: Fusion Plant** Indicates the presence of a large fusion power plant .

**Solar Power Satellite,** Indicates that the colony owns a solar power satellite.

**Rectenna:** A receiver station for power from a solar power satellite. Colonies do not have to have a solar power satellite to have a rectenna.

**University:** This is an institute of higher learning. If a colony lacks one, young people have to go off-world to study advanced subjects.

**Powernet (%)** Percentage of the claimed area of the colony that has access to the local power distribution network.

**Road Net (%)** Percentage of the claimed area of the colony that has access to the local road network.

**Rail Net (%)** Percentage of the claimed area of the colony that has access to the local rail network.

**Link Network (%)** Percentage of the claimed area of the colony that has access to a local data network

**Airship Net** Indicates whether a colony has an airship transport network in place. Airship networks are flexible, so a

percentage isn't needed.

**Weather Satellites:** Indicates whether the colony has access to weather satellites.

**Communications Satellites:** Indicates whether the colony has access to communications satellites. This is separate from the local link network.

**Surveillance Satellites:** Indicates whether the colony has access to surveillance satellites. These types of satellites are rare outside of the Core.

**Orbital Terminal:** Almost all colonies have an orbital terminal, where passengers and cargo can transship from starships to interface vessels.

**Civilian Shipyard:** Indicates whether the colony is capable of building civilian (TL10-11) starships and system ships.

**Military Shipyard:** Indicates whether the colony is capable of building military (TL10-12) starships.

## Worlds of the AMERICAN ARM

### KING/DM+2 3312

The horrible conditions on King have gained it the reputation of being as close to hell as man will ever get. However, it has things to offer – enough so that the Americans and Australians have taken a tremendous interest in the planet's development.

### SYSTEM DATA

#### Stellar Data

**Primary Name:** DM+2 3312

**Spectral Class:** K7 V

**Magnitude:** 8.15

**X, Y, Z Coordinates:** -4.0, -24.2, 0.9

**Planets:** 5 (King, Dawes, Burling, Kissing, and Carter)

### PLANETARY DATA

#### Planet Data

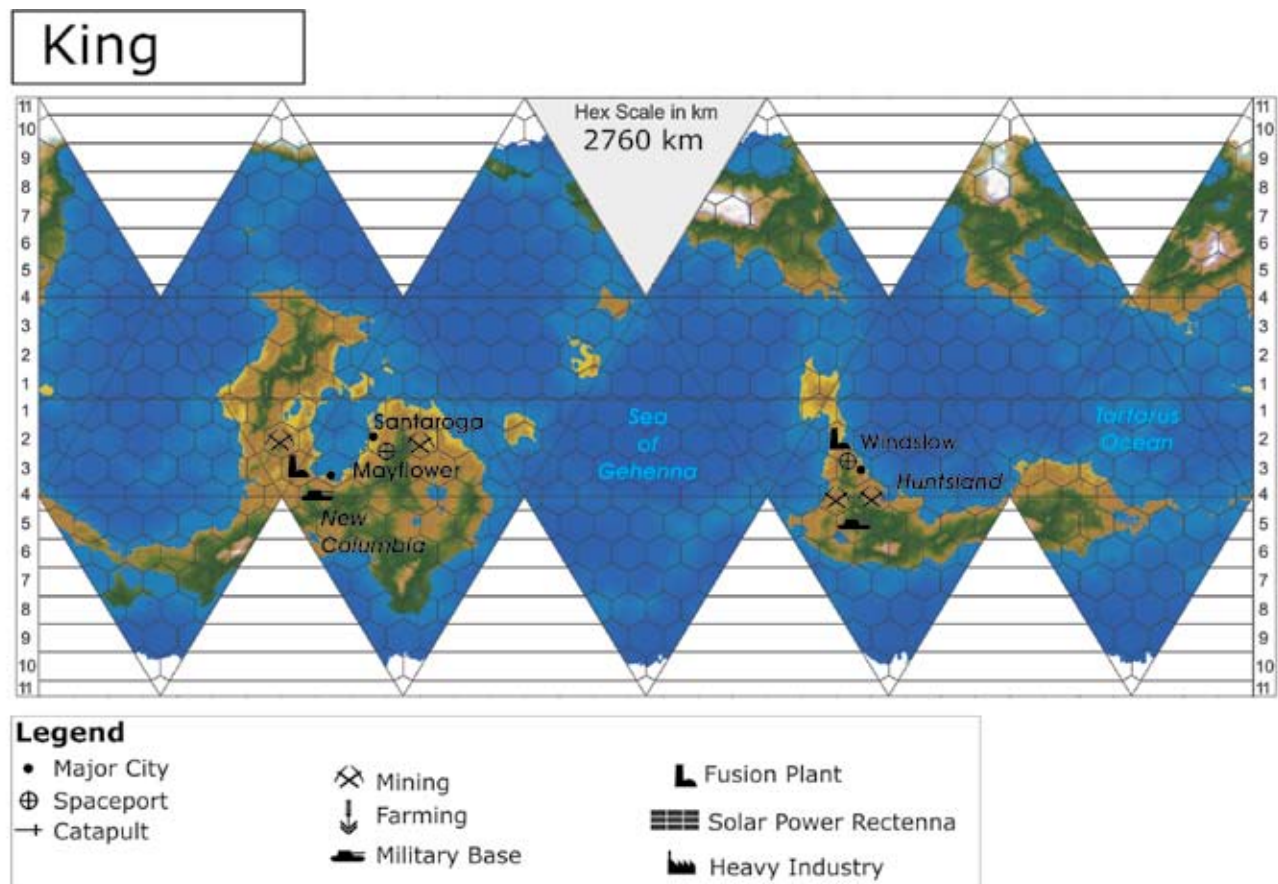
**Name:** King

**Distance from Primary:** 0.2 AU

**Year Length:** 23.78 standard days (29.04 local days)

**Size:** 30,750 km in diameter

**Day Length:** 19.65 hours



**World Type:** Garden**Surface Gravity:** 3.08 G**Atmospheric Pressure:** 2.7 atm**Climate:** Hot**Water Presence:** 67%**Atmospheric Composition:** N<sub>2</sub> (75%), O<sub>2</sub> (19%), Trace (6%)**Biodiversity:** Diverse; toxic**Natural Resources:** 12**Satellites:** 1 (Abernathy, 4500 km, 2 naval bases)

The planet King is one of the most inhospitable worlds ever settled by mankind. Currently home to the American colony of New Columbia and the Australian settlement of Huntsland, this world has a crushing gravity, violent seasonal changes, and harsh surface temperatures. Neither nation would have built any kind of extensive base on King if it were not for the tremendous natural resources found here. Currently, King is the source for nearly all of the tantalum used by both nations in their space agencies.

## COLONIAL DATA

Normal human beings cannot survive in King's crushing gravity and poisonous atmosphere. The first colonists underwent a DNA Modification process, the results of which they passed down to their children. The final effect is thought to be somewhat monstrous, but it is effective. It is worth noting that the perception of the King modification as leading to "supermen" is what precipitated the Gene Protests of the early 2200s, which led, in turn, to a moratorium on non-therapeutic DNA modification research in Humans.

### Orbital Maternity Complex:

Bitter experience taught the colonists the dangers of attempting to bring a child to term in King's immense gravity. Even though the children inherit their parent's DNA modification, most are just not strong enough to survive the first year. Many were stillborn as well, with infant mortality rates approaching 80% in the first generation. In response, the colonial governments established the Orbital Maternity Complex, or OMC, a space station which provides an Earth-normal gravity for mother and children from the first trimester through to the end of the child's first year of life. The cost of the OMC is partially offset by the government, and in part by the colonists through loans and contracts.

## SOCIETY

Both colonies on King have developed a reputation for conservative attitudes, in particular an almost fanatic adherence to the laws and rules of their nations. This is a legacy from government attempts to foist convict labor off on to their world.

**Colony Name:** New Columbia**Colony Population:** 2.9 million**Date Founded:** 2194**Nationality:** American**Life Expectancy:** 52 years**Literacy:** 85%**College Education:** 68%**Major Cities:** Mayflower (1.1 million), Saratoga (650,000), OMC (2,200)**Currency:** American Dollar**Government Type:** Elected congress with externally-appointed governor (4)**Law Level:** Moderate. Personal concealable firearms prohibited (5)**Tech Level:** (11)**Trade Data:** NI**Principal Trading Partners:** America, Ellis, Mu Herculis**Interface Capability:** Spaceplane, shuttle, catapult**Resources:** Farming, Mining**Military Presence:** Orbital Defense Installation, Military Base, Naval Base**Other Bases:** Foundation (Alberta Farmer's Cooperative)**Services:** Fusion Plant, Powernet (83%), Road Net (74%), Rail Net (98%), Link Network (43%), Weather Satellites, Communications Satellites, Orbital Terminal

The American colony of New Columbia is halfway between the north pole and the equator. The site was selected because it is one of two regions where the surface temperature stays within human tolerances. Huntsland, the Australian colony with its capital of Windslow, is located in a similar position in the southern hemisphere.

**Colony Name:** Huntsland**Colony Population:** 1.2 million**Date Founded:** 2197**Nationality:** Australian**Life Expectancy:** 51 years**Literacy:** 85%**College Education:** 71%**Major Cities:** Windslow (850,000)**Currency:** Australian Dollar**Government Type:** Appointed Governor (6)**Law Level:** Moderate. Personal concealable firearms prohibited (5)**Tech Level:** (11)**Trade Data:** NI**Principal Trading Partners:** Australia, Botany Bay, Kingsland**Interface Capability:** Spaceplane, shuttle, catapult (B)



**Resources:** Farming, Mining

**Military Presence:** Orbital Defense Installation, Military Base, Naval Base

**Other Bases:** None

**Services:** Fusion Plant, Powernet, Road Net (87%), Rail Net (65%), Link Network (53%), Orbital Terminal

Huntsland has been undergoing a population decline for the past forty years. It has become almost impossible to attract new colonists, and the ones there are leaving in record numbers. Later generations are simply finding living conditions to be too onerous. In 2319, nearly 100,000 people tried to leave the colony, but there was only space available for 20,000.

The recent population crisis precipitated a collapse of the planet's state government, with the Lieutenant-Governor being forced to take direct control of the colony's government until new elections can be held.

### DNAM Rebellion:

In recent years there has been a growing protest movement related to the genetic manipulation of the colonists. As the fifth generation of children reared on this world are now coming to maturity, many are questioning the suitability of King as a colony. Some in the protest movement view it as a human rights issue, with the limited longevity of King residents often cited, while others point to the low standard of living and low literacy and college education rates. On Ellis, people can live to be well over 100, while on King, a 60-year old man is considered extremely old. Even with the extensive DNA modifications, the planet is extremely harsh. And now, many members of these diverse groups are demanding to be resettled off world, and the DNA modification reversed so they can live normal lives.

## HERMES/MU HERCULIS

Though overshadowed by the success of the Ellis colony, the American colony on Hermes has had an interesting history. Its shaky start and imperfect conditions have restricted the world to second-rate importance along the American Arm.

### SYSTEM DATA

#### STELLAR DATA

**Primary Name:** Mu Herculis A

**Spectral Class:** G0 IV

**Magnitude:** 3.89

**X, Y, Z Coordinates:** -1.6, -23.3, 12.2

**Number of Planets:** 6 (Gemini, Apollo, Hermes, Tangent, Phoenix, and Odysseus)

**Number of Asteroid Belts:** 1

### PLANETARY DATA

#### PLANET DATA

**Name:** Hermes

**Distance from Primary:** 2.2 au

**Year Length:** 2958.53 standard days (8.1 years)

**Size:** 9600 km in diameter

**Day Length:** 9 hours 4 minutes

**World Type:** Garden

**Surface Gravity:** 0.73 G

**Atmospheric Pressure:** 1.5 atm

**Climate:** Temperate

**Water Presence:** 81%

**Atmospheric Composition:** N<sub>2</sub> (73%), O<sub>2</sub> (25%), inert gasses (2%)

**Biodiversity:** Diverse; unusable (levo-amino acids)

**Natural Resources:** 6

**Satellites:** 0

### White Wing:

One of the more dangerous flying carnivores on Hermes, the White Wing can mass as much as 250 kilograms and vaguely resemble furry white pterodactyls. Hunting white wings is a popular tourist attraction.

### COLONIAL DATA

**Colony Name:** Hermes

**Colony Population:** 2.07 million

**Date Founded:** 2215

**Nationality:** American

**Life Expectancy:** 97 years

**Literacy:** 99%

**College Education:** 82%

**Major Cities:** Hope (345,000), Burgess (261,000), and Grey Hill (188,000)

**Currency:** American Dollar

**Government Type:** Democratic Republic (4)

**Law Level:** Moderate. Light assault prohibited (4)

**Tech Level:** (10)

**Trade Data:** Ri, Hi, In

**Principal Trading Partners:** Ellis, Kingsland, Botany Bay

**Interface Capability:** Spaceplane, catapult, roton (B)

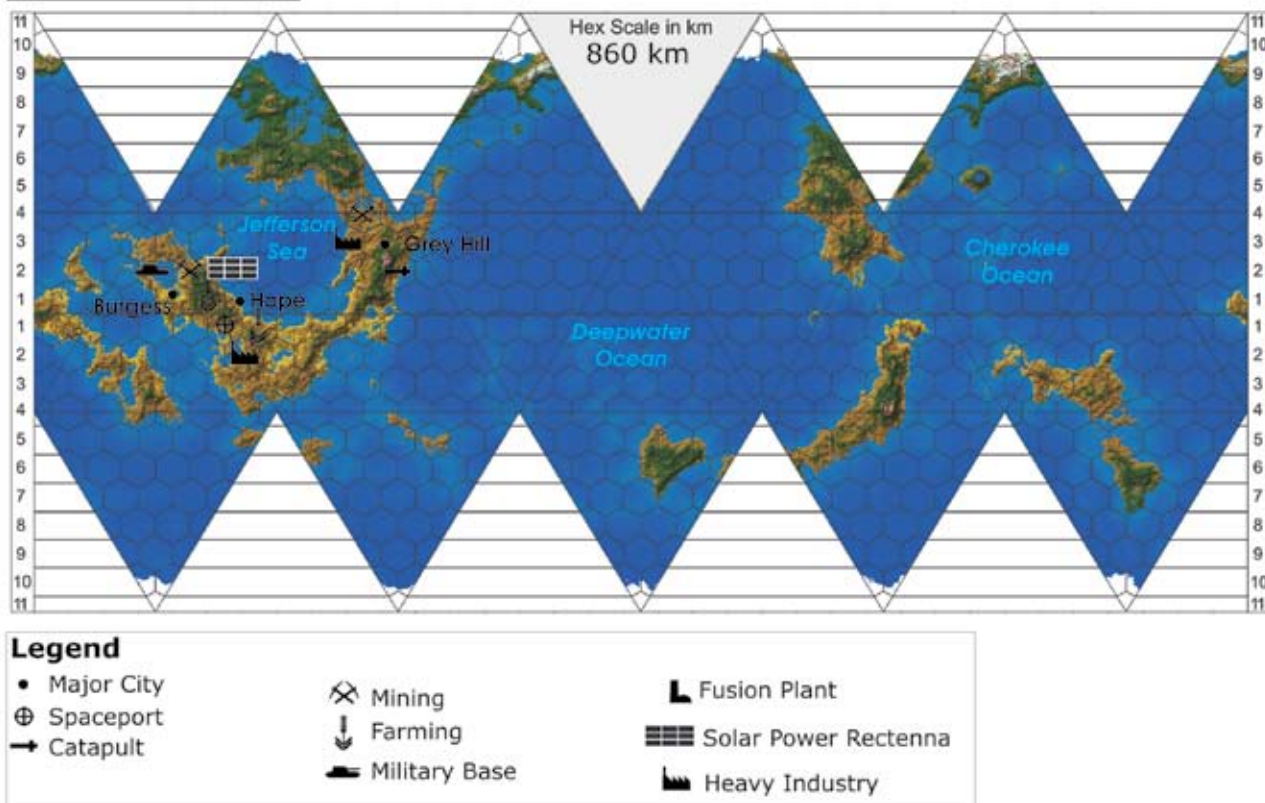
**Resources:** Farming, Mining, Heavy Industry

**Military Presence:** Military Base, Naval Base

**Other Bases:** None

**Services:** Solar Power Satellite, Rectenna, University, Powernet (91%), Road Net (20%), Link Network (98%), Airship Net, Weather Satellites, Communications Satellites, Orbital Terminal

## Hermes



88

Hermes might have been America's first failed colony were it not for the actions of Jennifer Storher and Kim Silva. These two ex-industrialists were immigrants from Earth seeking a quieter, more satisfying life. Seeing that the pursuit of agriculture on Hermes was a dead-end proposition, they formulated a plan. Presenting a proposal to the Life Foundation, Storher and Silva obtained a grant to help them start the now-famous Mule Corporation. Mule's goal was to start an industry to supply heavy machinery to both American and Australian worlds along the Arm at prices less than that of similar products imported from the Core. Situated on the planet's first true city, Hope, the Mule Corporation's production facility, employing 47 men and women at that time, rolled out its first vehicle in 2257. Called the Mule-Apache, this tractor's first sale, ironically, was to a farming cooperative on Ellis.

Success followed the Mule Corporation as its line diversified and its clientele expanded, producing specialized equipment for mining efforts on King and supplying the Australian worlds with much needed heavy equipment.

### ELLIS/AC +48 1595-89 Breadbasket of the American Arm

Proud to have become an off-planet state of America, Ellis is an extremely productive world on the very edge of the American Arm. Its future seems bright as the colony is growing to be the largest in the region, and is the base for exploration of the Beta Aquila cluster.

### The Chandler University:

Chandler University was founded by Eva May Chandler in the city of Grey Hill in 2276. It was funded by grants from the American Interstellar Science Institute and the American government. It has become one of the most highly regarded schools in colonial space for the study of liberal arts and life sciences. The students who attend this institution come from several of the worlds in the American Arm as well as a small number from the Core worlds.

In addition to its facilities on the planetary surface, the Chandler University at Mu Herculis also maintains an Orbital Biological Studies Lab and has students at the Borlaug Institute for Jovian Xenobiologies in the King system.

### SYSTEM DATA

#### Stellar Data

**Primary Name:** AC + 48 1595-89

**Spectral Class:** M3 VI

**Magnitude:** 10.97

**X, Y, Z Coordinates:** -6.5, -14.3, 17.6

**Number of Planets:** 3 (Ellis, Oyster, Gibbet)

**Number of Asteroid Belts:** 0

## PLANETARY DATA

The second world from the star is named Oyster. This colorful jovian is just over 90,000 kilometers in diameter and orbits at a distance of 0.15 AU. It has four major moons and a bright ring of dust and ice. One large, Titan-like moon, Carlton, serves as training facility for the USMC, giving troops experience in operations under low-gravity, non-terrestrial conditions.

Boise, a large asteroidal member of Oyster's trailing trojans, acts as the system's primary spaceport. To create a more comfortable environment, it has been extensively tunneled and a spin has been induced to give a simulated gravity. All customs operations are also handled at Boise's facilities.

## PLANET DATA

**Name:** Ellis

**Distance from Primary:** 0.07 AU

**Year Length:** 2.44 standard days

**Size:** 12,850 km in diameter

**Day Length:** 18.02 hours

**World Type:** Desert

**Surface Gravity:** 0.92

**Atmospheric Pressure:** 1.4 atm

**Climate:** Temperate

**Water Presence:** 7%

**Atmospheric Composition:** N<sub>2</sub> (80%), O<sub>2</sub> (16%),

inert gases (4%)

**Biodiversity:** Minor

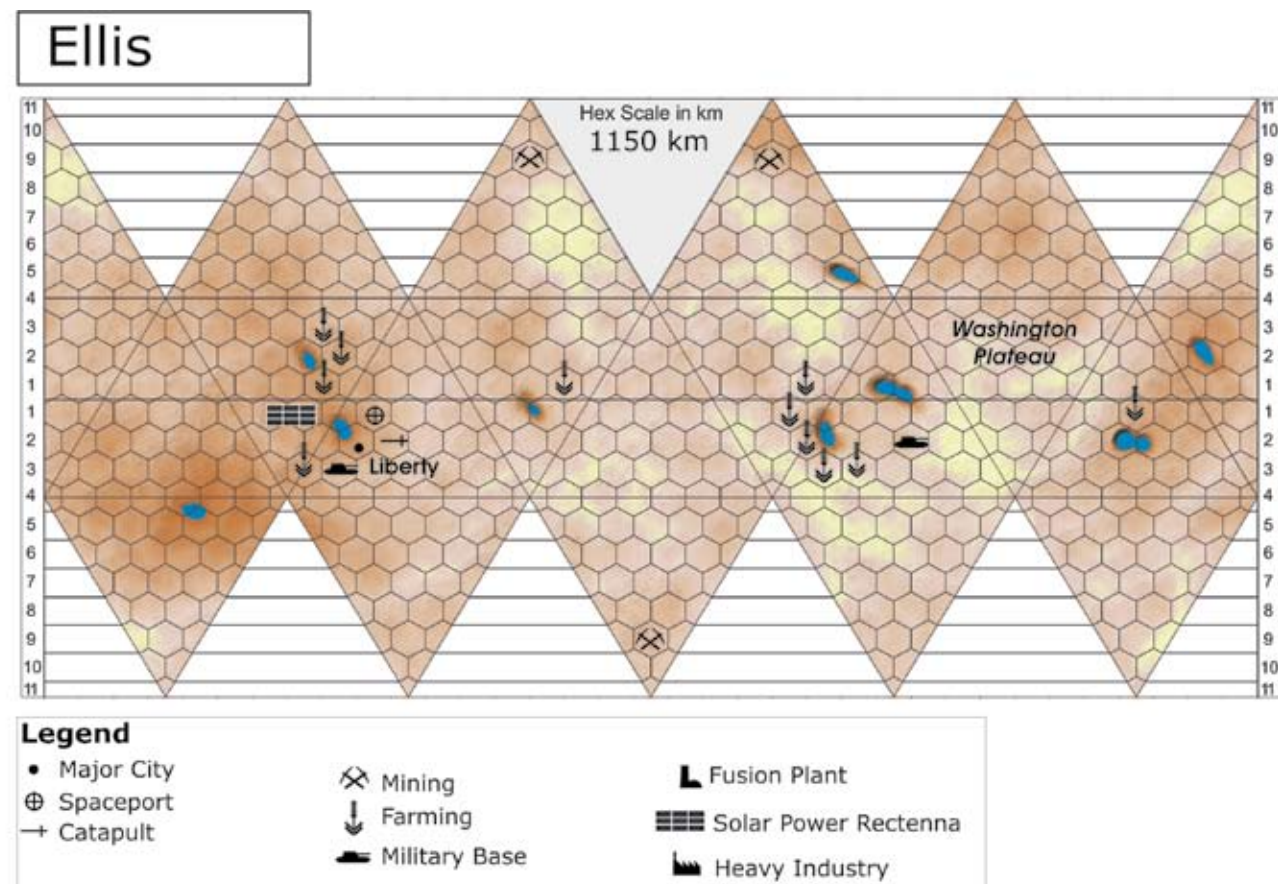
**Natural Resources:** 9 (agricultural products)

Along the lengths of the American Arm, there are few worlds as important to the daily survival of the colonies as Ellis. Once a fairly Earth-like world, Ellis has been in a constant spiral toward ecological ruin for thousands of years. The bold colonists who have chosen to settle there, however, are engaged in an effort to halt the ecological decline and restore the planet to some semblance of its former state. As the 24th century dawns on humanity, this once barren world is now the pride of the United States, producing a great amount of food which is shipped across the entire American Arm.

Only 7 percent of the surface of Ellis is covered with water, making most of the planet a dry wasteland. The efforts of colonists, however, are increasing the productivity of the lands around these scattered lake regions. Various efforts are underway to irrigate the wastelands, and each year additional farmlands are opened up to homesteaders. There is a limit to how far these farmlands can expand, however, due to the extremely limited amount of water available.

## RESOURCES

The primary export of the American colony on Ellis is food. Long ago, much of this world is believed to have been covered in grasslands and light forests. Recently, in planetary terms, Ellis has begun to lose much of its surface water. There





are several theories regarding this event, ranging from variation in the star's output to localized chemical recombination. When the first mission to explore the system unexpectedly stumbled across the planet in 2220, Ellis was well on its way to becoming a post-garden world. With the help of the Alberta Farmers' Cooperative, the Canadian government, and several commercial interests, the American government began a program of careful ecological control. While far short of the terraforming projects planned for some other worlds, this restoration program has proven to be quite successful. With the establishment of an irrigation network and extensive soil reclamation efforts, vast areas of arid land are once again supporting life. Food from the colony on Ellis is shipped across the American Arm.

In addition to the increasingly bountiful agricultural resources of the planet, Ellis has fairly large petrochemical reserves. These are only beginning to be exploited as the 24th century opens, and they hold much promise for the future. Due to the fragile ecology of the planet, however, extreme care is being taken to avoid damage to the environment which might be caused by this new industry.

## COLONIAL DATA

**Colony Name:** Ellis

**Colony Population:** 4.5 million

**Date Founded:** 2228

**Nationality:** American

**Life Expectancy:** 96 years

**Literacy:** 99%

**College Education:** 72%

**Major Cities:** Liberty (125,000)

**Currency:** American Dollar

**Government Type:** Democratic Republic (4)

**Law Level:** Moderate. Light Assault Weapons Prohibited (4)

**Tech Level:** (9)

**Trade Data:** Ri, Hi

**Principal Trading Partners:**

**Interface Capability:** Spaceplane, shuttle, catapult (B)

**Resources:** Farming, Mining

**Military Presence:** Military Base, Naval Base

**Other Bases:** Foundation (Alberta Farmer's Cooperative), Science

**Services:** Fusion Plant, Pownet (98%), Road Net (100%), Rail Net (100%), Link Network (98%), Weather Satellites, Communications Satellites, Orbital Terminal, Civilian Shipyard, Military Shipyard

During the first decade of settlement, the colony was headed by leaders appointed by the American government. Most of this time was taken up with the establishment of

the planetary bureaucracy. Once the control and support structures were in place and functioning smoothly, the appointed leaders stepped down and democratic elections were held. Members of the appointed government proved to be so popular, however, that many of them remained in positions of power for years to come.

Farms were established as soon as the colony ships arrived, but these were intended only to support the populace. After the colony was established and settling into a routine, the expansion of the farmlands began. Irrigation systems began to spread outward from the lakes like fine spider webs. Gradually, soil was restored and crops planted in the once again fertile regions. By the close of 2245, the farms were producing enough food to begin exporting.

The colony continued to grow at a fairly good rate. The environment of Ellis was not harsh, and homesteading was quite popular. New immigrants came from all across the American Arm. In 2270, the population of Ellis passed one million.

In 2275, a referendum was passed by an overwhelming majority which called upon the United States government to grant statehood to Ellis. On July 4, 2276, the president of the United States, Norman Isaacs, signed the papers to make it official—America celebrated the addition of its newest state. To this day, the American colonies on King and Mu Herculis remain territories of the United States, and only Ellis has attained statehood.

In the nearly 50 years since that historic event, Ellis has continued to grow in importance. It's agricultural industry has been vital to both the American and Australian colony efforts all along the American Arm. The petrochemical reserves which have recently begun to be exploited promise even more influence for this newest state.

By and large, the colonists on Ellis are an honest and peaceful group. They are often homesteaders (or their children) who are working "to make it for themselves." Ellis has the lowest crime rate of any state in the union. The colonists of Ellis are known across the American Arm as conservatives and patriots and are fiercely proud of their heritage and their national history. There is, unfortunately, a wide streak of New America sentiment in many of the colonists. There has even been some agitation for the world to secede from the Union, or for the New American "True Patriots" to create their own colony on the barren world.

Currently, the population of the colony continues to grow at a rate of about 3.9 percent per year. Homesteading is the primary source of immigration, and life on Ellis is often promoted as a true example of "the traditional American Dream." All land grants for would-be settlers are dealt with by the United States Department of Extraterrestrial Resources (USDER).

## BOTANY BAY/DM+33 2777

The muddy seas of Botany Bay have spawned an interesting living kingdom. The Australians have seized upon the world as a vital site for their budding space presence.

### SYSTEM DATA

#### STELLAR DATA

**Primary Name:** DM+33 2777

**Spectral Class:** K7 V

**Magnitude:** 8.19

**X, Y, Z Coordinates:** -8.6, -24.7, 17.3

**Number of Planets:** 9 (Newgate, Gehenna, Rock, Botany Bay, Hardplace, Alcatraz, Outworld, Tannhauser, Meridian)

**Number of Asteroid Belts:** 0

### PLANETARY DATA

#### PLANET DATA

**Name:** Botany Bay

**Distance from Primary:** 0.8 AU

**Year Length:** 312.24 days

**Size:** 11,200 km in diameter

**Day Length:** 22.27 hours

**World Type:** Garden

**Surface Gravity:** 0.91

**Atmospheric Pressure:** 0.92

**Climate:** Temperate

**Water Presence:** 90%

**Atmospheric Composition:** N<sub>2</sub> (78%), O<sub>2</sub> (21%) Kr (0.5%)

**Biodiversity:** Diverse

**Natural Resources:** 3

When Australian explorers first encountered the world that would become known as Botany Bay, they found a warm, watery world that just might be capable of sustaining a colony. Further study of the system revealed a world in many ways like Earth, but in many ways much different.

### COLONIAL DATA

**Colony Name:** Botany Bay

**Colony Population:** 1.3 million

**Date Founded:** 2233

**Nationality:** Australian

**Life Expectancy:** 99 years

**Literacy:** 98%

**College Education:** 64%

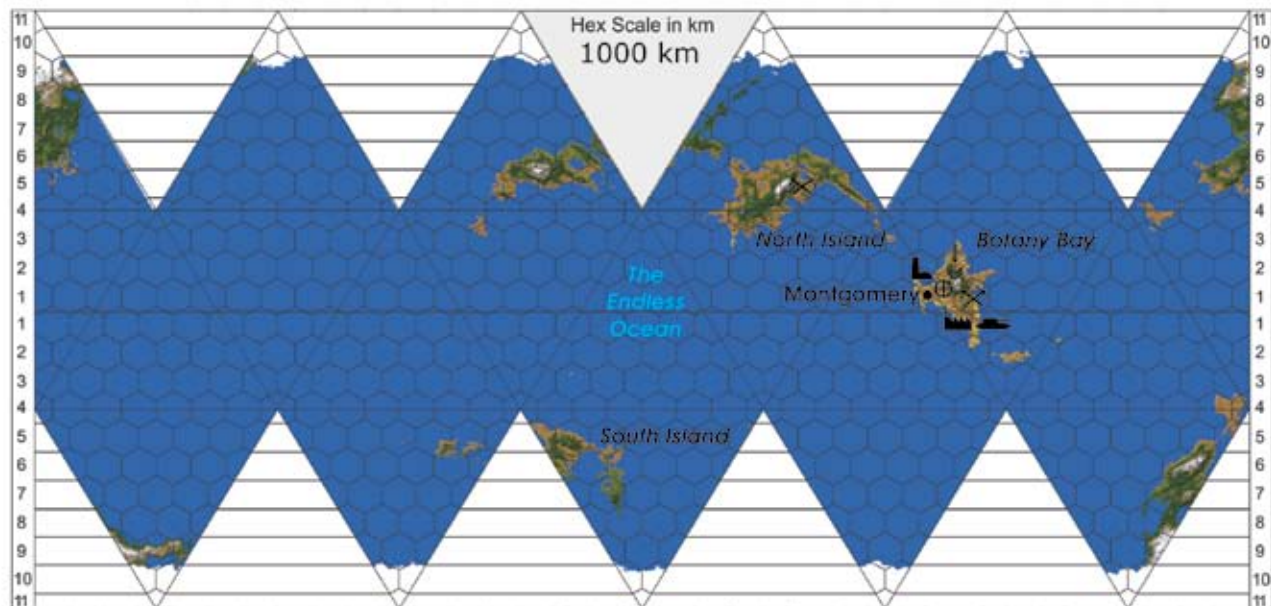
**Major Cities:** Montgomery City (55,000)

**Currency:** Australian Dollar

**Government Type:** Colonial Governor (6)

**Law Level:** Moderate. Light Assault Weapons Prohibited (4)

## Botany Bay



#### Legend

- Major City
- ⊕ Spaceport
- Catapult

- ⛏ Mining
- ↓ Farming
- 🏠 Military Base

- ⚡ Fusion Plant
- ☄ Solar Power Rectenna
- 🏭 Heavy Industry

**Tech Level:** (9)**Trade Data:** Ri**Principal Trading Partners:** Ellis, King, Australia**Interface Capability:** Spaceplane, shuttle (C)**Resources:** Farming, Mining, Heavy Industry**Military Presence:** Military Base**Other Bases:** Science

**Services:** Fusion Plant, University, Powernet (71%), Road Net (80%), Rail Net (80%), Link Network (98%), Airship Net, Weather Satellites, Communications Satellites, Orbital Terminal

Botany Bay presented the Australians with their first opportunity to colonize an entire world for their own purposes. Agreements with their American allies at the time allowed them exclusive rights to populate and explore the entire DM+33 2777 system. Naturally, their first garden world was named Botany Bay in a unanimous vote of the Australian legislature three years earlier.

The first colony, started on Cook Island in the southern hemisphere, failed due to some bad planning and worse luck. The second colony on Botany Bay, Darwin Island, was begun two decades later, in 2233, again with government and popular backing, and with massive planning support.

For mostly political reasons, the second colony was placed on a northern hemisphere island. Darwin promised to be distant enough from the failed colony on Cook to put people's minds at ease. This new settlement has become a successful industrial colony, known principally for electronics and paper products.

### The Darwin Library:

Typically, early colonies are stretched to the limits to find transport for the bare essentials such as food and equipment. There is seldom room for any sort of luxury such as nonessential computer equipment for a library. The Darwin Library is one notable exception.

Originally brought along with the first colonists, under the direction of Montgomery himself, were five technicians and several data computers to set up a primitive library within the settlement.

As the colony grew, the need for more educators became obvious, and the library technicians began to take a greater and greater role in the education of young citizens.

Today the Darwin Library is the center of the entire education system on Botany Bay. A strange conglomeration of traditional education and information processing techniques, the Library provides an information-intensive education for every child in the colony. The educators there have been noted for their innovative use of materials to produce a stimulating learning environment, and teachers from as far away as the Core have come to Darwin to try to emulate these extraordinary results.

## KINGSLAND/ZETA HERCULIS A

The huge world of Kingsland has become Australia's new outback. The scattered villages and families have only begun the taming of this enormous chunk of extraterrestrial real estate.

### SYSTEM DATA

#### STELLAR DATA

**Primary Name:** Zeta Herculis A**Spectral Class:** G0 IV**Magnitude:** 2.97**X, Y, Z Coordinates:** -9.2, -25.1, 16.4**Number of Planets:** 4 (Ayers, Woomera, Musgrave, Kingsland)**Number of Asteroid Belts:** 1 (Infinity Belt (shared))**Companion Name:** Zeta Herculis B**Spectral Class:** K0 V**Magnitude:** 5.57**X, Y, Z Coordinates:** -9.2, -25.1, 16.4**Number of Planets:** 4 (Zeta Herculis B-1, Zeta Herculis B-2, etc)**Number of Asteroid Belts:** 1 (Infinity Belt (shared))

### PLANETARY DATA

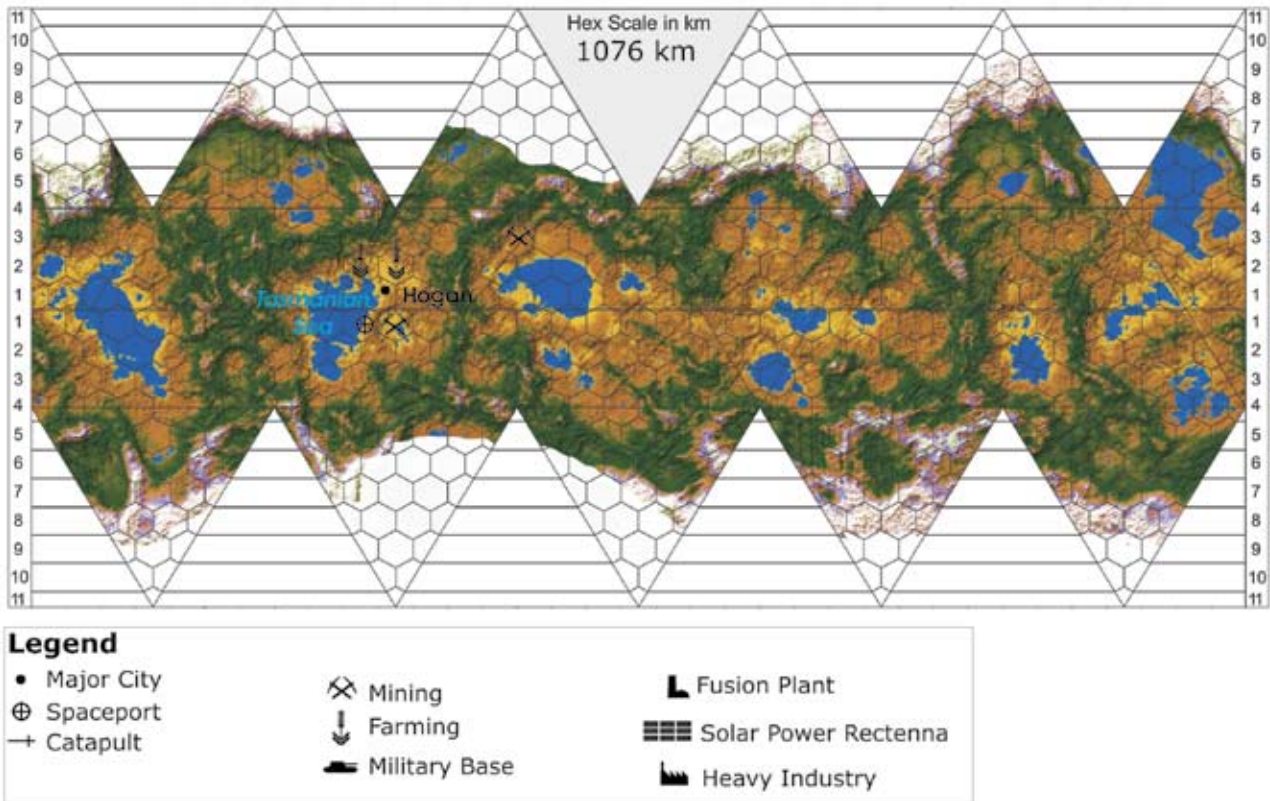
#### PLANET DATA

**Name:** Kingsland**Distance from Primary:** 1.2 AU**Year Length:** 539.19 days**Size:** 11,987 km in diameter**Day Length:** 41 hours**World Type:** Glacier**Surface Gravity:** 0.991**Atmospheric Pressure:** 0.94**Climate:** Temperate**Water Presence:** 55% (80% in glaciers)**Atmospheric Composition:** N<sub>2</sub> (79%), O<sub>2</sub> (19%), Trace (2%)**Biodiversity:** Sparse, useable**Natural Resources:** 3**Satellites:** 2 (Prime, Second)

Kingsland is officially classified as a glacier world. However, since there is considerably less water available on the planet, the glaciers only cover the northern and southern sixth of the planet. Also, since Kingsland has almost no axial tilt, there is an area around the equator which is not only ice free, but has lakes of freestanding water and its own weather patterns. These areas have spawned life and are quite hospitable. However, much of the surface of Kingsland is unusable, and is split into three distinct types – glacier, tundra, and



Kingsland



equatorial.

There are many remarkable plants native to this world, but two bear special mention.

**The Bunyip's Hat:** Virtually the only life form on the glacier is known locally as the Bunyip's Hat. Each plant springs quickly from a seed on the surface of the ice to form a circular mat from one to five meters in diameter. The living mat is very dark in color, either dark green or nearly black. Light absorbed by the plant is used both for photosynthesis and to heat the mat, melting some of the ice underneath and supplying water for growth. At three spots on the edge of the mat are new seed growths, which will grow at the end of a compressed gas bag. When the seed is ready, the compressed gas in the bag fires the seed away from the parent plant to grow a new Bunyip's Hat where it won't compete with the parent plant.

The Bunyip's Hat is playing a key role in the passive terraforming efforts currently underway on Kingsland, and is being considered by French scientists for the ongoing effort on Sans Souci.

**The Flat Tree:** A rather remarkable and useful Kingsland plant is known as the flat tree. This tree can attain heights of 70 meters, and can be as large as 18 meters across at the base. In its mature phase, the tree is host to a large, internal symbiote initially described as a "large amoeba" (although it is multicellular) that helps it extract certain nutrients from the soil in return for protection. When the tree dies, it

undergoes rapid petrification from the minerals leached out over the years. The symbiote dies quickly, leaving a large cavity in the base of the now-petrified tree.

Early in the colonies history, the settlers discovered the flat tree, and converted them into home with a unique style, a far cry from the bland, mass-produced housing modules common to colonial startups.

COLONIAL DATA

- Colony Name:** Kingsland
- Colony Population:** 1.5 million
- Date Founded:** 2215
- Nationality:** Australian
- Life Expectancy:** 98 years
- Literacy:** 98%
- College Education:** 76%
- Major Cities:** Hogan (117,000)
- Currency:** Australian Dollar
- Government Type:** Representative Democracy (4)
- Law Level:** Moderate. Personal concealable firearms prohibited (5)
- Tech Level:** (7)
- Trade Data:** Ri
- Principal Trading Partners:**
- Interface Capability:** Roton (D)
- Resources:** Farming, Mining
- Military Presence:** Orbital Defense Installation, Mili-

tary Base, Naval Base

**Other Bases:** Science

**Services:** Road Net (25%), Link Network (12%), Weather Satellites, Communications Satellites, Orbital Terminal

Kingsland is a established colony world, having celebrated its 100<sup>th</sup> birthday in 2315. But for the first fifty years or so, only rugged Australian frontier families made their homes there: the census of 2280 recorded a mere 11,250 people living on Kingsland. The colony has drawn settlers for two chief reasons. First, it was and is a matter of pride among the Australian people to be a colonial power – their origins as a colony and the benefits they received being a part of the British Commonwealth reinforce public opinion that colonies only strengthen the owning power, provided relations can be kept friendly. The second reason for colonization is potential mineral wealth, both on Kingsland and on its larger satellite, known as Kingsland Prime. Still, the primary reasoning behind colonization is for race-wide prestige. The possibility that Kingsland's resources or output will greatly benefit its mother nation are recognized as being quite small. But, in the eyes of the Australian government, being a stellar colonial power will bring benefits which are less tangible from the human community on Earth and beyond.

Some mining has begun on Kingsland, with marginal success. There are deposits of iron, bauxite, and tantalum on the planet. Eventually it is hoped that Kingsland will be able to support mining operations on Kingsland Prime as well, but such efforts are combined merely to a couple of demonstration sites at this time.

Kingsland is governed as an Australian state, with an elected Parliament. A Lieutenant-Governor is appointed by the Australian Parliament and charged with maintaining federal interests in the colony.

## AVALON/DM -34 11626 A

This world is the latest American colony, and is notable also for being the first solo Nigerian extra-solar venture. A world of shallow seas and archipelagos, Avalon's ecology is fragmented, with each island chain having its own unique micro-ecology.

### SYSTEM DATA

#### STELLAR DATA

**Primary Name:** DM-34 11626 A

**Spectral Class:** K3 V

**Magnitude:** 7.03

**X, Y, Z Coordinates:** -3.7, -18.8, -13.4

**Number of Planets:** 6 (Tint gel, Avalon, Lothian, Lionesses, Pewees, and Anon)

**Number of Asteroid Belts:** 2 (Morgan Belt, Merlin

Belt)

**Companion Data:**

**Companion Name:** DM-34 11626 B

**Spectral Class:** K5 V11.2 AU

**Magnitude:** 7.9

**X, Y, Z Coordinates:** -3.7, -18.8, -13.4

**Number of Planets:** 2 (Griever, Lancelot)

**Number of Asteroid Belts:** 0

**Primary Name:** DM-34 11626 c

**Spectral Class:** M2 V

**Magnitude:** 10.89

**Distance from Primary:** 112 AU

**X, Y, Z Coordinates:** -3.7, -18.8, -13.4

**Number of Planets:** 1 (Coalman)

**Number of Asteroid Belts:** 0

### PLANETARY DATA

The planets and the asteroid belts are all named after places or characters from Arthurian mythology. The Morgan Belt is the only body in the system to attract attention after Avalon. It seems to have a high number of very dense asteroids, indicating possible heavy metals. So far no one has been able to do any further exploration, as the settlement of Avalon is taking precedence.

#### PLANET DATA

**Name:** Avalon

**Distance from Primary:** 0.42 au

**Year Length:** 195 days

**Size:** 10,476 km in diameter

**Day Length:** 21.35 hours

**World Type:** Ocean

**Surface Gravity:** 0.72 G

**Atmospheric Pressure:** 0.75 atm

**Climate:** Temperate

**Water Presence:** 97%

**Atmospheric Composition:** N<sub>2</sub> (77%), O<sub>2</sub> (22%), Trace (2%)

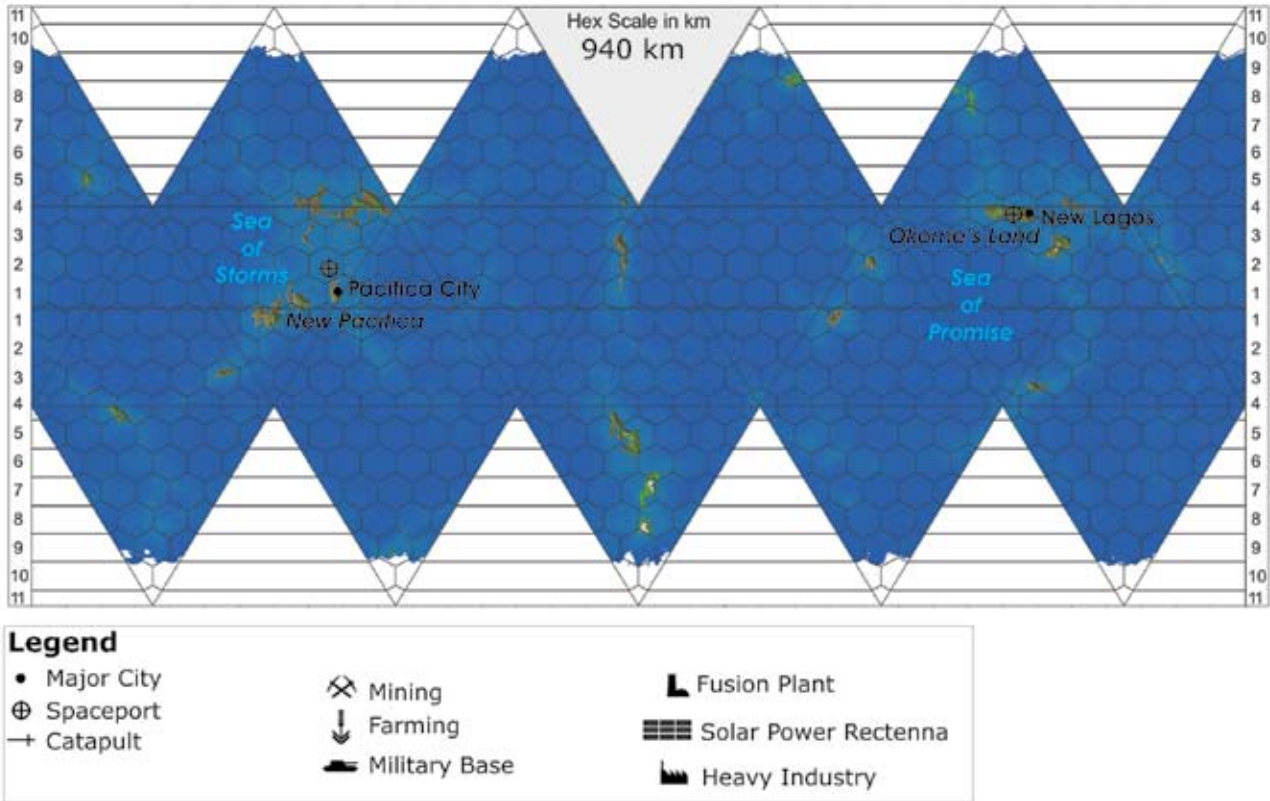
**Biodiversity:** Diverse; usable, vitamin supplements required

**Natural Resources:** 5

**Satellites:** 2 (Murdered, Griever)

Avalon is a world of small islands and archipelagos, all heavily shrouded in cloud and fog. From space, Avalon is a mystery, with few breaks in the cloud cover. The depth of the oceans is quite unusual. Most of the seas are very shallow, less than 300 meters. However, at the north and south poles, the oceans are almost three times deeper than elsewhere on the planet. It is theorized that at one point in time the water level was much lower, giving the planet wide continents. Mechanisms for the increase in depth of the oceans are all speculative. The common theory runs that the world was

Avalon



once much colder, with extensive polar ice caps and some sort of climate shift warmed the world up, thus melting the ice caps.

The salinity of the world's ocean's backs up the idea that there was once more land. Haifeng, with its deeper oceans, but a similar amount of land area, has a much lower salinity than the oceans of Avalon, even after accounting for the much greater volume of water.

Travel on Avalon is largely by dive-capable surface vessels or light aircraft. Weather is relatively benign, due largely to the mitigating effects of the constant cloud cover. When a storm does brew up, though, it can last for weeks.

COLONIAL DATA

Avalon has not been settled for very long. The first American settlers established the colony of New Pacifica in late 2309, while the Nigerians didn't start work until 2315. Both colonies are thus small and underdeveloped.

**Colony Name:** New Pacifica

**Colony Population:** 44,000

**Date Founded:** 2309

**Nationality:** American

**Life Expectancy:** 104 years

**Literacy:** 100%

**College Education:** 78%BDOD

**Major Cities:** Pacifica City (5500)

**Currency:** American Dollar

**Government Type:** Appointed Governor (6)

**Law Level:** Moderate. Light assault weapons prohibited (4)

**Tech Level:** (3)

**Trade Data:** Wa

**Principal Trading Partners:** American colonies, America

**Interface Capability:** Roton (D)

**Resources:** Farming

**Military Presence:** Naval Base

**Other Bases:** Science

**Services:** Airship Net, Weather Satellites, Communications Satellites, Orbital Terminal

New Pacifica is centered around a large archipelago running north-south near the world's equator. This archipelago boasts most of the world's dry land, along with its largest land animals. In addition to aquaculture, New Pacifica supports a number of small mining and petrochemical corporations, who are hoping Avalon will be a good source for minerals and petroleum.

Most of the aquaculture is taking place in floating complexes off the shore of the colony. The fish being raised are a combination of local and imported forms. There is talk of genemodding one of the imported types to synthesis the B-complex vitamins lacking in the native life forms. In the meantime, the B-complexes have to be imported from off-



world.

A large proportion of the settlers to New Pacifica are veterans of the Kafer War, and many more are expected as the colony expands. These veterans have had noticeable difficulty in adapting to life back on the Core worlds, and the American federal and state governments are "encouraging" many of them to seek their fortunes off-world.

**Colony Name:** Okome's Land

**Colony Population:** 16,000

**Date Founded:** 2315

**Nationality:** Nigerian

**Life Expectancy:** 95 years

**Literacy:** 99%

**College Education:** 82%

**Major Cities:** Lagos (8000)

**Currency:** Nigerian Naira

**Government Type:** Appointed Governor (6)

**Law Level:** Moderate. Personal concealable firearms prohibited (5)

**Tech Level:** (3)

**Trade Data:** Wa

**Principal Trading Partners:** American colonies, Nigeria

**Interface Capability:** Roton (D)

**Resources:** Farming

**Military Presence:** None

**Other Bases:** Science

**Services:** Weather Satellites, Orbital Terminal

It was Nigerian President Okome who pushed through the negotiations for Nigeria to get its first colony, and the colony is named in his honor. He never lived to see his dream fulfilled of a separate Nigerian colony, having passed away three years before the first ship left. Though Nigeria has previously participated in joint efforts on the Chinese Arm, this is its first independent colony.

Okome's Land has imported a sophisticated oceanographic vessel, designed to help map the submarine landforms around their colony. This will help them in long-term task of making the colony viable, as the mapping should be able to pick up land-forms indicative of exploitable minerals.

#### Odd-Landforms:

In the six months since the undersea mapping project started, there has been a moment of controversy. One of the locations mapped by the vessel shows very odd sonar returns which some believe indicates a drowned city. Further mapping expeditions had to wait until one of Avalon's sudden, intense storms passed. When the survey vessel returned to the location a month later, it could find no trace of the unusual submarine landforms. Interest in the undersea mapping project has become extremely high.

## FRENCH ARM

The French Arm vies with the Chinese Arm as the most developed grouping of colony worlds. The Arm contains a total of twelve colony worlds, colonized mainly by France, Britain, Germany, and Azania, but with settlements by many other nations as well.

The Kafer War has had a devastating effect on many, if not most, of the worlds on the French Arm. Casualties are in the millions, while the numbers of displaced people in unknown, though thought to be well in excess of 3 million. In terms of sheer deaths and damage, the Kafer War is the worst calamity to befall mankind since the Twilight War. However, that damage has been confined to the colonies, and very little news of their condition leaks out to the contented masses of Earth. Many on Earth seem more concerned with the plight of the Little Guys far down the Bayern Corridor than the fate of a French settler from the human frontier.

## Worlds of the French Arm

**Frontiers:** The French Arm is replete with fingers, together known as the frontiers. Their reach is still uncharted and their potential is still unrealized. Explorations beyond settled systems has brought contact with the Pentapods, the Klaxun, the Little Guys, and the Kafers; the possibility of new contacts is real and immediate. For this reason most nations exhibit caution in their explorations. Freihafen is currently the only nation investing in colonial operations in the frontiers, but as the Kafer War recedes into the past, more nations are liable to join them.

### NIBELUNGEN/NEUBAYERN

Neubayern is the first star out along the French Arm from Earth which had the potential for supporting a colony. Bavaria first settled the world in 2169, and despite the colony's success, no other major colony was ever established here.

### SYSTEM DATA

#### Stellar Data

**Primary Name:** Neubayern

**Spectral Class:** K7 V

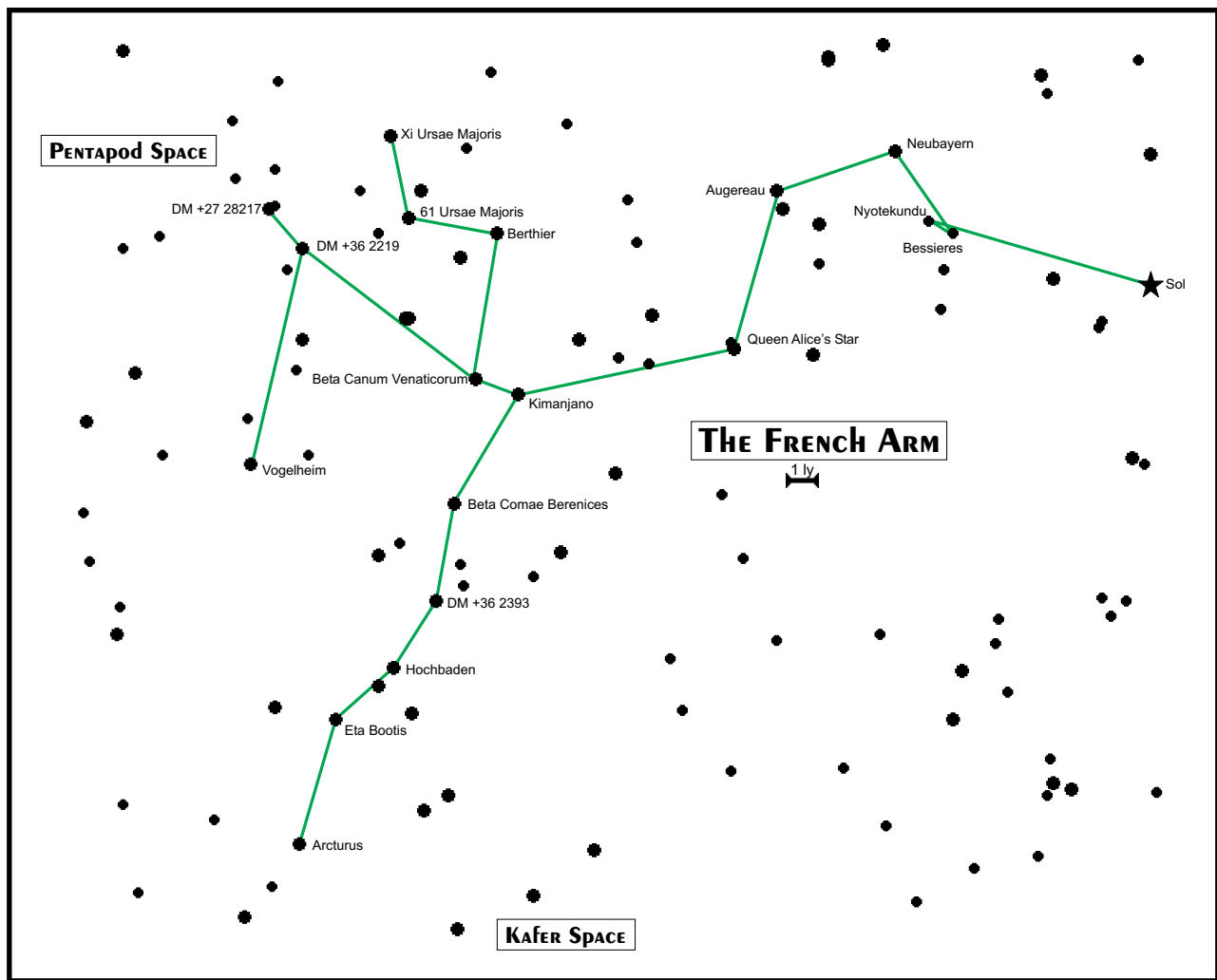
**Magnitude:** 10.4

**X, Y, Z Coordinates:** -8.4, 4.4, 11.1

**Number of Planets:** 11 (Nibelungen, Darmstadt, Munchen, Wiesbaden, Neuschwanstein, Essen, Duisberg, Dortmund, Frankfurt, Augsburg, and Wurzburg)

**Number of Asteroid Belts:** 0

The Neubayern system consists of eleven worlds and seven satellites orbiting an orange K7 primary. The star is rather cool, and the life zone is within less than one-third of



an AU. Considering the relatively small size of the star, Neubayern possesses an impressive collection of worlds.

## PLANETARY DATA

**Name:** Nibelungen

**Distance from Primary:** 0.29 AU

**Year Length:** 157.33 days

**Size:** 8000 km in diameter

**Day Length:** 17.5 hours

**World Type:** Garden

**Surface Gravity:** 0.63 G

**Atmospheric Pressure:** 0.64 ATM

**Climate:** Temperate in the Twilight Zone, Torrid on Hot-side, Freezing on Coldsides

**Water Presence:** 30%

**Atmospheric Composition:** N<sub>2</sub> (81%), O<sub>2</sub> (16%), Trace (3%)

**Biological Diversity:** Diverse; usable

**Natural Resources:** 7

**Satellites:** 0

**Geography:** As a tidally-locked world, Nibelungen has three distinct climactic zones: Hotside, Coldsides and Twilight.

Coldsides contains most of the land area of this planet, sitting under an ice sheet over 1000 meters thick. This ice sheet is the source of the both the Ostmeier and Westmeier, the two large seas

The Nibelungen hotside contains a large desert in the southern hemisphere. Temperatures in the equatorial regions are moderated somewhat by the presence of the eastern reaches of the Ostmeier but are still very warm by human standards. The Ostmeier is divided through the middle by the Grosshalbinsel, or Great Peninsula, which completely crosses the hotside and extends well into the twilight reaches of the Ostmeier (the western most tip of the Grosshalbinsel is inhabited, and linked to the other twilight zone by the trans-hot-side railroad).

The twilight zone contains portions of both the Ostmeier and Westmeier, several mountain ranges, plains, forests, tundra, and numerous bogs.

The climate in the twilight regions is quite temperate at the equator, fading to near arctic conditions at the poles. The "perpetual spring" of the twilight zone due to the world's tidally-locked orbit allows crops to be planted and harvested nearly all year.

Nibelungen boasts a well developed local biosphere

with significant influxes of Terran species in the settled areas. Many varieties of the local plants proved to be largely edible by Terran livestock, and a wide variety of local species have been adapted to livestock feeds in conjunction with imported Terran varieties, and some have been genetically adapted to the local conditions. Vitamin supplements are generally not required.

## COLONIAL DATA

**Colony Name:** Nibelungen

**Colony Population:** 92 million

**Date Founded:** 2169 (Independent since 2313)

**Nationality:** Independent

**Life Expectancy:** 108 years

**Major Cities:** Schoenblick (3.7 million), Neue Kassel (1.9 million), Stadt am See (1.3 million)

**Government Type:** Representative democracy (4)

**Law Level:** Moderate. Light assault weapons prohibited (4).

**Tech Level:** (11)

**Trade Data:** I, Ag

**Principal Trading Partners:** Freihafen, Wellon, Germany

**Interface Capability:** Spaceplane, shuttle, catapult (B)

**Resources:** Farming, Mining, Heavy Industry, Orbital Industry

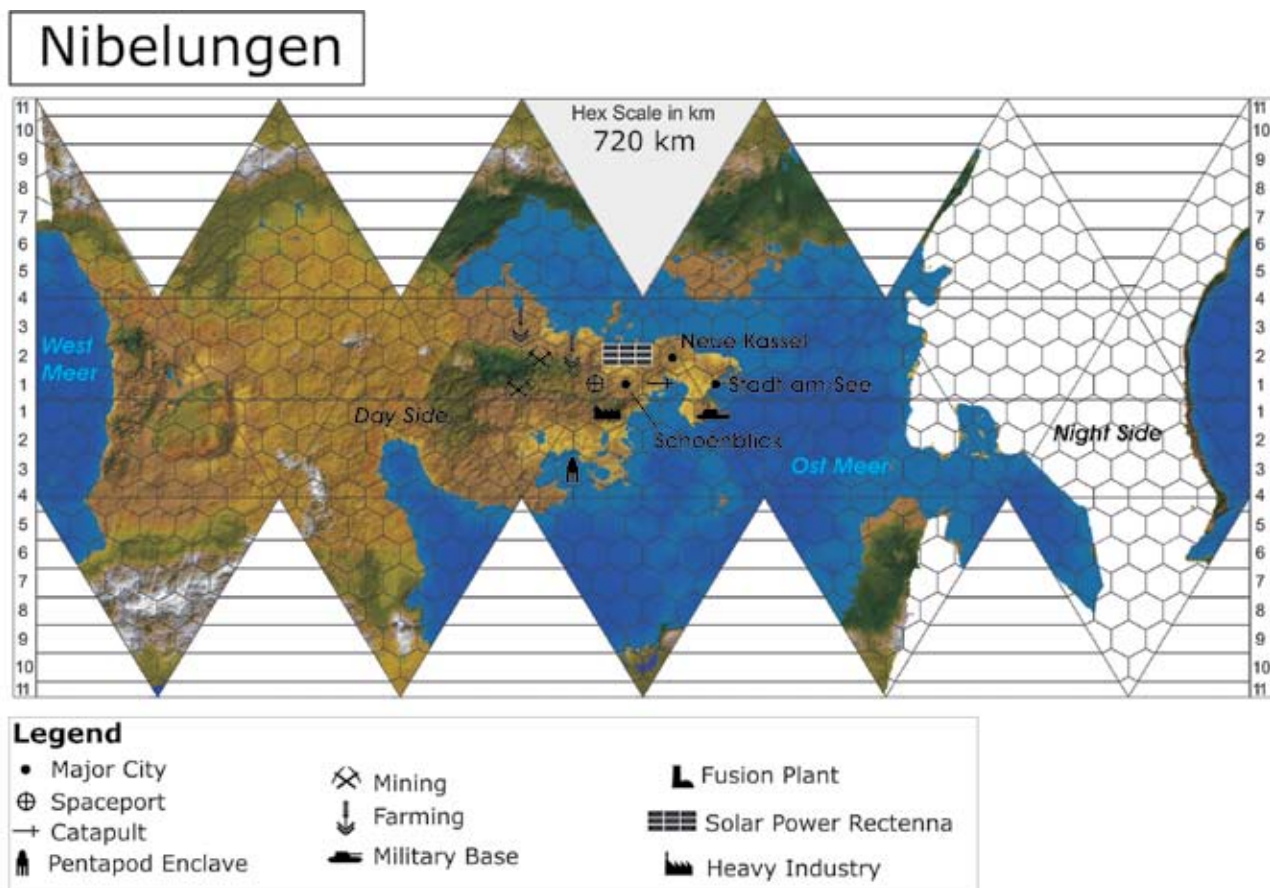
**Military Presence:** Orbital Defense Installation, Military Base, Naval Base

**Other Bases:** Foundation (ARI, IEX), Science

**Services:** Solar Power Satellite, Rectenna, University, Powernet (94%), Road Net (100%), Rail Net (100%), Link Network (98%), Orbital Terminal, Weather Satellites, Communications Satellites, Civilian Shipyard

The Neubayern system was discovered in 2142 by a Bavarian-built probe working for the Bavarian government in cooperation with the Astronomischen Rechen-Institut (using Azanian tantalum supplied to the University of Heidelberg for the ARI), but it was not surveyed for nearly a decade. The discovery of a tantalum deposit on Neubayern IV by an ARI team radically accelerated settlement of the system.

Nibelungen, the only habitable world in the system, was the site of an intense colonization effort despite the hardships involved. In spite of the fact that the world was tidally locked, limiting occupation to the twilight band, the demands for cheap food for the tantalum miners spurred a colonization effort. There was another factor operating as well: national pride. Neubayern was the only system (at that time) discovered solely by Bavarians. It was likely to be the only place open to their people for the foreseeable future (not the case, as it turned out, but it was, for almost a century, the principal Bavarian settlement in interstellar space). The name "Neubayern" applied to the star indicates the level of emotion involved in its discovery, exploration, and colonization. Even





though Bavaria obtained other colonies in later years (Hochbaden, Heidelshiemat, and Dunkelheim), none could replace Neubayern in the hearts of the citizenry. It was to symbolize their brightest and best hopes for the future.

After the War of German Reunification, Nibelungen acceded to German demands to join the new nations, along with most of the former Bavarian colonies. However, Nibelungen chafed at the restrictions and demands of the new German government, and an independence movement appeared. For the most part, however, the citizens of what was now Germany's most prosperous colony were content with their situation.

The Kafer War saw a great many changes to the character of Nibelungen. There was even a space battle fought in the system, though the colony itself never came under direct attack. It was the death of the Over-Suzerain itself in the climatic Battle of Neubayern that saw the turning point of the War. Nibelungen ships were out there with the massed fleets of Earth, defending their home.

During the War, Nibelungen found itself chafing against German demands for more ships, more products, and all at a lower cost. In the 2308 elections, Die Nibelungen Organisation (the Nibelugen Organization), a local independence movement, won 120 of the 384 seats in the Landtag, and their opponents, along with the German government, had to

### KONTERADMIRAL Wilhelm Lutke:

Lutke was the senior German officer at Aurore when it was cut off by the second phase of the Kafer War. He managed to hold the factions of the Aurore fleet together through a combination of practical leadership and shrewd maneuvering. As the combined human fleet pushed into Kafer Space, he was given command of a large German squadron tasked with investigating worlds off the main line of Human advance. In so doing, he came across the worlds that had once belonged to Triumphant Destiny, the Kafer Suzerain who had begun the war with humanity, and was responsible for the destruction of Hochbaden. Lutke sterilized the worlds and orbital habitats, paying the Kafers back for Hochbaden. Despite his atrocities, he was allowed to remain in command of the German squadron, and during the attack of the Kafer home system, his ships visited destruction on Gamma Serpentis IV, the Kafer's oldest colony world. He was arrested afterwards, and sent back to Earth for trial. He never arrived. While in orbit over Nibelungen, naval officers still loyal to him smuggled him off the courier, and he claimed refugee status on the planet below.

To this day, he sits in his house near the edge of the swamp, protected by the Nibelungen government, watching the sky. He is 98 years old, old, tired, and bitter.

start taking the movement seriously. After a non-confidence vote toppled the ruling Centrist Party in 2311, the new round of elections gave the NO 143 seats, which allowed them to form a coalition government with the like-minded Bavarian Party. A national referendum the next year gave the government the mandate it needed, and Nibelungen declared its independence the following year.

Many analysts expected Germany to move decisively in order to retain control of its most prosperous colony, but the German Bundestag did nothing save issue a short statement congratulating the Nibelungen citizens, and wishing them nothing but good fortune in their quest for self-government.

Other countries never engaged in significant colonization of the Neubayern system because of the size of the Bavarian effort, the limitation of settlement to the twilight zone, and the easy availability of uncontested worlds elsewhere. A small number of Azanian settlers arrived in the colony's early years and now represent about 11 percent of the population. A smattering of other, primarily European, nationalities are present, but these are a minor portion of the total population.

## BEOWULF/QUEEN ALICE'S STAR (DM+46 1797)

After a circuitous route along the outposts and colony systems of the inner French Arm, all travelers find themselves at the halfway point of Queen Alice's Star. The system's inhabitants accept and profit from their convenient location, welcoming visitors from the core to the truly distant worlds of the frontier.

### SYSTEM DATA

#### STELLAR DATA

**Primary Name:** Queen Alice's Star

**Spectral Class:** K4 V

**Magnitude:** 8.2

**X, Y, Z Coordinates:** -13.7, -2.1, 14.3

**Number of Planets:** 8 (Wiglaf, Beowulf, Grendel, Hrothgar, Unferth, Edgetho, Brecca and Higlac)

**Number of Asteroid Belts:** 0

Notable Planets: Grendel possesses an eccentric orbit that takes it inside Beowulf's orbit every 12 years, and stay inside for only 13 months before heading out along its long orbit. Grendel appears to be an interloper to the system, though debate is still divided.

#### PLANETARY DATA

**Name:** Beowulf

**Distance from Primary:** 0.42 AU

**Year Length:** 43.65 days**Size:** 13,969 km in diameter**Day Length:** 523.2 hours**World Type:** Garden**Surface Gravity:** 1.05 G**Atmospheric Pressure:** 1.02 atm**Climate:** Temperate**Water Presence:** 78%**Atmospheric Composition:** N<sub>2</sub> (74%) O<sub>2</sub> (22%)  
Trace (4%)**Biodiversity:** Diverse**Natural Resources:** 3**Satellites:** 2 (Hrunting, Nagling)

The climate of Beowulf is somewhat harsher and the terrain generally much more rugged than comparable Terran regions.

Life forms from Beowulf and Terra are mutually compatible; each find food from the other planet nourishing. Vitamin supplements, so important on many colony worlds, are not necessary on Beowulf.

### WATCH THE SKIES!

The most fearsome predator on Beowulf is the so-called Dragon-Bat, a huge nighttime flier that is capable of killing an adult, or carrying off a child.

### TIME AND TIDE:

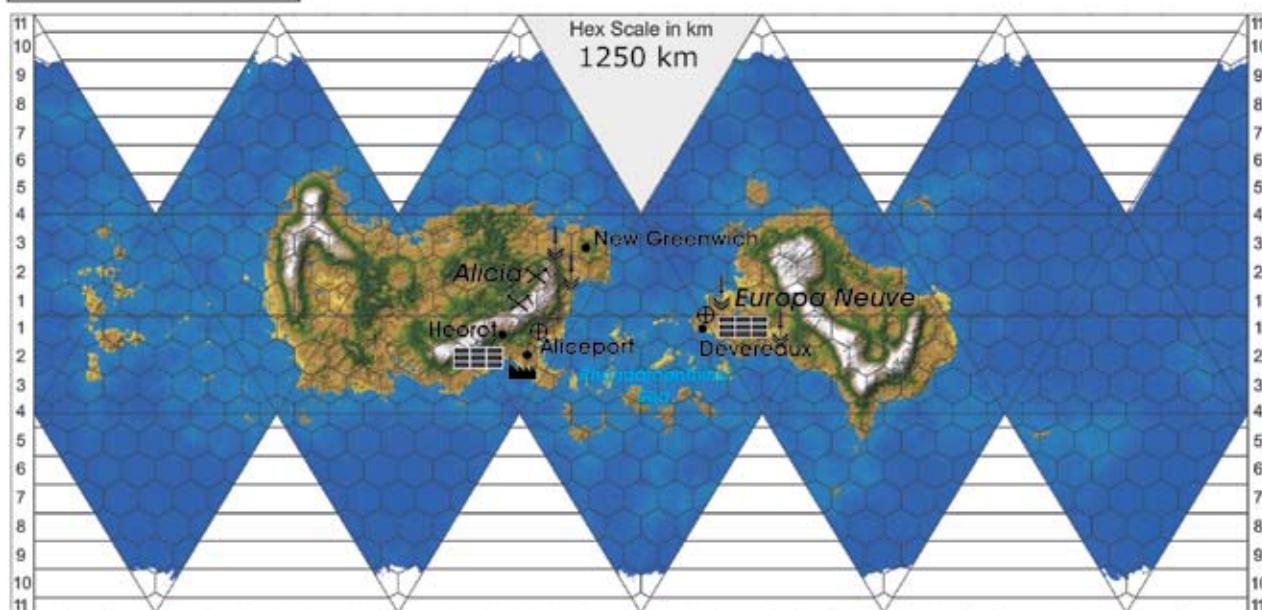
Though the tides rise and fall very slowly on Beowulf, they rise extremely high. In some tidal bores they can crest at nearly 80 meters, double the normal height. The highest tides are associated with the inner moon of Hrunting, and have been known to completely cover some of the small islands of the shallow Randamanthine Sea, buildings and all.

### COLONIAL DATA

#### THE BRITISH COLONY

**Colony Name:** Alicia**Colony Population:** 26.2 million**Date Founded:** 2167**Nationality:** British**Life Expectancy:** 102 years**Major Cities:** Aliceport (3.7 million), Heorot (1.6 million), New Greenwich (1.4 million)**Currency:** British Pound**Government Type:** Constitutional Monarchy, 2 elected houses responsible to British Crown, with limited self-rule (4)**Law Level:** Moderate. Personal concealable firearms prohibited (5)**Tech Level:** (11)**Trade Data:** Ri, Aq

## Beowulf



### Legend

- Major City
- ⊕ Spaceport
- Catapult

- ⚡ Mining
- ↓ Farming
- 🏰 Military Base

- ⚡ Fusion Plant
- ☀️ Solar Power Rectenna
- 🏭 Heavy Industry

**Principal Trading Partners:** Britain, Nibelungen, Wellon

**Interface Capability:** Spaceplane, Shuttle, catapult (B)

**Resources:** Farming, Mining, Heavy Industry

**Military Presence:** Orbital Defense Installation, Military Base, Naval Base

**Other Bases:** Science

**Services:** Solar Power Satellite, University, Pownet (89%), Road Net (100%), Rail Net (100%), Link Network (96%), Weather Satellites, Communications Satellites, Orbital Terminal

British colonists were first to settle on Beowulf, and they quite naturally chose to develop the best of the two continents when they arrived. They named the continent Alicia, in honor of the Queen at that time; the first large city (and capital until 2279 AD.) was Aliceport. Later a new capital, named Heorot after the grand hall where Beowulf battled Grendel, was built to house the colonial government.

### The French Colony

**Colony Name:** Europe Neuve

**Colony Population:** 13.1 million

**Date Founded:** 2196

**Nationality:** French

**Life Expectancy:** 102 years

**Major Cities:** Devereaux (3.2 million)

**Currency:** Livre

**Government Type:** Elected council responsible to Chamber of Deputies on Earth (4)

**Law Level:** Moderate. Personal concealable firearms prohibited (5)

**Tech Level:** (11)

**Trade Data:** Ri, Ag

Principal Trade Partners: France, Nouvelle Provence

**Interface Capability:** Spaceplane (C)

**Resources:** Farming

**Military Presence:** Orbital Defense Installation, Military Base, Naval Base

**Other Bases:** None

**Services:** Solar Power Satellite, University, Pownet (56%), Road Net (47%), Rail Net (64%), Link Network (75%), Orbital Terminal

The French colonization effort on Beowulf was far less intensive than that of the British on Alicia, more so because of the region they were forced to settle in, the smaller continent they named Europe Neuve, was of far less exploitable value. Like the British, the French are mostly found along the coast of the continent; the interior is untamed and largely unexplored. A large scientific facility has been established in the rugged hinterlands to investigate a number of interesting life forms and natural phenomena.

### Fish War:

Rising tensions between French and British sea harvesters may boil over, due to the perception by the French that the British are stealing the best harvesting sites. While an ESA commission investigates, travelers are urged to avoid the Atlantis Rising region of the Randamanthine Sea.

### The Kafer War

The Beowulf system was the site of the climatic battle of the first phase of the Kafer War, and like most human worlds along the French Arm came under attack in the second phase. It escaped relatively intact, however, thanks to the effectiveness of the orbital forts and the improved system defense forces of the British Colony. Nonetheless, nearly 10% of the world's population was killed in the Kafer attacks, which were largely limited to orbital bombardment, with few troops actually landed. Heorot and Devereaux took the worst damage, and Heorot was the site of the actual landings themselves. A few Kafers took to the hills and remain as a scattered threat, but most were eliminated in the first few hours after the landings.

The Kafer fleets themselves withdrew in the face of the Terran Reserve Fleet, which warped in as the Kafers were bombarding Devereaux.

### KIMANJANO/DM+34 2342

Kimanjano I lies at a major nexus of the French Arm. This, unfortunately, attracted the protracted interest of the Kafers in both phases of the last war, reducing the planet's population by nearly 40% and displacing a further 22%. Once known for its extremely cheap polycarbon and organic chemical products, Kimanjano is now known for its refugee problem. The once-thriving economy has been devastated, and there are no plans to rebuild it any time soon.

### SYSTEM DATA

#### Stellar Data

**Primary Name:** Kimanjano

**Spectral Class:** K4 V

**Magnitude:** 8.2

**X, Y, Z Coordinates:** -20.8, -3.6, 14.3

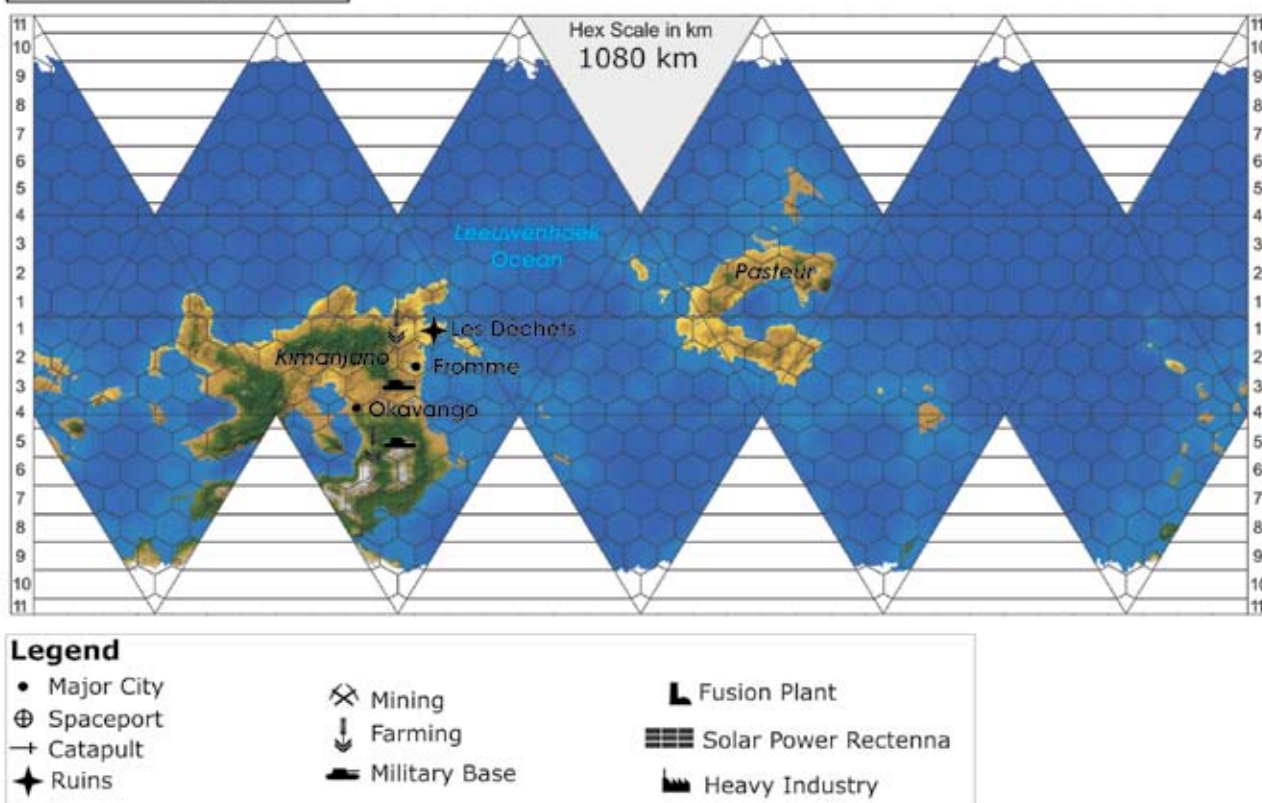
**Number of Planets:** 6 (Kimanjano, Tamburg, Setanne, Nivith, Roubaix, and Lyth)

**Number of Asteroid Belts:** 0

The central sun of the system has been the recipient of more scrutiny than any other star in the French Arm. Evidence suggests that, some half a billion years ago, the sun flared, temporarily doubling its normal output. The surface of sev-



## Kimanjano



eral world in the system literally melted. Evidence suggests that the flares only lasted for a few hours, and there has been no further evidence and any stellar abnormalities. Both the ARI and the Royal Society have positioned automated solar observatories in near-solar orbit, in the hopes of determining the cause of the anomalous flare, and detecting on in advance should it happen again.

## PLANETARY DATA

**Name:** Kimanjano I

**Distance from Primary:** 0.67 AU

**Year Length:** 189.67 days

**Size:** 12,040 km in diameter

**Day Length:** 35.28 hours

**World Type:** Pre-Garden

**Surface Gravity:** 0.94 G

**Atmospheric Pressure:** 0.89 atm

**Climate:** Tropical

**Water Presence:** 87%

**Atmospheric Composition:** N<sub>2</sub> (68%) O<sub>2</sub> (23%) CH<sub>4</sub> (9%)

**Biodiversity:** None (or Minor, depending on one's perspective)

**Natural Resources:** 8

**Satellites:** 1 (Bamenda)

Kimanjano is a geologically active world that sports a

radiation belt similar to, but much more intense than, the van Allen belts of Earth. They are strong enough that many orbits about Kimanjano are prohibited for long-term habitation.

Though Kimanjano has an oxygen-nitrogen atmosphere, it possesses no life as it is normally defined. The first expeditions discovered this anomaly, and subsequent survey found the source of the oxygen. The oceans of Kimanjano are an organic soup of chemicals, including many that are commercially valuable. Some of these pre-biotic materials react with the seawater to produce oxygen, while others utilize some of the oxygen in there. Though there is no life, there are things that could almost pass as life-forms, free-floating globs of amino acids and organic chemicals. The most famous class of these globs has been dubbed the Phreds, masses of gelatinous material which oozed onto the surface from the shallow seas and travelled at random along the coastal rocks. These blobs, some of which measured as much as two meters in diameter, gained minerals needed to sustain themselves among the rocks of the coast. They were not, in the strictest sense, alive, though definitions were beginning to cloud. The Phreds (named by a junior research assistant) did not exhibit differentiation within their structure or many other aspects of "life," though they did replicate through division. They were only the first of many such borderline cases.

The Instituts Études Exobiologiques (IEX) became very interested in the initial reports from Kimanjano, and IEX out-post and research vessels have been present ever since, re-

searching the unusual “biology” of this world.

In addition to the Phreds and their cousins, the oceans of Kimanjano hold a fortune in chemicals, capable of producing everything from construction synthetics to fine perfumes, with a variety of medical compounds thrown in for good measure.

The colony went through a brief tantalum boom in the 2230s, though the finds never delivered as much stardrive material as had originally been forecast.

## The Kafer War

By the end of the Kafer War, the prized industrial capability of Kimanjano lay in ruins. Before the war, Kimanjano had produced nearly 8% of the synthetic materials in use on the Core worlds, and over 20% of the synthetics in use along the French Arm of space. The loss of that production capability out a serious strain on colonial and national economies throughout Human space.

By population, the French colony of Kimanjano was one of the worst hit, with only Hochbaden and Nous Voila losing larger percentages of their population, and only Beta Canum losing more in absolute numbers. Due to its astrographic location, Kimanjano was the target for thousands of refugees fleeing the Kafer attack throughout the war. There are now nearly 500,000 refugees on Kimanjano, one of the largest groups of displaced persons in Human history.

### LES DÉCHETS:

The largest industrial facility on Kimanjano, “L’Usine” (“The Works”), was subjected to extensive orbital bombardment. The weapon used was not the mass destruction weapon often used in bombardment, but instead a small anti-armor weapon, called “pointes” (“spikes”) in military circles. These long-rod penetrators were just over 2 meters long, and several hundred of them were released over The Works. Now, the heavily-damaged facility, with its towns and sirfields, is known as Les Déchets (“The Scraps”), and is home to thousands of refugees from across Kimanjano and the French Arm.

In late 2310, as the war ground on into the Kafer Sphere, the government of the Frechn colony, Fromme, petitioned the Imperial Colonial Ministry for increased funds to rebuild the world’s devastated economy. With France becoming overextended by the war, and other, more important, colonies clamoring for assistance, the colonial government at Fromme was instructed to cope as best they could, but at the same time were pressed to get the material processing plants back into operation. Faced with incompatible goals, the government at Fromme made a decision.

June 11, 2311, the government of Fromme, along with

the outposts at Nyotekundu, Bessieres and Augereau, all declared independence and sought international recognition. Only Elysia and Manchuria recognized the fledgling nation, while other nations waited for France’s response.

It took three weeks, then the action came in a series of coordinated strikes at the fragile outposts. Within hours, French special forces had captured the life support facilities of the three outposts, and the war ended for them.

Fromme was attacked by Legion Etrangere (Foreign Legion) troops in an orbital assault that owed its technology and tactics to the ongoing Kafer War. It took several hours, but the Legion troops were able to virtually annihilate the ragtag defense force of mercenaries and patriots. The leaders were rounded up, tried, and sentenced to life in prison. Within days they were on Legion landing craft, to be shipped to the French high security facility on Nyotekundu.

In retrospect, it seems obvious that France couldn’t afford the further loss of international prestige that the loss of these settlements would entail, and would be willing to weather the storm of international protest its military actions would engender. The ongoing crises of the Kafer War, and the excitement of the human landings on the Kafer worlds served to sweep aside the bad press surrounding the Kimanjano affair, and when word of the German squadron’s genocidal actions reached Earth, Kimanjano vanished from public awareness.

Kimanjano is currently under the direct control of General Auguste Duchêne, and he is working to alleviate the refugee problem, having invited in several Foundations, including Zapamoga, NARL and the Alberta Farmer’s Cooperative to assist in providing food, housing and medical care for nearly half-a-million refugees. In addition, he has to try and restart the colony’s chemical industries, but his efforts lag behind those of the Azanian colony, which has further exacerbated tensions between the two colonies.

### The IEX:

Throughout the Kafer War, the IEX continued to man its stations and perform its research. Since the end of the war, they have moved their primary research facilities to offshore platforms. Much of the research has commercial applications, and the French colony is eager to make use of the information. However, the IEX leadership has been delaying turning over the data, and the IEX is too big for the French government to force it to turn over the information. Many speculate that the IEX played a role in Kimanjano’s abortive attempt at independence, and is withholding its data as an expression of disapproval at the government’s actions.

**The French Colony****Colony Name:** Fromme**Colony Population:** 2.3 million**Date Founded:** 2231**Nationality:** French**Life Expectancy:** 77 years**Major Cities:** The Scraps (320,000), Fromme (121,000), Zapamoga Camp 1 (120,000)**Currency:** Livre**Government Type:** Direct Rule by Military Governor (6)**Law Level:** Moderate. Ownership of firearms is prohibited (8)**Tech Level:** (7)**Trade Data:** Po**Interface Capability:** None (E)**Resources:** Farming**Military Presence:** Military Base, Naval Base**Other Bases:** Foundation (IEX), Science**Services:** Road Net (55%), Rail Net (25%), Link Network (67%)

The original French colony site was carefully planned, with room for expansion and its infrastructure all laid out in an orderly fashion. The war changed that. When the colonial government declared independence, the capital city had just started to rebuild, and when the Legion was through with it, the military governor decided that it would be easier to build a completely new site about 50 kilometers away. The ruins of the old town are still used by squatters and refugees, and have increasingly become a stopping point for outlaws moving through the French Arm.

The new site has been carefully planned as well, though from a military standpoint. It is easily defensible, with a ring of minefields and automated weapon towers. Ostensibly, this is to protect the town from Kafer raiders, but these defenses are more likely to be used against Human rebels. The guns of the weapon towers can be set to fire within the perimeter of the town, with nice long streets that afford clear fire zones. Secession is not an option anymore.

In the aftermath of the failed secession, the few escaping rebels fled into the ruins of Les Déchets, and continue to strike at government forces when the opportunity presents itself. To the refugees amid the squalor of the devastated colony, they seem like heroes.

**Azanian Colony****Colony Name:** Okavango**Colony Population:** 520,000**Date Founded:** 2280**Nationality:** Azanian**Life Expectancy:** 89 years**Major Cities:** Okovango (35,000), Zapamoga

Camp 2 (25,000)

**Currency:** Azanian Rand**Government Type:** No Government Structure (0)**Law Level:** Low. Strictly military weapons prohibited (4)**Tech Level:** (8)**Trade Data:** Po**Interface Capability:** None (E)**Resources:** Farming**Military Presence:** Military Base**Other Bases:** Science**Services:** Road Net (5%), Rail Net (8%), Link Network (12%)

In contrast to the French colony site, the Azanian site was a study in inspired anarchy. Very much the latecomers, the Azanians only settled in 2280. Their colony consists of standardized, commercially purchased modular units. These have been set down with apparently no order, scattered over a 20-square-mile region roughly surrounding a small bay. There is a landing strip just beside the bay. The lack of an organized structure actually helped the colony during the bombardment phase of the war, when Okavango was largely passed over by the attacking Kafers. Although the Azanian's losses were still very high (over 100,000 killed, with another 150,000 displaced), they came through better than the French. Though the Azanian refineries and fusion plant had been destroyed by the Kafer attack, most of their processing fleet survived relatively intact, and the Azanian government, aided by Britain and Zapamoga, is moving to build new shore facilities and rebuild the colony's transportation infrastructure, nearly destroyed in war and the chaos which followed. These rebuilding efforts have been troubled by sabotage, nothing extreme, but enough to slow the recovery. Some point to the French, who respond that with all the refugees, Kafers and out-of-work mercenaries on the planet, there are many much more likely suspects than another government.

The Azanian presence is still mainly felt in the oceans, where their floating processors are busy collecting and refining the rich organic soup that comprises much of the planet's

**The Circus:**

The Amazing Interstellar Circus consists of three traveling shows, each based in one of the Arms of exploration. The Circus visits a new world each month, and stays for about a week, providing shows and entertainment for the entire planet. Costs of the Circus are partly subsidized by the major governments and sponsoring corporations. There are rumors of something dark behind the Circus, though the story varies from Arm to Arm. In the Chinese Arm these stories are linked to ProVolution, in the American Arm to smugglers and slavers, and in the French Arm either to Pentapods or Kafers.



water. In contrast to the randomness of their colony, these facilities are compact and efficient, utilizing fission plants that allow them to stay out on their missions for a year or more before servicing. They are supplied by large Heliostats which call periodically, transferring their processed distillates to the main spaceport. In this way the Azanians have avoided many of the problems encountered by the reliance on fixed platforms and undersea pipelines used by the French.

The war destroyed much of the automated crop production used by both colonies, and the Alberta Farmer's Cooperative is providing assistance on repairing, and rebuilding the extensive factory farms. In the meantime, they are shipping in tons of grain every day.

## KIE-YUMA/XI URSAE MAJORIS

Kie-Yuma is the only human colony world claimed exclusively by a corporate entity. As such, it is a unique world where corporate bureaucracy and governmental operation have often become one and the same.

## SYSTEM DATA

### STELLAR DATA

**Primary Name:** Xi Ursae Majoris A-I

**Spectral Class:** G0 V

**Magnitude:** 4.9

**X, Y, Z Coordinates:** -25.0, 4.9, 15.7

**Number of Planets:** A-A' – 5 (Kie Yuma, Petrolia, Magnussen, Boulder, Pinhole; B-B' – 4 (Xi Ursae Majoris B-1, etc.)

**Number of Asteroid Belts:** 0

The Xi Ursae Majoris system is very complex, consisting of two type G0 V stars and two M0 V stars. Each of the M0 stars orbits the G0 primary as a close companion, and the two pairs orbit each other with a separation of 12.188 AU.

## PLANETARY DATA

### PLANET DATA

**Name:** Kie Yuma

**Distance from Primary:** 0.697 AU

**Year Length:** 208.68 days

**Size:** 22,000 km in diameter

**Day Length:** 26.501

**World Type:** Pre-Garden

**Surface Gravity:** 1.2 G

**Atmospheric Pressure:** 1.42 atm

**Climate:** Chilly

**Water Presence:** 68%

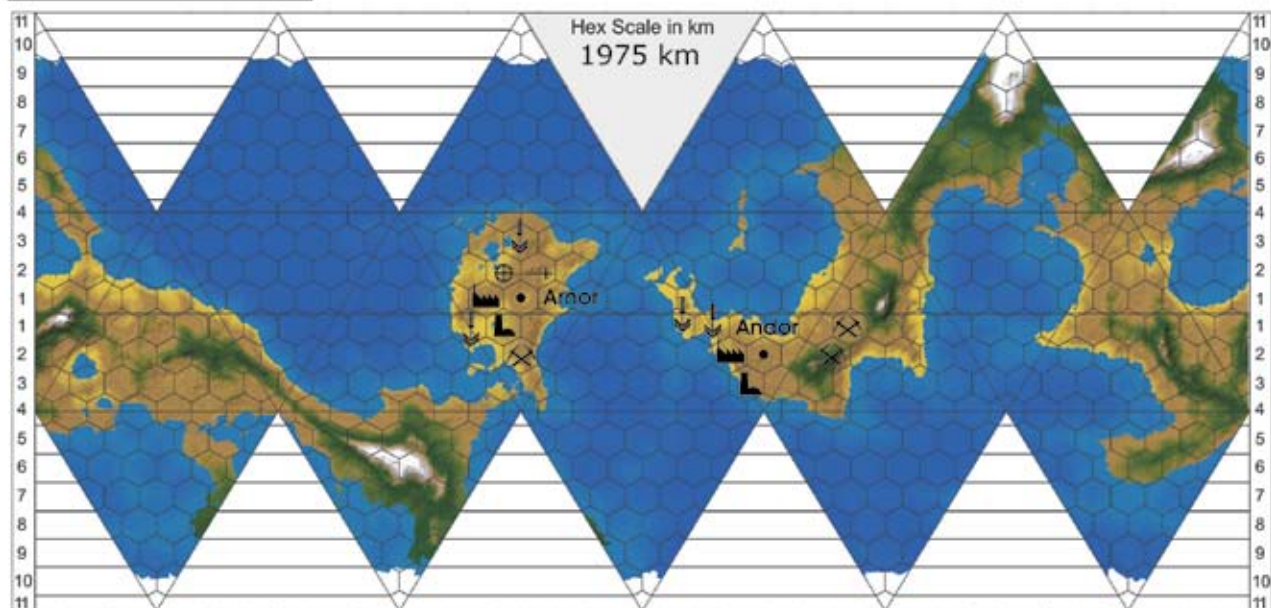
**Atmospheric Composition:** N<sub>2</sub> (78%), O<sub>2</sub> (20%), CH<sub>4</sub> (2%), Trace Poisons

**Biodiversity:** Active

**Natural Resources:** 6

**Satellites:** 2 (Paradiso, Valmont)

## Kie-Yuma



### Legend

- Major City
- ⊕ Spaceport
- Catapult

- ⚡ Mining
- ↓ Farming
- Military Base

- ⌒ Fusion Plant
- ▦ Solar Power Rectenna
- 🏭 Heavy Industry

**ATMOSPHERIC PROCESSORS:**

In an attempt to remove unhealthy elements from the world's atmosphere, Trilon has set up a number of huge atmospheric processors. These fusion-powered behemoths draw in and filter air, storing the extracted chemicals away for industrial use.

The atmosphere of Kie-Yuma is denser than that of Earth and often appears "hazy" or "murky" to the colonists on the surface. With an oxygen content well within human tolerances Kie-Yuma's air is quite breathable (although a bit "thick" and "heavy" to breath for those used to an Earth-normal pressure) except for a relatively small fraction of unsavory gases present.

**Native Life:** Oceans cover 68 percent of Kie-Yuma's surface, a percentage close to that of Earth (70.8 percent). Most of the animal life on Kie-Yuma lives in these oceans, with almost all of the land life being plant-type organisms. These animal forms are quite primitive, with the precursor to a spine only just starting to appear.

Kie-Yuma doesn't possess any animal life on land, aside from the rare coastal scavenger, and even plant forms are relatively rare inland. Most of the land is completely barren.

**COLONIAL DATA**

**Colony Name:** Kie-Yuma

**Colony Population:** 1.4 million

**Date Founded:** 2260 (Independent since 2306)

**Nationality:** Corporate (Trilon)

**Life Expectancy:** 94 years

**Literacy:** 99%

**College Education:** 68%

**Major Cities:** Arnor (155,000), Andor (132,000)

**Currency:** Trilon bill

**Government Type:** Corporate Bureaucracy (1)

**Law Level:** Moderate. Firearms prohibited (8)

**Tech Level:** (12)

**Trade Data:** In

**Principal Trading Partners:** America, France, Britain

**Interface Capability:** Spaceplane, shuttle, Catapult (B)

**SABOTAGE:**

Shortly after the fourth processor started up in late 2266, a sabotage attempt was made simultaneously on all four processors by a radical faction of NARL. One processor was damaged, but the saboteurs were captured and shipped back to Earth to stand trial. NARL itself denounced the saboteurs as extremists. After this event, security around the processing stations was beefed up significantly. There have recently been additional threats made against the giant processors.

**Resources:** Farming, Mining, Heavy Industry, Orbital Industry

**Military Presence:** Orbital Defense Installation, Naval Base

**Other Bases:** None

**Services:** Fusion Plant, Powernet (31%), Road Net (30%), Rail Net (45%), Link Network (100%), Airship Net, Weather Satellites, Communications Satellites, Orbital Terminal, Civilian Shipyard, Military Shipyard

Kie-Yuma was first settled in 2260, using a York-class colonization vessel leased from its British supplier. From this start, Trilon operations on Kie-Yuma continued to expand, new employees were recruited off-world and imported to Kie-Yuma, and more extensive facilities were constructed.

The year 2261 saw the first of the atmospheric processors in stalled and construction started on the other three stations. Within five years, all four were completed and brought on-line. NARL had previously raised concerns about the effect of the atmosphere processors on the course of evolution on the planet, but Trilon scientists dismissed the concerns of the environmental group.

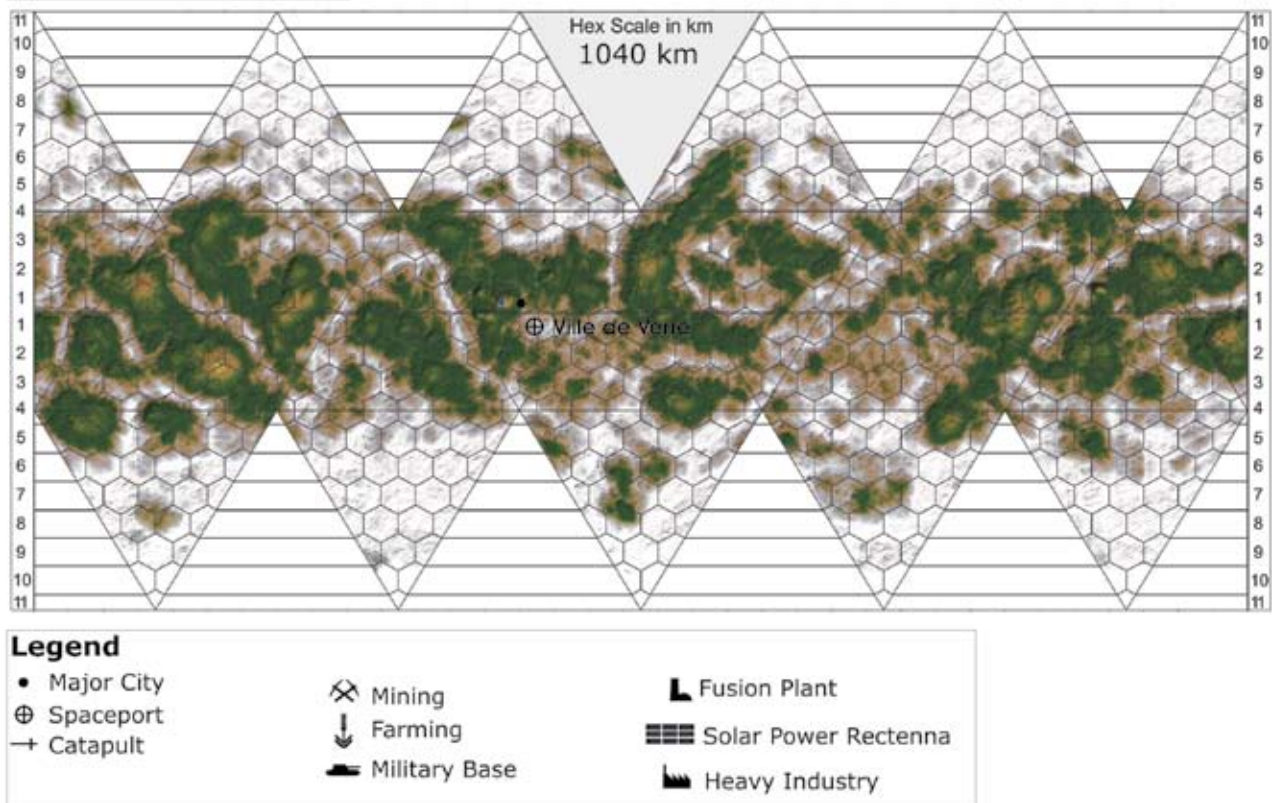
**Government:** Since independence in 2309, the colonial government has undergone some changes. A form of corporate democracy was instituted, with the number of votes an individual holds is dependent on the amount of Trilon stock that person has. Non-employee's were also granted a vote, but only 1 vote per person.

**Facilities:** Due to the unsavory elements in the planet's atmosphere, all of Kie-Yuma's colonists live and work in sealed habitats of some form. Air and water are pumped in from the planet's surface, although both must pass through extensive filtering before being utilized by humans. The sealed habitats also serve to protect the colony's facilities from the severe thunderstorms that often develop on Kie-Yuma's surface.

In 2306, as the Over-Suzerain and its fleets bore down on the human worlds, Trilon moved its corporate headquarters from America to Kie-Yuma, and then declared itself independent. Trilon was no longer an American Corporation, but an independent entity in its own right. Trilon was the first TransNat to do this, and others are expected to follow suit once their own colonies are in place. At the same time, Trilon revealed its formidable defense forces. Trilon was (and still is) a major contractor to the American Space Force, and seems to have copied several military designs for its own purposes.

In 2308, when a sub-fleet attacked Kie-Yuma, the corporate defenses were ready. Swarms of remote-controlled Star Eagle fighters engaged the Kafer capital ships, while sleek gunships moved in to batter them into submission. Arnor and several outlying domes all took hits from Kafer orbital bombardment, along with many of the atmosphere processors, but casualties were minimal. The sub-fleet was driven from Kie-Yuman space, and subsequently destroyed at the Battle of Nibelungen.

# Sans Souci



## SANS SOUCI

The newest French colony, Sans Souci is a glacier world that is currently undergoing active terraforming.

### SYSTEM DATA

#### STELLAR DATA

- Primary Name:** DM+36 2219
- Spectral Class:** M1 V
- Magnitude:** 9.7
- X, Y, Z Coordinates:** -27.9, 1.2, 19.9
- Number of Planets:** 5
- Number of Asteroid Belts:** 0

### PLANETARY DATA

#### PLANET DATA

- Name:** Sans Souci
- Distance from Primary:** 0.26 AU
- Year Length:** 105 days
- Size:** 11,610 km in diameter
- Day Length:**
- World Type:** Glacier
- Surface Gravity:** 0.99 G
- Atmospheric Pressure:** 1.1 atm
- Climate:** Chilly

- Water Presence:** 63%
- Atmospheric Composition:** N<sub>2</sub> (81%), O<sub>2</sub> (19%)  
Trace (>1%)
- Biodiversity:** Minor
- Natural Resources:** 5
- Satellites:** 1 (Optisme)

Sans Souci is a cold and barren world, similar in many ways to Beta Comae Berenices before it was terraformed. The scientists and engineers who inhabited the first outpost were always convinced that with a little help, Sans Souci could be a welcoming world.

In 2314, with the refugee problem becoming even more acute, the French government decided to put that idea to the test. Using the same organism utilized in the terraforming of Beta Comae, French scientists sought to lower the albedo of the ice sheets, melting them and raising the world's temperature. The effort is stating to pay off, with a rise of 8° Celsius over the past six years. In fact, some scientists are starting to wonder if the terraforming process isn't going too well, with the potential to push the world too far the other way.

An added danger comes from the Terraforming organism itself. When it was first used to melt the glaciers at Beta Comae, that world was virtually uninhabited save for the scientists and technicians monitoring the process. In the case of Sans Souci, however, there is a large, and growing, population already in place, and possible synergistic effects from any germs they carry is a considered risk.



## COLONIAL DATA

**Colony Name:** Sans Souci

**Colony Population:** 320,000

**Date Founded:** 2314

**Nationality:** French

**Life Expectancy:** 97 years

**Literacy:** 98%

**College Education:** 67%

**Major Cities:** Ville de Verre (28,000)

**Currency:** French Livre

**Government Type:** Military Governor (6)

**Law Level:** Moderate. Personal concealable firearms prohibited (5)

**Tech Level:** (4)

**Trade Data:** NI

**Principal Trading Partners:** France

**Interface Capability:** Spaceplane, roton (C)

**Resources:** Farming

**Military Presence:** Orbital Defense Installation, Military Base, Naval Base

**Other Bases:** Foundation (Zapamoga), Science

**Services:** Fusion Plant, Pownet (22%), Road Net (56%), Rail Net (10%), Link Network (23%), Airship Net, Weather Satellites, Communications Satellites, Orbital Terminal

Sans Souci long languished as nothing more than a large outpost. French ambitions lay elsewhere, and neither the military junta nor the Empire which replaced it cared to lay out the resources required to turn Sans Souci into a full-fledged colony.

It was only the Kafer War that turned French attention to this long-neglected world. French ships and troops required a staging area for the counterattacks back into the French Arm, and Sans Souci was ideally positioned. This led to a build-up of development and services, and by the end of war, Sans Souci was a major naval and army staging area.

In the wake of the war, the French government faced a couple of new problems. There was widespread dissatisfaction with the way France handled the war. Citizens at home were unhappy, and the Chamber of Deputies was becoming increasingly belligerent. At the same time, many worlds on the French Arm were facing a refugee crisis, especially as the Core Worlds had no desire to take in potentially contaminated refugees.

The outpost at Sans Souci was large and well-developed, and with the end of the war French units were being posted back to the Core. This left many of the planetside facilities empty and abandoned. These empty buildings, hangers and barracks were perfect for resettling colonists from worlds devastated by the war.

The colonization and resettlements efforts for Sans Souci have another effect, as they distract the public, along with

the Chamber, from the now-receding Kafer War. The Imperial government can show that France is carrying and expanding its holdings even as they rebuild those devastated by the war.

## BETA CANUM VENATICORUM

Beta Canum (for short) suffered some of the worst casualties of the Kafer War, with nearly half the population of the French Continent killed or displaced. Though once the economic powerhouse of the French Arm, Beta Canum was only recently able to start to repair the damage suffered.

## SYSTEM DATA

### STELLAR DATA

**Primary Name:** Beta Canum Venaticorum

**Spectral Class:** G0 V

**Magnitude:** 4.46

**X, Y, Z Coordinates:** -22.2, -3.1, 19.8

**Number of Planets:** 8 (-1, -2, -3, Beta Canum-4, -5, -6, -7, -8)

**Number of Asteroid Belts:** 0

The star Beta Canum Venaticorum lies 29.9 light years from Sol on a straight line, but actual distance traveled by human ships is 41.8 light years, as they voyage from star to star along the French Arm. The star is very similar to Earth's, being just slightly larger, hotter, and brighter.

## PLANETARY DATA

### PLANET DATA

**Name:** Beta Canum Venaticorum IV (Beta Canum)

**Distance from Primary:** 1.13 AU

**Year Length:** 346.8 standard days (407.9 local days)

**Size:** 12,000 km in diameter

**Day Length:** 20.4 hours

**World Type:** Garden

**Surface Gravity:** 0.94 G

**Atmospheric Pressure:** 0.92 atm

**Average Temperature:** 24° Celsius

**Water Presence:** 61%

**Atmospheric Composition:** N<sub>2</sub> (77%), O<sub>2</sub> (19%), Argon (2%)

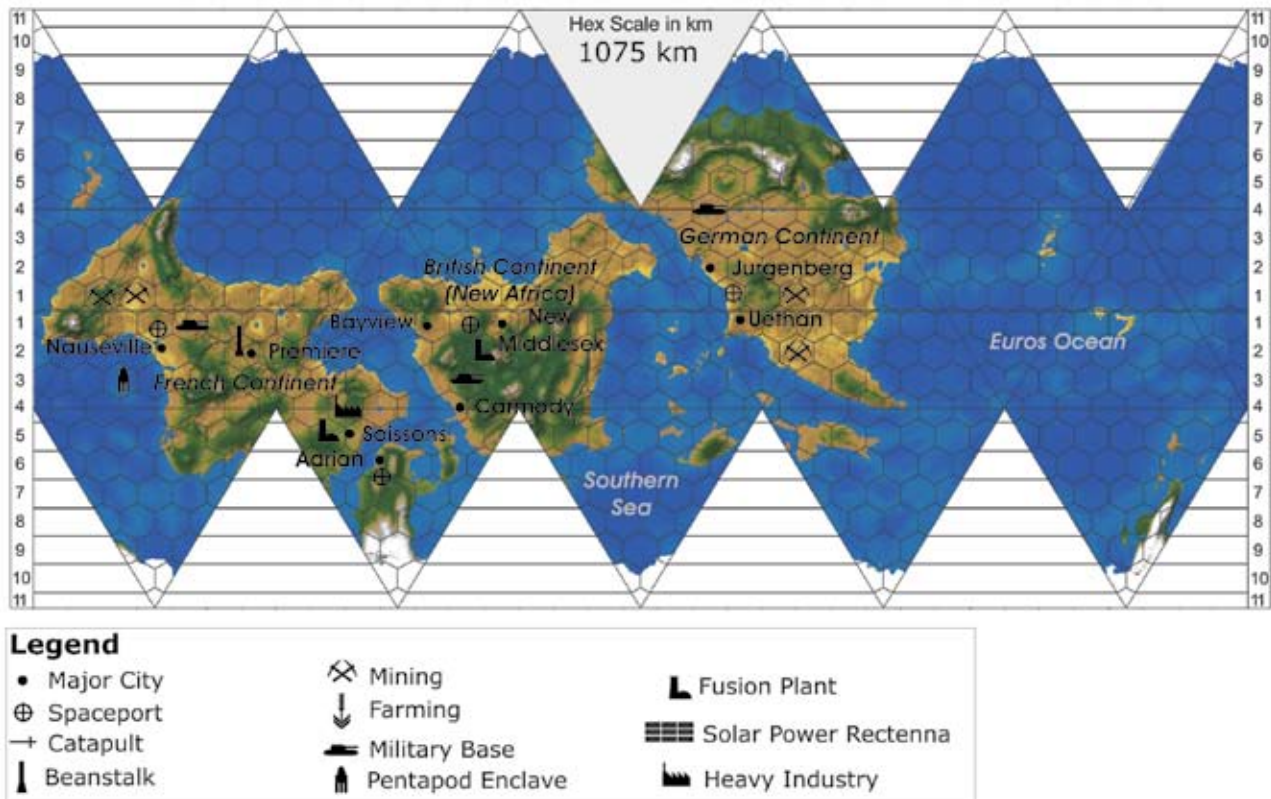
**Biodiversity:** Diverse; unusable (left-handed amino acids)

**Natural Resources:** 7

**Satellites:** 0

Beta Canum Venaticorum-4 is the fourth planet of the star Beta Canum Venaticorum. It is usually called simply Beta Canum by outsiders, while locals often refer to it simply as "BC", an old, ironic reference to the primitive condition in

## Beta Canum



the rural regions of the planet.

Beta Canum's abundant life utilizes right-handed amino acids, rather than the terrestrial left-handed amino acids. Native life forms have no nutritional value for Terran lifeforms, and vice-versa. However, transplanted Terran life does very well, as there are no pests to consume it.

The only exception to that rule was the Beta Grain Blight, a local fungal infestation which attacked human crops for two years before being brought under control by a Pentapod-engineered defense. Debate continues to this day as to the cause of the Blight, which some blame on the Pentapods.

Agriculture is still Beta Canum's most valuable industry, though tourism is regaining its importance as well.

### COLONIAL DATA

The Beta Canum Venaticorum system was first visited by human starships in 2181. These were French starships exploring under the auspices of the European Space Agency. From 2182 until 2202, detailed surveys of the system were performed by a research team from Das Astronomischen Rechen-Institut, concentrating on the garden world. The initial surveyors established their base of operations on the northernmost tip of Beta Canum's southern continent, now home to the largely abandoned city of Adrian.

Three nations established colonies on Beta Canum: France, Britain, and Bavaria (now Germany), each laying claim to one of the major continents. The southern continent was

held jointly as an ESA territory.

In 2302, and again in 2307, Beta Canum was invaded by Kafers, and became the site of the most important ground battles of the Kafer War. The first occupation was unusual for Kafers, as they actually attempted to govern the humans rather than exterminate them. The second occupation went differently, as there was a considerable contingent of human forces in place to oppose the Kafer landings. Drawing on their knowledge of the world from the first occupation, the Kafers invested the French Continent heavily, counting on the colonists still being demoralized from the loss of the Beanstalk and the lack of power and other amenities.

French troops opposed the Kafer landings, and were joined by British, German and American units in a fierce battle for control of the French colony. For the first time since the battles for Aureore, tactical nuclear devices were utilized by Humans against Kafer troop concentrations.

By the end of the war, the area of the French continent around the spaceport was devastated, but the Kafer ground forces were defeated. Most of the Kafer survivors went to ground in the forests of the French continent, complete with their own Ylii-produced food converters that allow them to live off the land. There are persistent, and growing, rumors that Kafers have taken to eating captured Humans.

Until the Beanstalk was reattached in 2315, the French continent was serviced through the spaceport facilities at the ESA city of Adrian, on the world's Antarctic continent. The

almost-abandoned city was ignored by the Kafers during the war, but has seen a resurgence since the end. There is concern in the city now that the time of prosperity may have been all-too-brief, as shipments have fallen off 30% since the Beanstalk resumed operations in 2318.

## French Colony

**Colony Name:** French Continent

**Colony Population:** 16.1 million

**Date Founded:** 2205

**Nationality:** France

**Life Expectancy:** 97 years

**Literacy:** 98%

**College Education:** 57%

**Major Cities:** Crépy-en-Seine (576,000), Première (212,000), Zapamoga Camp C (121,000)

**Currency:** French Livre

**Government Type:** Military Occupation (6)

**Law Level:** Low. Military weapons prohibited (3)

**Tech Level:** (8)

**Trade Data:** Ri

**Principal Trading Partners:** New Africa, German Continent, Nouvelle Provence

**Interface Capability:** Beanstalk, Spaceplane

**Resources:** Farming, Mining, Heavy Industry

**Military Presence:** Military Base, Naval Base

**Other Bases:** Foundation (Zapamoga, IEX, Alberta Farmer's Cooperative), Science

**Services:** Fusion Plant, Pownet (76%), Road Net (100%), Rail Net (100%), Link Network (98%), Airship Net, Weather Satellites, Communications Satellites, Orbital Terminal,

## The Pentapod Enclave:

In 2261, the Pentapods made a request to build an enclave on French Continent's western shore. That request was quickly approved by all ESA governments, in the desire to establish stronger ties with this strange race of bioengineers. Pentapods, being amphibians, are equally at home in all the three environments encompassed by the enclave: underwater, dry, and mixed. Humans gain greater respect from the Pentapods by braving the wet rooms when dealing with the aliens. During the War, most of the Pentapods in the Enclave fled to the open seas. Some made contact with the French underground, and supplied them with technology that allowed the resistance to live off the land, including food converters and tooth guns.

Both phases of the Kafer War visited a great deal of damage upon the French Continent, in particular around the capital city and starport region. Casualties were very high, for

both military units and for civilians. Though the colony has reclaimed much of its agricultural territory, and is starting to rebuild, it still faces continued threats from those Kafers that escaped the last battle around the starport.

The seeming lack of a coordinated French response to the Kafer invasions, along with the hardships endured by the population, have led to yet another strong independence movement. For its part, France refuses to even consider increased autonomy for the colony, let alone independence. Metropolitan troops brought in from Imperial holdings on Earth provide the independence movement with a very clear threat, should the movement ever try to force its hand. The presence of what are virtually occupation troops in the cities have led to increased acts of violence against Metropolitan troops in the countryside, however. The rural dwellers are heavily armed after the chaos of the years when the Kafers were the occupiers of the colony. The irony of the current situation is not lost on political commentators, in particular those of the other two colonies on Beta Canum.

## The Beanstalk:

The first operational Beanstalk in human space became operational on Beta Canum in 2291. Though marred by an accident in 2293, when several unmanned capsules fell off, it contributed greatly to the success of all the colonies, in particular the French colony. When the Kafers first invaded in 2302, the Beanstalk was severed at the base by colonial authorities and allowed to drift free. It was not reattached until mid-2315.

## German Colony

**Colony Name:** German (Bavarian) Continent

**Colony Population:** 11.1 million

**Date Founded:** 2207

**Nationality:** German

**Life Expectancy:** 96 years

**Literacy:** 98%

**College Education:** 71%

**Major Cities:** Jürgenburg (768,000), Uethen (543,000)

**Currency:** German Taler

**Government Type:** Multi-party Democracy (4)

**Law Level:** Moderate. Light Assault Weapons Prohibited (4)

**Tech Level:** (10)

**Trade Data:** Ri

**Principal Trading Partners:** Germany, Dunkelheim, Freihafen

**Interface Capability:** Spaceplane, Roton (C)

**Resources:** Farming, Mining, Heavy Industry, Orbital Industry



**Military Presence:** Orbital Defense Installation, Military Base, Naval Base

**Other Bases:** Foundation (ARI)

**Services:** University, Pownet (81%), Road Net (85%), Rail Net (90%), Link Network (34%), Airship Net, Weather Satellites, Communications Satellites, Orbital Terminal

In recent years, the inhabitants of the German Continent have undergone a sort of renaissance, and are viewing the old days of Bavarian control with great nostalgia. The current German regime has been tarred with the ill-fortunes that have befallen the colony since the War of German Reunification in 2293. Even though they cannot logically be blamed for the horror of the Kafer War, there are those who feel that the disaster would have been less severe if Bavaria had still been the governing power for the colony. This sentiment has fueled a small, but growing, sentiment, that independence might be the best course for the colony to steer, and the elections planned for 2321 are expected to bring in many pro-independence candidates, in particular in the rural regions.

### British Colony

**Colony Name:** New Africa

**Colony Population:** 8.3 million

**Date Founded:** 2207

**Nationality:** British

**Life Expectancy:** 84 years

**Literacy:** 99%

**College Education:** 62%

**Major Cities:** New Middlesex (451,000)

**Currency:** British Pound

**Government Type:** Constitutional Monarchy (4)

**Law Level:** Moderate. Personal concealable firearms prohibited (5)

**Tech Level:** (11)

**Trade Data:** Ri, Hi

**Principal Trading Partners:** French Continent, German Continent, Crater

**Interface Capability:** Spaceplane

**Resources:** Farming, Mining

**Military Presence:** Military Base, Naval Base

**Other Bases:** Science

**Services:** Fusion Plant, University, Pownet (100%), Road Net (100%), Rail Net (100%), Link Network (98%), Airship Net, Weather Satellites, Communications Satellites, Orbital Terminal

Of the three colonies on Beta Canum, New Africa came out of the Kafer war with the least amount of damage. The continental airfilm line has heavily damaged by Kafer orbital kinetic strikes, but the damage to the rails was easily repaired. The damage to the colony's tourist industry, the centerpiece of it economy, won't be easy to repair. The use of nuclear weapons in the battles for the French Continent have struck

a sour note with many off-worlders, stung both by Lutke's genocidal nuclear attack on Kafers, and the more distant history of the Twilight War.

New Africa is still instrumental in shipping goods back and forth across the continent, and on to markets in the German and French colonies.

### BUSINESS OPPORTUNITIES:

Of all the colonies on Beta Canum, the French colony suffered the most during the Kafer war. Even with the ambitious French rebuilding plans underway, there is still a great deal of hardship in the colony. British and German entrepreneurs have taken it upon themselves to help alleviate the suffering by supplying large quantities of food, drugs, alcohol and narcotics, usually without going through border checkpoints.

### JOI/61 URSAE MAJORIS

A true melting pot of human proliferation, Joi is home to no less than four different national colonies and an independent stellar nation. A remarkably hospitable world on the outer edge of the French Arm, Joi attracted settlers almost from the date of its discovery.

### SYSTEM DATA

#### STELLAR DATA

**Primary Name:** 61 Ursae Majoris

**Spectral Class:** G8 V

**Magnitude:** 0.555

**X, Y, Z Coordinates:** -24.4, 2.2, 16.7

**Number of Planets:** 14

**Number of Asteroid Belts:** 0

### PLANETARY DATA

#### PLANET DATA

**Name:** Joi

**Distance from Primary:** 0.765 AU

**Year Length:** 188.39 days

**Size:** 16,992 km in diameter

**Day Length:** 28.93 hours

**World Type:** Garden

**Surface Gravity:** 1.05 G

**Atmospheric Pressure:** 1.03 atm

**Climate:** Temperate

**Water Presence:** 58%

**Atmospheric Composition:** N<sub>2</sub> (78%), O<sub>2</sub> (19%), Trace (3%)

**Biodiversity:** Diverse

**Natural Resources:** 3

**Satellites:** 3 (Blanche, Argent, and Or)

Joi, 61 Ursae Majoris III, is the single human-habitable planet in the star system. It is one of the most Earthlike of the colony planets settled to date, although as with all worlds it also displays notable divergences from the Terrestrial "norm."

Native crops are considered suitable for human consumption, but the colonists have found that the relatively less advanced ecosphere of Joi simply cannot compete with plants introduced from off-world. Although ecologists have issued dire warnings, there are two colonies – Azania's and Japan's – which have mounted large-scale importation of such crop seeds. Plans to do the same in Elysia were largely responsible for their break with the French government nearly four decades ago.

The very term "Garden World" presupposes the existence of native life forms on the planet. Joi is no exception to this rule; life is present in abundance. Although the basic biochemistries are compatible and the lay community insists on using terms like "mammalian" or "reptilian" to describe these creatures, any resemblance they have to Terrestrial forms is strictly a matter of common responses to the same evolutionary imperatives. Most of these pseudo-reptilians tend to be on the slow and stupid side, though still occasionally dangerous.

### "CLEVER DRAGON":

One species of these pseudo-reptiles has proven to be anything but slow and stupid. These "Clever Dragons" are warm-blooded animals with high-metabolic rates and large brains. Studies have shown them to be at least as intelligent as terrestrial mountain gorillas, and some suggest that they may even be sentient. Efforts to protect the region where the creatures are most numerous is being resisted by all the colonial governments, save Elysia which rather predictably supports the move. The Elysians have even gone so far as to suggest withdrawing all human settlement from the continent in question.

has its own unique characteristics, and each a distinct local identity that has led, on more than one occasion, to serious disputes among them.

### THE GERMAN COLONY

**Colony Name:** Landeplatz-Friedrich der Grosse (Halbinsel)

**Colony Population:** 1.4 million

**Date Founded:** 2241

**Nationality:** German

**Life Expectancy:** 104 years

**Literacy:** 99%

**College Education:** 64%

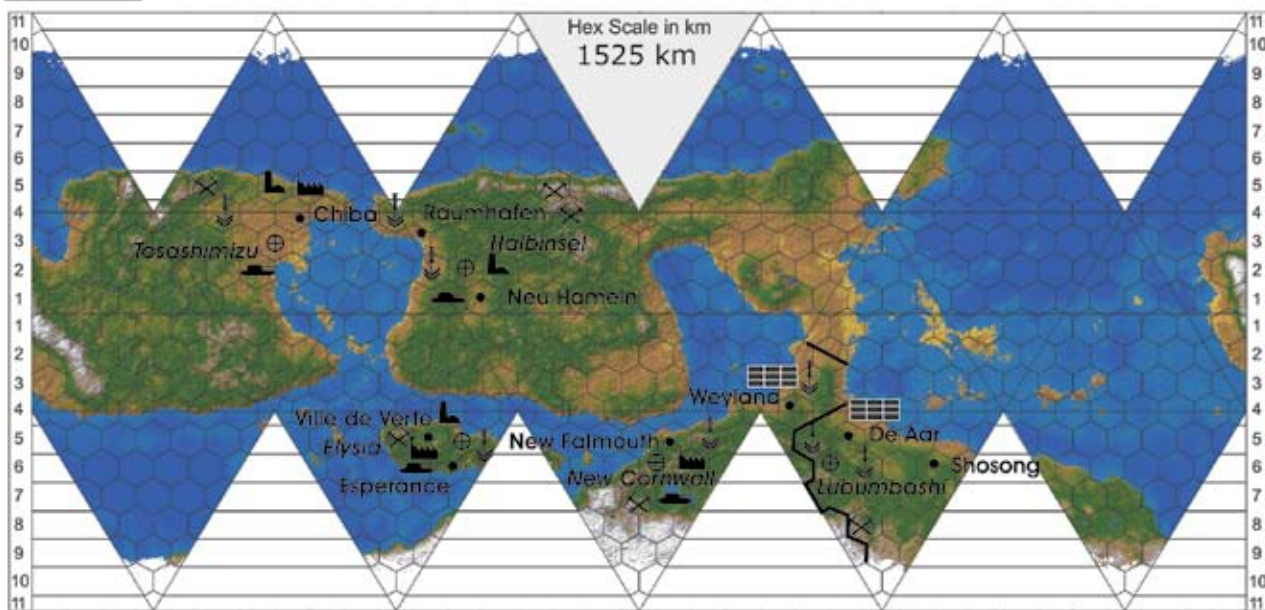
**Major Cities:** Raumhafen (351,000), Neu Hameln (79,000)

112

## COLONIAL DATA

Five different nations planted colonies on Joi. Each one

Joi



### Legend

- Major City
- ⊕ Spaceport
- Catapult
- ⛏ Mining
- ↓ Farming
- 🏢 Military Base
- ⚡ Fusion Plant
- ☀ Solar Power Rectenna
- 🏭 Heavy Industry

**Currency:** German Taler

**Government Type:** Democratic Republic (4)

**Law Level:** Moderate. Light Assault Weapons Prohibited (4)

**Tech Level:** (9)

**Trade Data:** Ag

**Principal Trading Partners:** Elysia, Nibelungen, Germany

**Interface Capability:** Scramjet, Roton (C)

**Resources:** Farming, Mining

**Military Presence:** Orbital Defense Installation, Military Base, Naval Base

**Other Bases:** None

**Services:** Fusion Plant, Powernet (61%), Road Net (37%), Rail Net (41%), Link Network (81%), Airship Net, Weather Satellites, Communications Satellites, Orbital Terminal

The French may have been the first to survey Joi, but the Bavarians were the first to actually put in a colony.

The German colony is centered on the city of Raumhafen, which is surrounded by extensive farmlands. During the Kafer War the whole region came under heavy attack, and the colonists are struggling to contain an outbreak of Kafer Blight in the farms to the south of the city. Though the damage was extensive, the German government has invested a great many resources in the rebuilding process, and the colony is nearly up to the level it had attained before the war. Like many of the French Arm colonies, Halbinsel suffered over a 20% loss in its population, due to the war and subsequent famine and immigration.

The original large orbital defense installation was destroyed in the fighting, but it was able to give a good enough account of itself to lighten the blow against the world it protected. The ODI has since been replaced, but the new station isn't as capable as the old.

The colonial government operates with a typically German efficiency. There is very little input from the colonists themselves; they answer to an Earth-appointed governor who has some very large – indeed sometimes totally impractical – quotas and schedules to meet. However, the colonists are grateful for the support they received throughout the war and afterwards, and accept the quotas as paying their fair share. Indeed, the colonists are at loss over the recent terrestrial German soul-searching and hand-wringing over their part in the Kafer War, in particular the genocidal acts of Konteradmiral Lutke and his ships.

### The ex-French Colony

**Colony Name:** Elysia

**Colony Population:** 2.3 million

**Date Founded:** Independent in 2291

**Nationality:** Independent

**Life Expectancy:** 95 years

**Literacy:** 99%

**College Education:** 64%

**Major Cities:** Ville de Verte (120,000), Éspérance (97,000)

**Currency:** Elysian franc

**Government Type:** Democratic Republic (4)

**Law Level:** Low. Personal concealable firearms prohibited (5)

**Tech Level:** (9)

**Trade Data:** NI

**Principal Trading Partners:** Halbinsel, Adlerhorst

**Interface Capability:** Spaceplane (C)

**Resources:** Farming, Mining, Heavy Industry

**Military Presence:** Military base, Naval base

**Other Bases:** Science

**Services:** Fusion Plant, Powernet (62%), Road Net (60%), Rail Net (30%), Link Network (93%), Airship Net

France arrived on Joi less than a decade after the Germans, settling on the large island (or small continent) of Elysia. At first French and German interests coincided, but by 2270 they had definitely started to diverge.

In 2285, long-standing grievances between the colonists and the French government erupted into violence. An environmental demonstration termed ugly when a young French lieutenant panicked and ordered his troops to open fire. Though the casualties were small, the event nonetheless incited the population into rebellion.

The fighting lasted for over six years, but eventually left the colonists in charge. Though the Elysians received considerable assistance from certain Hanoverian, now German, agent provocateurs, they nonetheless do not feel beholden to the Germans. The Elysians inherited a large-capacity fusion plant from their former masters, along with an orbital terminal. Though the fusion plant survived the Kafer War, the terminal did not, and the Elysians have not yet been able to replace it.

Though Elysia fared better than most in the Kafer War, it had only barely started to recover from the Elysian War when the Kafers invaded. The population was already widely dispersed, heavily armed and used to fighting a guerilla war. Kafer landings on Elysia suffered heavier losses than any other colony on the planet.

To outsiders, Elysia always seems on the verge of collapse, and indeed it still isn't completely stable. However, the new nation has made great strides since the end of the Kafer War in alleviating the suffering of its citizens. France is still thought to be involved in attempts to destabilize the nation, making the rebuilding process more difficult than it should be.



**The British Colony****Colony Name:** New Cornwall**Colony Population:** 1.3 million**Date Founded:** 2254**Nationality:** British**Life Expectancy:** 94 years**Literacy:** 99%**College Education:** 83%**Major Cities:** New Falmouth (287,000), Weyland (127,000)**Currency:** British Pound**Government Type:** Governor General appointed from Earth (6)**Law Level:** Moderate. Light Assault Weapons prohibited (4)**Tech Level:** (10)**Trade Data:** Ri, Ag**Principal Trading Partners:** Alicia, Wellon, Britain**Interface Capability:** Spaceplane, catapult (B)**Resources:** Farming, Mining, Heavy Industry**Military Presence:** Orbital Defense Installation, Military Base**Other Bases:** None**Services:** Solar Power Satellite, Rectenna, Powernet (73%), Road Net (55%), Rail Net (45%), Link Network (35%), Weather Satellites, Communications Satellites, Orbital Terminal

New Cornwall is the most advanced of the colonies on Joi. It remained neutral during the Elysian War of Independence, and was a rallying point during the Kafer War. The colony's advanced industries and advanced orbital defenses were instrumental in limiting the damage caused by the alien invaders in both phases of the war.

Though much of the colony's orbital infrastructure was destroyed in the war, it has largely been rebuilt, though the expense is going to set the colony back many years. Immigration has been heavy during the post-war period, and along with the settlers came refugees from other worlds harder hit by the war.

**The Japanese Colony****Colony Name:** Tosashimizu (Samurai Bay)**Colony Population:** 1.2 million**Date Founded:** 2257**Nationality:** Japanese**Life Expectancy:** 99 years**Literacy:** 99%**College Education:** 76%**Major Cities:** Chiba (750,000)**Currency:** Japanese Yen**Government Type:** Colonial Governor (6)**Law Level:** Moderate. Personal concealable firearms

prohibited (5)

**Tech Level:** (9)**Trade Data:** NI, Ag**Principal Trading Partners:** Japan, France**Interface Capability:** Spaceplane, Shuttle**Resources:** Farming, Mining, Heavy Industry**Military Presence:** Military Base, Naval Base,**Other Bases:** Science**Services:** Fusion Plant, University, Powernet (79%), Road Net (71%), Rail Net (34%), Link Network (98%), Airship Net, Weather Satellites, Communications Satellites

Japan settled Joi in 2257, shortly after the British arrived, and in contrast to the former colony, chose to commit a massive effort to build up their colony as quickly as possible. Their expansion has been quite aggressive, and they were the first to introduce Terran crops and livestock on a large scale. This caused quite an uproar amongst environmental groups, but the Japanese were undeterred.

During the Elysian War, the Japanese offered support to French forces, though the offer was declined. To this day it is thought that the Japanese have territorial designs on the former French colony.

During the Kafer War, the Japanese population dispersed to carefully-placed shelters in the rural areas. Their carefully-built up infrastructure was devastated by the orbital bombardment and subsequent troop landings, but Tosashimizu's civilian casualties were relatively light.

They have concentrated on rebuilding their ground-based infrastructure since the end of the war, and have only recently put in a small orbital terminal.

**The Azanian Colony****Colony Name:** Lubumbashi**Colony Population:** 2.2 million**Date Founded:** 2280**Nationality:** Azanian**Life Expectancy:** 98 years**Literacy:** 98%**College Education:** 68%**Major Cities:** De Aar (264,000), Shoshong (198,000)**Currency:** Azanian Rand**Government Type:** Democratic Republic (4)**Law Level:** Moderate. Personal concealable firearms prohibited (5)**Tech Level:** (10)**Trade Data:** Ri, NI, Ag**Principal Trading Partners:** New Cornwall, Tundakubwa**Interface Capability:** Roton (D)**Resources:** Farming, Mining**Military Presence:** None**Other Bases:** None

**Services:** Rectenna, Pownet, Road Net (32%), Rail Net (30%), Link Network (98%), Airship Net

Lubumbashi, the youngest of the Joi colonies, is an Azanian settlement founded in 2280. It was just starting to become self-sufficient in food production when the Kafers struck in 2302. Though the damage was heavy then, the colony was just starting to rebuild when the Kafers struck again in 2307. The damage to Lubumbashi is severe enough that the Azanian government is considering simply pulling support for the colony. There have been recent secret negotiations with the British at New Cornwall, and the rumor runs that the British will absorb the nearby colony. This has generated less controversy than might be expected. The two colonies have always enjoyed good relations, and several Azanian refugee camps were established on New Cornwall's better defended territory during the three years of ground war versus the Kafers.

## CRATER/HENRY'S STAR (DM+38 2285)

Not all colony worlds are Earthlike in their makeup and conditions, as Crater is a marvelous example. Some worlds are only habitable by a stroke of luck after one of nature's more spectacular accidents.

### SYSTEM DATA

#### STELLAR DATA

**Primary Name:** Henry's Star  
**Spectral Class:** G8 VI  
**Magnitude:** 6.71  
**X, Y, Z Coordinates:** -22.7, 0.9, 17.7  
**Number of Planets:** 1  
**Number of Asteroid Belts:** 1  
**Stellar Data**  
**Companion Name:** Catherine's Star  
**Spectral Class:** M0 V  
**Number of Planets:** 0  
**Number of Asteroid Belts:** 0

### PLANETARY DATA

While the system has no other planets, the extensive asteroid belt supports a thriving mining industry, and the main station of New Glasgow supports a permanent population of over 12,000 people.

#### PLANET DATA

**Name:** Crater  
**Distance from Primary:** 0.36 AU  
**Year Length:** 36.36 days  
**Size:** 11,040 km in diameter

**Day Length:** 22 hours daylight, 9 hours night. Tidally locked

**Core Type:** Rocky

**World Type:** Garden

**Surface Gravity:** 0.61 G

**Atmospheric Pressure:** 0.60 atm

**Climate:** Tropical

**Water Presence:** 10%

**Atmospheric Composition:** N<sub>2</sub> (86%) O<sub>2</sub> (10%) Trace (2%)

**Biodiversity:** Abundant

**Resources:** 12

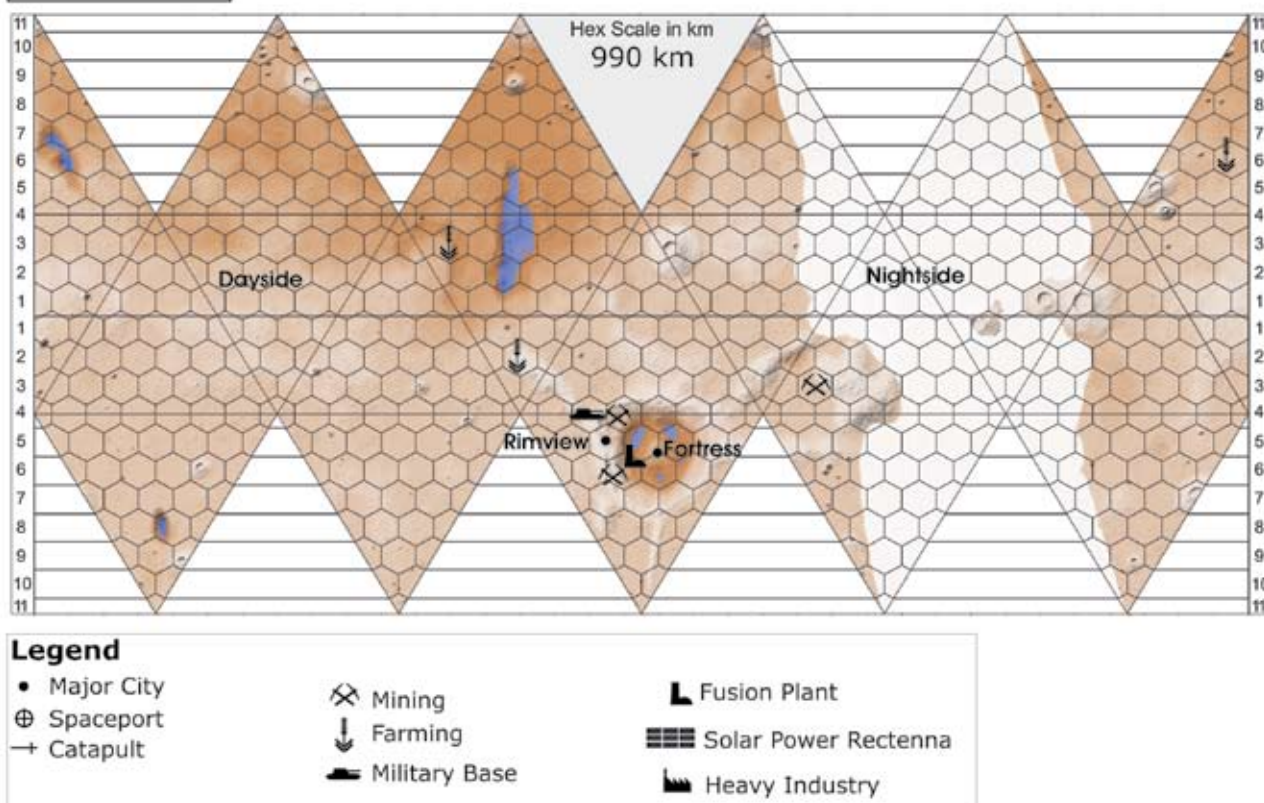
Save for an accident of history, Crater would probably have developed as another of the worthless rocks so common in explored space. Supporting a rather thin atmosphere and scant free water, Crater's classification as a "garden world" is due to exceptional conditions in a single region of the planet. These special conditions have shaped the planet's role in colonial exploitation.

Though Crater is tidally-locked, it does experience considerable libration effects, giving the twilight band around the world something of a day/night cycle. Crater lacks a magnetic field, and coupled with the world's thin atmosphere means that there is scant protection from the radiation and charged particles poured from the system's two stars. In addition, Catherine's Star is a flare star, and during the thankfully rare flare times, the surface is exposed to occasionally lethal doses of radiation, and experiences severe temperature increases.

The world's namesake is a massive 1600 kilometer diameter impact crater in the southern hemisphere. The impact must have blasted away much of the world's atmosphere, and wiped out nearly 90% of the plant and animal life on the world. The planetoid fragment that struck had an unusually high concentration of radioactives and other heavy elements, and so though the rest of the planet is largely worthless in terms of natural resources, the area of the impact crater is extremely rich. The bottom of the impact crater itself is covered with a network of lakes and swamps, and it uncomfortably hot. The only comfortable area within the crater is the mountain at its center, the result of upwellings after the initial impact.

Although local forms find Terran life edible (and vice versa), there are major differences in crucial vitamin complexes between the two animal kingdoms. Thus local life alone cannot be used to support human colonists for any length of time without the use of major vitamin supplements, nor can local animals prey exclusively on Terran food sources. There is evidence that some of the larger predators in the vicinity of the human ranches are starting to show signs of vitamin deficiencies, indicating that Terran animals are forming too large a part of their diets.

## Crater



## COLONIAL DATA

**Colony Name:** Crater

**Colony Population:** 1.1 million

**Date Founded:** 2217

**Nationality:** British

**Life Expectancy:** 89 years

**Major Cities:** Rimview (820,000),

**Currency:** British Pound

**Government Type:** Governor-General acting as a dictator (A)

**Law Level:** High. Long-bladed weapons prohibited and all weapons controlled outside one's home (A)

**Tech Level:** (7)

**Trade Data:** Po, NI

**Interface Capability:** Spaceplane, Catapult (B)

**Resources:** Farming, Mining, Heavy Industry

**Military Presence:** Military Base

**Other Bases:** Foundation (Royal Society)

**Services:** Fusion Plant, Pownet (31%), Road Net (22%), Rail Net (12%), Link Network (55%)

The majority of the colonists are concentrated in the small city of Rimview on the upper edge of the crater. Many alternatives were initially considered before this site was chosen; it represents a compromise between a number of different possible sources of discomfort. Most of the city's populace is employed in various light industries or service-oriented

jobs. Notable features of the city include the large orbital catapult on the east edge of the city, the large elevator complex that allows a descent to the crater floor and the fusion plant located there, and a network of underground shelters built into the crater wall below the city. During the Kafer attack, most of the city's population took shelter in those caves, which were normally used in case of high radiation activity or a failure in the town's shielding systems.

The Kafers didn't land many troops during the second phase, but they did use the planet as a forward base. During this time the asteroid miners suffered heavy casualties from near constant Kafer raids. Most of the casualties on the planet came in the initial attack, and though the damage was relatively light compared to some other worlds, by the time the world was relieved by human forces, some 300,000 people had perished, along with another 5000 in the asteroid belt.

The non-urban population of Crater is divided between the ranchers of the uplands and the various small mining towns that are found at various points around and within the crater itself.

The colony's original orbital station was destroyed in the second phase of the war, and Britain has yet to build a new one, instead waiting on the volatile situation on the surface to resolve itself.

In 2309, Governor-General McBride took advantage of the Crown's heavy involvement in the war against the Kafers,



to seize power, using mercenaries that he had hired ostensibly to protect the colony. He continued to send Britain the resources requested, and in return the Home Office turned a blind eye to his actions on the colony. This allowed him to cement his power base, so when the war ended he was too thoroughly in control to be readily removed. Though the admiralty suggested sending in the marines, the Home office demurred, citing the possibility of high collateral damage. The real reason may be the HO's unwillingness to accept culpability for McBride's seizure of power.

McBride has built a citadel for himself on the mountain at the center of the crater, well-defended by his mercenaries and the French and Manchurian heavy weapons he has been able to obtain.

The colony on Crater is not an easy one to live in. Colonists living and working in the desert uplands must contend with a thin atmosphere, desert temperature extremes, a lack of potable water, and other unpleasantness. Prolonged exertion is almost impossible in the uplands because of the low partial pressure of oxygen and the already thin atmosphere. Rimview and other population centers feature sealed buildings where internal pressure can be raised, to Earth standards, and most people forced to work or travel out doors carry oxygen masks. Still, fatigue is a major problem. As for temperature, the daytime temperature in the uplands can climb as high as 30°C, and drop to near 0° C in darkness. These extremes are the result of the thin atmosphere, which has poor heat-retentive qualities.

The miners who work within the crater have a different set of problems to contend with. The atmospheric pressure within the crater climbs as one approaches the floor of the rim; at the lowest levels, it approaches Earth-normal pressure. However, decreased altitude also brings a significant increase in temperature. The floor of the crater consistently runs 8° to 10°C higher than the upland temperatures. In full daylight, this is above the level of human tolerance and protective gear must be worn.

The need for protection from the elements is at the heart of miners' grievances with the government. Light local industries are slowly beginning to furnish some essentials, but all too often the equipment essential to miners trying to make a living on Crater is imported, subject to high initial prices and even higher government tariffs. Imported goods on Crater can cost two or in some cases three times as much as they might cost on Earth or any of the more self-sufficient colony worlds. In many cases, these inflated prices stem as much from local corruption as from actual economic necessities.

Finally, in 2313, the simmering unrest boiled over, and the miners and ranchers rose up in rebellion against Governor McBride and his Colonial Constabulary. Though McBride succeeded in cutting off the uplands from the power provided by the fusion plant, the ranchers had been long manufactur-

ing their own solar panels, and used the abundant sunlight of the dayside to power their homes and vehicles.

In response, McBride has hired additional mercenaries, including the so-called StarSeid, a mercenary outfit running their own armed ships and interface craft. Their primary role is to enforce McBride's blockade of the rebellious regions. Britain is thought to be surreptitiously arming the rebels, while at the same continuing to purchase refined ores from the Crateran government. The local asteroid miners are firmly in support of their brethren on the surface, and have been known to fly shipments of weapons and equipment through the blockade.

The miners, for their part, have retreated into the extensive network of caves once used by McBride and his troops to carry out guerrilla raids on Kafer occupation troops in the early phase of the war. The irony of this is not lost on any of the participants.

## ADLERHORST/Vogelheim

The Vogelheim system has a remarkable two worlds with independently developed biospheres. The first is Adlerhorst, home of a human colony. The second is Oiseau, which has evolved a halogen-based biosphere, an event unknown anywhere else.

### SYSTEM DATA

#### STELLAR DATA

**Primary Name:** Vogelheim

**Spectral Class:** K3 V

**Magnitude:** 8

**X, Y, Z Coordinates:** -29.6, -5.9, 19.4

**Number of Planets:** 10 (Adlerhorst, Ptak, Pasare, Oiseau, Aigie, Pouli, Tori, Ndege, Ayes, Tsipor)

**Number of Asteroid Belts:** 1

### PLANETARY DATA

#### PLANET DATA

**Name:** Oiseau

**Distance from Primary:** 1.7 AU

**Year Length:** 427 days

**Size:** 11,500 km in diameter

**Day Length:** 41 hours

**World Type:** Glacier

**Surface Gravity:** 0.87 G

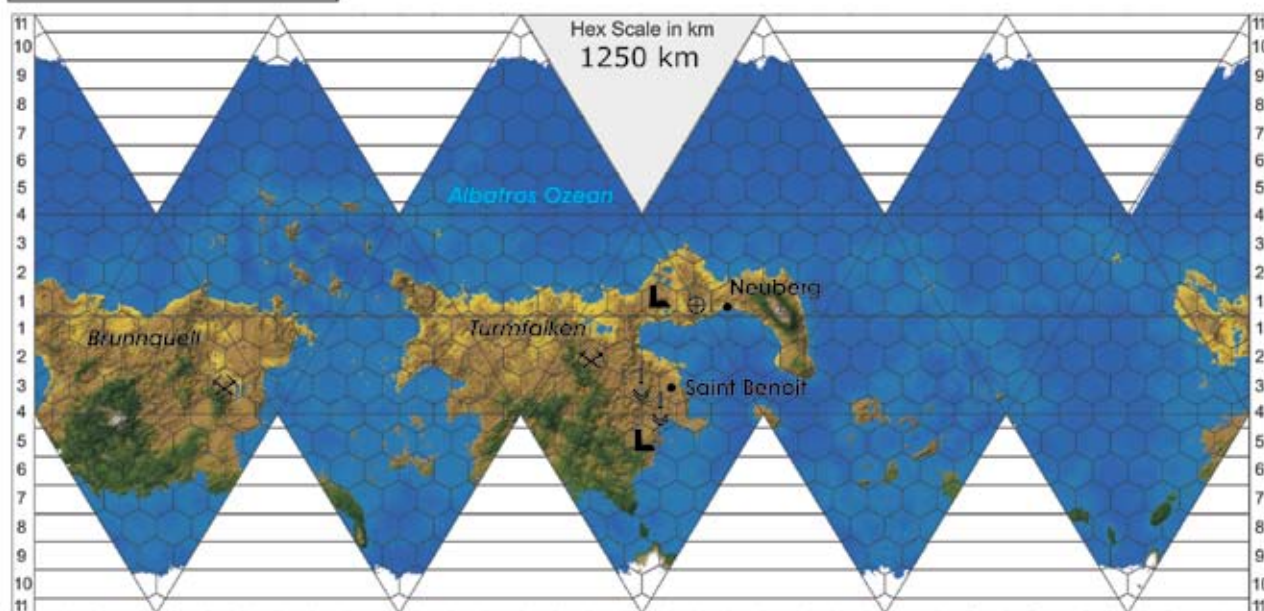
**Atmospheric Pressure:** 2.3 atm

**Climate:** Frigid

**Water Presence:** 54% (HF, hydrofluoric acid)

**Atmospheric Composition:** N<sub>2</sub> (12%), CF<sub>4</sub> (17%), BF<sub>3</sub> (16%), F<sub>2</sub> (7%), others

## Adlerhorst



## Legend

• Major City	⛏ Mining	⚡ Fusion Plant
⊕ Spaceport	↓ Farming	☐ Solar Power Rectenna
→ Catapult	🏠 Military Base	🏭 Heavy Industry

**Biodiversity:** Diverse; unusable

**Natural Resources:** 4

**Satellites:** 0

Oiseau is unique in human space, the only world with fluorine present in its atmosphere in such quantities. Oxygen is also a component of this frigid world's atmosphere, but it plays only a minor role in local biochemistry. Its chief effect as far as Humanity is concerned is to render the atmosphere even more reactive to most metals.

**Life Forms:** The recent discovery of a halogen-based biosphere on Oiseau has caused considerable excitement in the scientific world. In the past few decades, a few old-fashioned remote probes were dropped, but standard life detection sensors will not register Oiseauan lifeforms as alive, and therefore they did not pick them up. The world's highly corrosive atmosphere caused the metal in the early probes to deteriorate rapidly, and few remained in operation long enough to do much other than provide a few details of the world's surface. Interest waned, and studies slowed as research money was pushed into more interesting locales.

Part of good scientific technique, however, is to occasionally reexamine old data for new insights. Because of certain anomalies detected in the data from Oiseau, a researcher with the Adlerhorst branch of the ARI reached a startling conclusion late in 2287. A number of odd-looking formations on the world's surface seemed to be alive (instead of the inorganic crystalline structures they were thought to have been

initially). Other (supposedly inorganic) structures seemed to be able to move of their own volition! In 2279, a new series of probes (built using more advanced synthetic materials and less affected by the atmosphere) were sent to the surface of Oiseau. They soon confirmed the presence of a wide variety of halogen-based life forms.

The nature of basic biochemistries has been fairly well established. The local "plants" photosynthesize carbon tetrafluoride, hydrogen fluoride and other chemicals into food, releasing gaseous fluorine. The "animals" eat the plants, using the inhaled fluorine gas and hydrogen fluoride to digest them, and exhaling carbon tetrafluoride. Details of body structure vary, but most plants use long-chain polymers in their supportive structures (much as many terrestrial plants use cellulose), causing one xenobiologist to remark that they are made of PVC plastic.

Because of the Kafer War, the research into the life forms of Oiseau was temporarily suspended, but many are eagerly awaiting the new series of probes scheduled by the ARI to land later in 2320.

## PLANET DATA

**Name:** Adlerhorst

**Distance from Primary:** 0.5 AU

**Year Length:** 202 days

**Size:** 14,000 km in diameter

**Day Length:** 27.8 hours

**World Type:** Garden  
**Surface Gravity:** 1.16 G  
**Atmospheric Pressure:** 1.05 atm  
**Climate:** Temperate  
**Water Presence:** 81%  
**Atmospheric Composition:** N<sub>2</sub> (76%), O<sub>2</sub> (22%), Argon (2%)  
**Biodiversity:** Diverse  
**Natural Resources:** 4  
**Satellites:** 0

One of the most unique features of Adlerhorst is the domination of the two pseudo-avian animal groups over the other animal types in the eco-system. Unlike the birds of Earth, the Tomavians (almost birds) and Xenoavians (strange birds) have largely kept their teeth, and many have manipulatory appendages at the carpal joints of their wing-like forelimbs.

Located at the extreme end of its finger of the French arm, Vogelheim is at the frontier of human space. Unfortunately, it is also at a dead end, and explorations have largely abandoned this sector of space for more profitable areas.

### HUMMERS (PTERODEIMOS VAR.):

A bipedal carnivore native to the uplands of Brunnquell similar to the now extinct Diatrema of the Oligocene epoch on Earth. Their distress call is a loud, low-pitched hum, hence the name commonly applied to them by the early colonists. Hummers have effectively lost their wings, but they retain large, wickedly curved claws on their legs with which they bring down their prey. Hummers attack in family groups, usually of six or more individuals, chasing their prey to exhaustion and then moving in for the kill with great slashing leaps. These fierce hunters are now largely restricted to the sparsely settled northwestern plains of Brunnquell. Hummers range from 100 to 400 kilograms in weight, and from 1 to 2 meters in height.

### COLONIAL DATA

**Colony Name:** Adlerhorst  
**Colony Population:** 8.9 million  
**Date Founded:** 2231, independent since 2213  
**Nationality:** Independent  
**Life Expectancy:** 98 years  
**Literacy:** 99%  
**College Education:** 71%  
**Major Cities:** Neuberg (376,000), Saint Benoit (351,000)  
**Currency:** Adlerhorst Dollar  
**Government Type:** Participatory Democracy (2)  
**Law Level:** Moderate. Personal concealable firearms

prohibited (5)

**Tech Level:** (9)

**Trade Data:** Ag

**Principal Trading Partners:** Freihafen, Germany, France

**Interface Capability:** Spaceplane, Roton (C)

**Resources:** Farming, Mining

**Military Presence:** Military Base, Naval Base

**Other Bases:** Foundation (ARI, IEX), Science

**Services:** Fusion Plant, University, Pownet (67%), Road Net (72%), Rail Net (54%), Link Network (100%), Weather Satellites, Communications Satellites, Orbital Terminal

The peaceful existence of this remote colony world was shattered by events on Earth, when sentiments over the War of German Reunification put the two colonies at each other throats. Tensions ran very high, and there were several outbreaks of violence between the two colonies. A multinational peacekeeping force intervened in 2298, and stayed in place until the Kafer War, where they joined the two colonies to defend the world.

Twenty years later, under the pressures of rebuilding from the Kafer War, and dissatisfaction with their colonial masters, the two colonies unified themselves, and presented the Earth nations of Germany and France with a fait accompli. The two nations, caught off-guard, had no real choice but to acquiesce to the colonial secession, though France was decidedly more reluctant to let the world slip away than was Germany.

The new government enforces mandatory voting, and has electronic referenda on any issue of importance. Voters are expected to keep themselves up to date on the issues, and must pass a brief quiz before being allowed to vote. Demarchist-style data access and communications implants are finding a niche in this participatory democracy.

### Bad Blood:

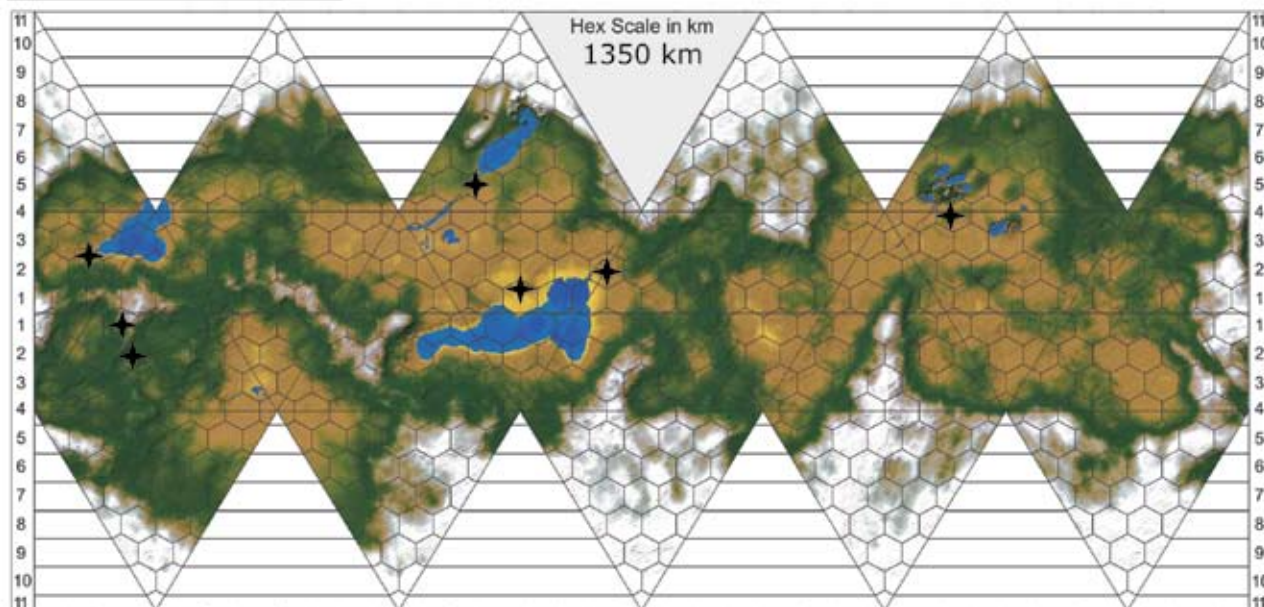
Though the two colonies did amalgamate, there is still some bad blood over the war. This sometimes works itself out in the form of violence, from the occasional ethnically-motivated soccer brawl to quiet killings of suspected collaborators. This has even spilled over into demonstrations and riots against the new national government.

### NOUS VOILÀ/BETA COMAE BERENICES

Beta Comae Berenices is the first system out from Beta Canum along the finger stretching out toward Kafer space. It was also the last major casualty of the Kafer War, and a devastating loss to the French Empire.



# Nous Voilà



## Legend

• Major City	⛏ Mining	⚡ Fusion Plant
⊕ Spaceport	↓ Farming	☀ Solar Power Rectenna
→ Catapult	🏰 Military Base	🏭 Heavy Industry
★ Ruins		

120

## SYSTEM DATA

### STELLAR DATA

**Primary Name:** Beta Comae Berenices  
**Spectral Class:** G0 V  
**Magnitude:** 4.66  
**X, Y, Z Coordinates:** -22.9, -7.2, 12.8  
**Number of Planets:** 6 (Senere, Delacroix, Nous Voilà, Un, Deux, Trois)  
**Number of Asteroid Belts:** 0

### PLANETARY DATA

#### PLANET DATA

**Name:** Nous Voilà  
**Distance from Primary:** 1.48 AU  
**Year Length:** 455 days  
**Size:** 15,000 km in diameter  
**Day Length:** 31.3 hours  
**World Type:** Garden  
**Surface Gravity:** 1.05 G  
**Atmospheric Pressure:** 1.1 atm  
**Climate:** Temperate  
**Water Presence:** 52%  
**Atmospheric Composition:** N<sub>2</sub> (78%), O<sub>2</sub> (18%), Trace (4%)  
**Biodiversity:** Active

**Natural Resources:** 4

**Satellites:** 0

Nous Voilà's climate was not always as temperate as it is today. When explorers first discovered it, it had an adequate atmosphere, but was cold, with ice caps covering most of the planet's surface and holding most of the available water. Native life was adapted to this temperature, with hardy plants and a few small sea creatures, but no land animals.

**Native Life:** One species in particular attracted considerable interest, and debate still rages today over its true import. Was there intelligent life on Nous Voilà before humans arrived? Some archaeologists believe so. Much of the evidence was destroyed by ice and snow, so artifacts are hard to come by, but some sites seem to yield signs that a mammalian quadruped gathered into communities on the largest continent in the northern hemisphere and settled down to civilized life on a small scale.

It is difficult enough to judge whether an extant species is intelligent, but when the species has been extinct for thousands of years, the question may never be answered conclusively. Geneticists have collected vast samples from the life present on Nous Voilà, and have attempted to extract as much genetic material as possible from the fossil evidence, but have had no luck in cloning any of the extinct creatures.

By the time of the Kafer War, Nous Voilà's terrestrial biology was almost entirely Terran, with some forms allowed to run free, notably mule deer, grey wolves and European bison.

## Terraforming:

French scientists used a genetically-engineered micro-organism to make the planet inhabitable to man. The microbe was let loose on the planet's surface, where over a period of twelve years it spread over the ice caps. The dark color of the tiny creatures changed Nous Voilà's albedo, warming the planet and melting most of the ice caps and glaciers except at the poles. Once the change was in effect, a second biological agent was released to kill the microorganism. The world was quarantined for another six years to prevent the undesired contamination of other worlds before the microorganisms were totally destroyed.

Human ingenuity had changed a frozen, barren world into a garden ready for planting – and Kafer belligerence may yet return the world to its glaciated state.

**Hazards:** The process of terraforming Nous Voilà was relatively rapid, as was the initial pace of colonization. However, at some point in the terraforming process, something went wrong, and a deadly retro-viral plague was unleashed on the fledgling colony. The plague was eventually cured through a novel utilization of DNA modification therapies, and the so-called "technique damon" named after the doctor who perfected it, is in use on countless worlds fighting any nascent retroviral diseases.

## COLONIAL DATA

**Colony Name:** Nous Voilà

**Colony Population:** 85,000 human, 78,000 Kafer

**Date Founded:** 2220

**Nationality:** French

**Life Expectancy:** 61 years

**Literacy:** 50%

**College Education:** 20%

**Major Cities:** None

**Currency:** French Livre

**Government Type:** None (0)

**Law Level:** None (0)

**Tech Level:** (0)

**Trade Data:** -

**Principal Trading Partners:** France

**Interface Capability:** None (X)

**Resources:** None

**Military Presence:** Naval Base

**Other Bases:** Foundation (Zapamoga)

**Services:** none

Nous Voilà was a pleasant colony world characterized by scattered villages and productive farms. The first settlers were from French Africa, primarily Cameroon and Senegal. Later colonists followed from continental France, fleeing the latest round of government obtrusiveness and the tightening of the

surveillance loop. Nouveau Amman was often characterized as being quite libertarian.

## The Kafer War

The first phase of the war saw extensive troop landings, along with orbital bombardment. Nearly 50% of the planet's population perished. Towards the end of the second phase, when human ships were driving the Kafers back, Nous Voilà was visited for a second time. On this occasion, the remaining fleets took the opportunity to drop off all their damaged vessels, along with landing craft, vehicles, anything that would slow them down. They then proceeded to level every single human settlement they could spot from orbit, including the dam upriver from the main settlement. The surface of the planet was pounded by Kafer orbital strikes for the better part of a week before human fleets broke through and drove them from the system. By this time, nearly 90% of the planet's prewar population was either dead or had fled towards Earth. The colonial infrastructure was gone, and nearly 100,000 Kafers had been abandoned, along with their weapons and equipment. The human survivors only barely outnumbered the Kafers.

Efforts since the war have largely been trying to find the survivors and convince them to get off-world. French military units continue to hunt the Kafers, but Nous Voilà is a pleasant enough world that many of them will survive. Given Kafer breeding rates, the population on Nous Voilà could pose a serious threat within a few decades. In any case, with its devastated infrastructure, coupled with the Kafer threat, Nous Voilà is no longer suitable for human habitation.

There is another danger to Nous Voilà. The extensive Kafer bombardment kicked large quantities of dust and soot into the upper atmosphere, and the world is starting to cool off. It is possible that this cooling could trigger a return to the world's former glaciated state. Some feel that this wouldn't necessarily be a bad thing, as the world could be re-terraformed once conditions stabilized, and the temporary ice age may well eliminate the heat-loving Kafers.

## RESCUE RACE:

The French government, along with aid agencies like Zapamoga and the Life Foundation, periodically launch rescue missions to the wilderness of Nous Voilà, hoping to find survivors. Anytime they find hopeful signs, they set down with a small flotilla of landing craft and rotons, and take off everyone they can find. During these missions, they employ teams of soldiers and/or mercenaries to scout the neighborhood and eliminate any Kafer threat. The steadily worsening weather is hampering these rescue efforts, however, and they may have to be called off soon.



**DUNKELHEIM/DM+36 2393**

Not every colony world has necessarily developed a society which mirrors that of Earth. Dunkelheim is a good example of the sort of differences that can happen.

**SYSTEM DATA****STELLAR DATA**

**Primary Name:** DM+36 2393

**Spectral Class:** M2 V

**Magnitude:** 9.1

**X, Y, Z Coordinates:** -23.5, -10.4, 18.5

**Number of Planets:** 3

**Number of Asteroid Belts:** 0

**PLANETARY DATA****PLANET DATA**

**Name:** Dunkelheim

**Distance from Primary:** 0.21 AU

**Year Length:** 76.65 days

**Size:** 7100 km in diameter

**Day Length:** 13.25 hours

**Core Type:** Rocky

**World Type:** Garden

**Surface Gravity:** 0.60 G

**Atmospheric Pressure:** 0.61 atm

**Climate:** Temperate

**Water Presence:** 48%, 12% available (Most is locked up in kamelinsekt habitats)

**Atmospheric Composition:** N<sub>2</sub> (81%), O<sub>2</sub> (17%), Trace (2%)

Dunkelheim is a near-desert world in the outer reaches of the French Arm. Agriculture is difficult at best, but the world is a rich source of valuable ores.

**Kamelinsekten:** These tiny insects occupy enormous colonies consisting of billions of individuals. They create hive-like habitats that can be over a kilometer in diameter, where they excrete a resinous material to cement the sandy soil into a honeycombed habitat up to ten meters deep. After a few seasons, they move on, leaving the abandoned habitats to collect water like a giant rocky sponge. It is very difficult to extract water from the habitats, which have locked up close to half of the planet's water supply. Unfortunately, these little insect-analogs have no predators due to an ecological catastrophe over a millennia ago, and they have grown in number to the limit of the local vegetation's ability to support them.

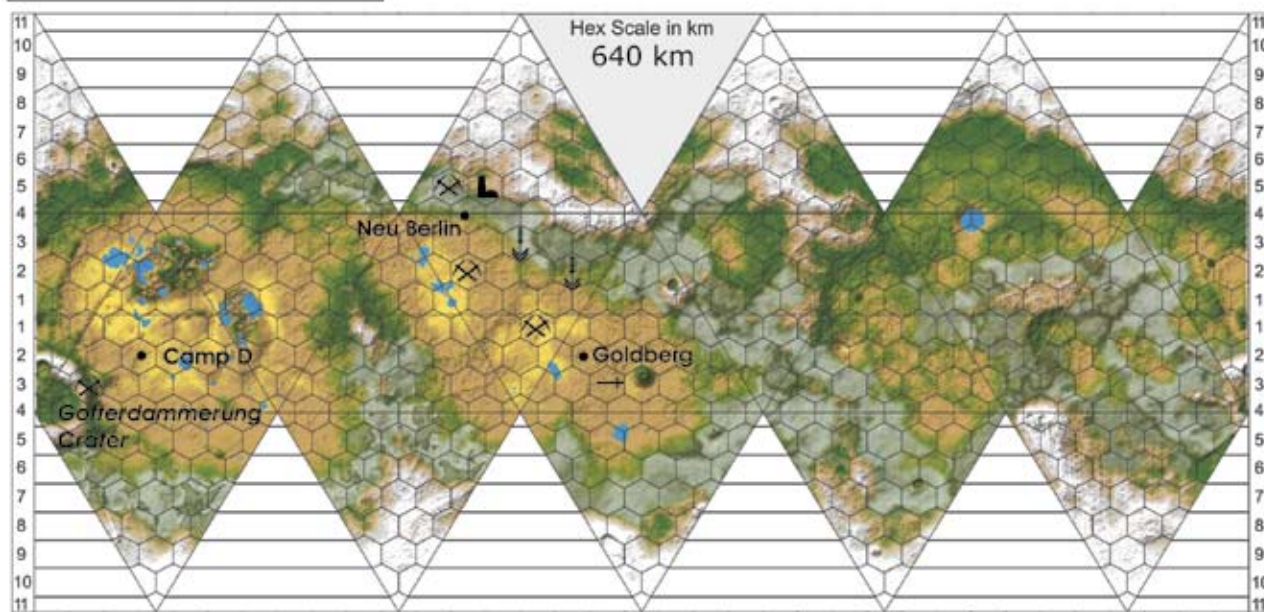
**COLONIAL DATA**

**Colony Name:** Dunkelheim

**Colony Population:** 955,000

**Date Founded:** 2224

**Nationality:** German

**Dunkelheim****Legend**

- |                       |                 |                        |
|-----------------------|-----------------|------------------------|
| • Major City          | ⛏ Mining        | ⚡ Fusion Plant         |
| ⊕ Spaceport           | 🌾 Farming       | ☀ Solar Power Rectenna |
| → Catapult            | 🏰 Military Base | 🏭 Heavy Industry       |
| 🌿 Kamelinsekt Habitat |                 |                        |



**Life Expectancy:** 108 years

**Major Cities:** Neu Berlin (425,000), Goldberg (127,000), Zapamoga Camp D (17,500)

**Currency:** German Taler

**Government Type:** Elected government responsible only for internal matters (4)

**Law Level:** Moderate. Light Assault Weapons Prohibited (4)

**Tech Level:** (10)

**Trade Data:** Po, NI

**Interface Capability:** Catapult (B)

**Resources:** Farming, Mining

**Military Presence:** Defense Installation, Naval Base

**Other Bases:** None

**Services:** Fusion Plant, University, Pownet (78%), Road Net (55%), Rail Net (72%), Link Network (56%), Orbital Terminal

Dunkelheim is a fairly unpleasant world, and served for a time as a Bavarian penal colony. At the time of colonization, Bavaria and several of her terrestrial allies were having a problem with vice crime, things like prostitution, drug users and dealers, pornographers and the like. The Bavarian treasury was strained by the effort of incarcerating these people, but at the same time the Bavarians needed colonists for the relatively unpleasant world just opened up on the edge of the frontier: Dunkelheim.

The Bavarian government, along with some other European nations, offered remission of prison sentences to anyone who agreed to emigrate to the new colony. This offer was only made to those who had some skills needed by the colonial startup, and soon the new world had its share of lawyers, doctors engineers and other professions.

As the program progressed, the colonization efforts were so successful that the Bavarian government expanded the program to include criminals with less education or work experience. Violent criminals, of course, were never sent as colonists, but many of the descendants of the original colonists pretend in a facetious way that this was the case.

Naturally, the present government of Dunkelheim is not composed of lawbreakers and the judicial order on Dunkelheim proceeds apace much as it does on other colonies. The only noticeable difference in the legal structure of the world

is a strong libertarian tint. Most of the "crimes" for which the original colonists were charged are not illegal on Dunkelheim. The government knows well enough not to try to poke its nose into the daily lives of its citizens.

In addition, Dunkelheim does not have any professional license laws. Anyone who wants can set themselves up as a doctor, lawyer, engineer, or any other profession. However, market forces usually force these practitioners to be at least competent, and the local custom of dueling is a way to deal with dishonest operators.

### Writing with a Dunkelheim Pen:

In 2286, political scandal rocked this colony, as it was found out that pens used by many of the government offices were transmitting both sound and pen-strokes to the interstellar trading company of Hofstadter. The resulting uproar shut the company down, and nearly caused a change of government in the colony.

### The Kafer War

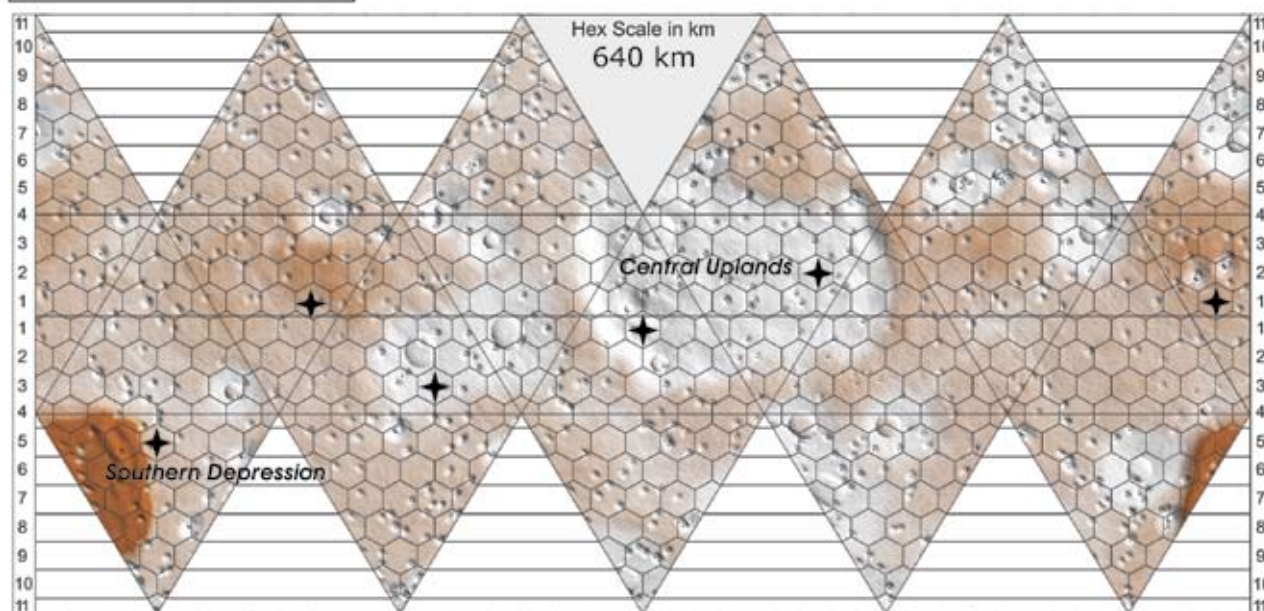
The first phase of the war ended with the famous "Operation: Overlord" as human forces relieved Dunkelheim of its Kafer invaders. Damage to the colony wasn't as severe as elsewhere, as the Kafers weren't overly concerned with the unorganized human resistance. The second phase went differently, though. The Over-Suzerain and its advisors had no desire to leave any worlds behind them in their drive on Earth, and subjected Dunkelheim to extensive orbital bombardment. However, here a tactical error on the part of the Kafers actually favored the human inhabitants. The kamelinskt habitats registered as artificial constructs to the Kafer's sensors, and the aliens subjected the dense, resinous terrain to a series of kinetic and nuclear attacks. This freed up roughly 22% of the planet's water that had been trapped in the habitats, and were now in open bodies of water in the impact and detonation zones. Some of it is unusable, but it could very well usher in an agricultural revolution on the planet, even as the temperature drops due to the dust and water vapor in the air.

Like most worlds attacked by the Kafers, Dunkelheim suffered tremendous losses in lives and property. The German government back on Earth has done much to alleviate the suffering the war caused, in a marked contrast to the efforts of the French Imperial Government on their devastated colonies. Part of this assistance has been the construction of a new orbital terminal, with an attached defense installation and naval base. The mines are starting to reopen, and emigration has slowed to a trickle, in part due to the realization that the refugees have nowhere to go. There are a large number of refugees on Dunkelheim, but most of them are Dunkelheim natives, eager to return to their homes and rebuild. Zapamoga is assisting with the process, and runs a camp for refugees near Goldberg.

### Diebwoche:

The so-called "Week of Thieves" is a festival that commemorates the founding of the colony. During the festivities, revelers "steal" small items from restaurants and shops; careful shopkeepers leave out special items just for this purpose, just so more valuable items are not taken. Parties are held, and invited guests must crawl through windows or descend through skylights to gain entrance.

## Hochbaden



## Legend

• Major City	⛏ Mining	⚡ Fusion Plant
⊕ Spaceport	↓ Farming	☀ Solar Power Rectenna
→ Catapult	🏰 Military Base	🏭 Heavy Industry
★ Ruins		

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## HOCHBADEN/DM+2296

## SYSTEM DATA

## STELLAR DATA

**Primary Name:** Hochbaden**Spectral Class:** K6 V**Magnitude:** 7.5**X, Y, Z Coordinates:** -24.9, -12.6, 14.3**System Nature:** Binary

On the very edge of the French Arm lies Hochbaden, a K6 star with a family of four worlds. Explorers will tell us that such a system has a fair chance of containing a garden world, but in the case of Hochbaden this is not the case – none of the four worlds have spawned life of their own nor are they capable of supporting life transplanted there. Hochbaden is a naturally barren system.

There are apparently one or two empty orbits in the system, since the first world, Hochbaden (the name of both the star and the planet in this system) orbits just outside the life zone of its parent star. The second orbit is held by a rogue, Stein, obviously a captured body, orbiting 30° out of the plane of the ecliptic. Stein has been visited, and has been noted as having substantial iron deposits, but these have yet to be tapped. The third planet in the system is the gas giant Sturmwelt, an enormous world racked by powerful winds

and terrific lightning displays. The final world is a frozen ice ball called Hoffman, after its discoverer. Though never visited, Hoffman is almost certainly without value.

## PLANETARY DATA

## PLANET DATA

**Name:** Hochbaden**Distance from Primary:** 0.4 AU**Year Length:** 138.75 days**Size:** 7158 km in diameter**Day Length:** 15.2 hours**Core Type:** Rocky**World Type:** Desert**Surface Gravity:** 0.29 G**Escape Velocity:** 3.23 kps**Atmospheric Pressure:** 0.31**Climate:** Cold**Water Presence:** >1%**Atmospheric Composition:** CO<sub>2</sub> (67%), N<sub>2</sub> (29%), Ar (4%)

Hochbaden is defined as a desert world. It has a very thin atmosphere which can cause erosion and occasional dust storms, but which cannot support human life. Aside from some micro organisms found around the fringes of poles, Hochbaden is a world without life. Even these microbes are presumed to have been transplanted here by a meteor strike,

since they probably could not have evolved under these conditions. Hochbaden has been likened to Mars in many scientific circles.

## COLONIAL DATA

To commemorate the seventy-fifth anniversary of the founding of the ARI in 2219, Bavarian government officials announced that a "model star city" would be built in the Hochbaden system, which had no garden worlds to colonize. This daring effort was recognized on Earth as an attempt to prove that Bavarian technology was superior to that of the French.

A 12-year period of planning began, and with the cooperation of the ARI, construction of Kolonie Zwei was started by the Bavarians in 2231. Moving a sufficient quantity of goods to the new colony was a costly and difficult under taking, but the Institut's scientists solved it by planning "Kleinfabriken," or small factories, built in their entirety on Beta Canum Venaticorum and carried to Hochbaden via starship. The Kleinfabriken were designed to immediately produce actual parts of the Kolonie Zwei facility, using ores imported from Dunkelheim, the German colony next door at DM+36 2393.

Hochbaden was planned as a model colony, and though the early construction had a few setbacks, it was rapidly developing into one of the most advanced colonies in human space. Then the Kafers came.

### THE MEMORIAL:

When Kommodore Wilhelm Lutke first visited this world in 2303, after the end of the first phase of the war, he went down to the surface, to the largest of the many colony domes. He was only accompanied by two of his most trusted aides. On his return, he is said to have carried with him a child's toy, which he set up in a small shrine in his office. No one has ever revisited that city, and it is now simply called Memorial.

Hochbaden was a collection of surface domes and space stations in an otherwise uninhabitable system, and hideously vulnerable to space attack. When the Kafers attacked in 2301, they had little interest in capturing the world, and simply blasted from orbit any structure they could find. The space stations fared no better, despite the defense installations hurriedly put into place by the German government. Before the Kafer attack, the colony had over four million inhabitants. Afterwards, despite extensive searches using the most advanced equipment, not a single survivor was found.

Now Germany retains a military outpost in the system, as do Britain, France and America. Germany has recently announced its plans to scale back its military operations, and is closing down the last station.

Nibelungen, in concert with Freihafen, is looking at rebuilding the colony, this time more secure and defensible. The only response from terrestrial Germany to this proposal was a request to leave the dead buried, and if the two new nations must reopen Hochbaden, then do so by building anew, not by reopening the ruins of the old.

## AUORE E<sub>TA</sub> Bootis

The moon of a gas giant, Aurore is a colony world at the edge of Kafer space. Though ravaged by the War, it recovered sooner than many other worlds, and it is the base.

## SYSTEM DATA

### STELLAR DATA

**Primary Name:** Muphrid (Eta Bootis A)

**Spectral Class:** G0 IV

**Magnitude:** 2.72

**X, Y, Z Coordinates:** -26.8, -14.3, 10.2

**Number of Planets:** 5 (Hesperus, Tithonus, Laodemon, Theia, and Astraeus)

**Number of Asteroid Belts:** 2

**Companion Data**

**Primary Name:** Rubis (Eta Bootis B)

**Distance from Primary:** 3.7 AU

**Spectral Class:** M5 V

**Magnitude:** M0 V

**X, Y, Z Coordinates:** -26.8, -14.3, 10.2

**Number of Planets:** 0

**Number of Asteroid Belts:** 0

**Notable Planets:** Tithonus, the largest of the Eta Bootean planets, is actually a small brown dwarf. Over five times more massive than Jupiter, Tithonus radiates far more heat than it receives from the local suns. It is thus able to sustain a narrow habitable zone at a distance of 3.6 planetary diameters.

## PLANETARY DATA

### PLANET DATA

**Name:** Aurore

**Distance from Primary:** 930,000 km

**Year Length:** N/A

**Size:** 9450 km in diameter

**Day Length:** 60.888 hours (tidally locked)

**World Type:** Garden

**Surface Gravity:** 0.73 G

**Atmospheric Pressure:** 0.77 atm

**Climate:** Warm

**Water Presence:** 55%

**Atmospheric Composition:** N<sub>2</sub> (79%), O<sub>2</sub> (19%),



Ar(1%)

**Biodiversity:** Diverse; unusable (dextro amino acids)

**Natural Resources:** 8

**Satellites:** N/A

Aurore is young, as planets go. Eta Bootis A, a young sub-giant rather than a main-sequence star, and its attendant planetary system are probably no more than two billion years old. Aurore itself is the moon of a brown dwarf, and depends on the super-Jovian world it orbits for life-sustaining warmth.

The greater in-fall of radiation has produced a lively mutation rate, and has resulted in the rapid evolution of plant- and animal-analogs, along with a third group occasionally called "anifungus."

Most of the plants and animals on Aurore are actively poisonous, and at best simply provide no nutritional value. Auroran life is based on right-handed amino acids, and thus unusable. Many of the animals and the creatures of the anifungus regnum also secrete an acid, which is usually more dangerous as a systemic poison than for any corrosive effects.

Auroran plants are blue to grey in color, and unlike the trees and plants of most worlds, more resemble large fungi than anything else. Many plants are also carnivorous, or at least saprophytic (consume dead organic matter).

The human colonies on Aurore have been steadily replacing the native life in selected areas with imported Earth crops. Where terrestrial strains have grown wild in places, they have generally failed in competition with native Auroran forms, and colony farms must be carefully and patiently worked to maintain the balance of their miniature and artificial terrestrial ecosystems. Auroran soil is incapable of supporting Terrestrial life, and must be carefully sterilized and cultured before human crops can be grown.

The tidally-locked world has a Hot Pole, with the region surrounding I known as the Hotback, and a Cold Pole, with the surrounding region simply known as La Glaciere.

### The Pyramid:

Off the coast of the French colony, in about 300 meters of water, is a five-sided pyramid of extreme age. The stone-like material shows no signs of weathering or erosion, and investigation of the structure turned up an artifact of the Enemy, the race that was at war with the Medusae so long ago. This knife is detailed further in the Chapter 15: Alien Technology.

## COLONIAL DATA

### First Colony:

**Colony Name:** Novoa Kiyev

**Colony Population:** 2.1 million

**Date Founded:** 2244

**Nationality:** Ukrainian

**Life Expectancy:** 76 years

**Literacy:** 99%

**College Education:** 61%

**Major Cities:** Novoa Kiyev (271,000)

**Currency:** Ukrainian

**Government Type:** Military Governor (6)

**Law Level:** Low. High energy weapons prohibited (2)

**Tech Level:** (4)

**Trade Data:** NI

**Principal Trading Partners:** Aurore, Tanstaaf, Ukraine

**Interface Capability:** None (X)

**Resources:** Farming, Mining

**Military Presence:** Military Base

**Other Bases:** None

**Services:** Powernet (15%), Road Net (20%), Rail Net (12%), Link Network (12%)

In 2240, on the return of the survey vessel Le Chercheur to Earth, data from the survey were disseminated among ESA member states. The Ukraine, though not a member nation, had close political and scientific treaty ties with the European Space Agency and was intensely interested in establishing an out-world colony. In 2241, in exchange for promised development royalties, the Ukraine received an ESA charter to exploit the commercial potential of Eta Bootis IIc. Three years later a Ukrainian colonial expedition headed by Vasily Martos and Polkovnik Yuri Leonovich Kamarov arrived in the Eta Bootis system aboard a leased colony transport converted from the aging French bulk freighter Sans Façon.

The site chosen for the new colony was a mountainous island continent astride the equator in the eastern hemisphere which offered some shelter from the world's fierce storms. World, continent, and colony all were named "Novoa Kiyev."

The colony was heavily damaged during the Kafer War, and was occupied by Kafer forces from 2298 to 2307, when a contingent of Ukrainian troops, along with Australian special-forces units, relieved the colony. It took several weeks of house-to-house fighting before the capital city was cleared of Kafer forces, and several thousand of the aliens are believed to be at large in the uplands of the island-continent.

### Second Colony:

**Colony Name:** Aurore

**Colony Population:** 3.2 million

**Date Founded:** 2246

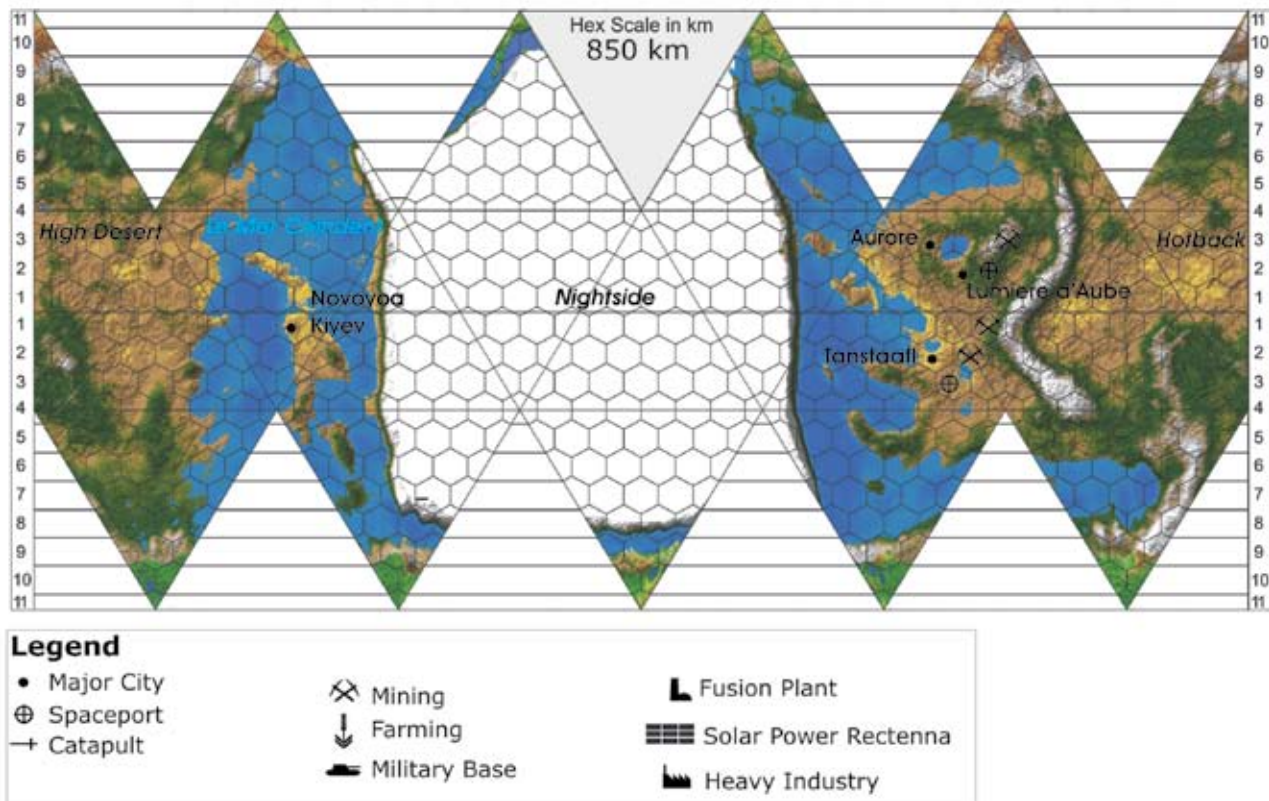
**Nationality:** French

**Life Expectancy:** 74 years

**Literacy:** 94%

**College Education:** 63%

## Aurore



**Major Cities:** La Cité d'Aurore

**Currency:** French Livre

**Government Type:** Representative Democracy (4)

**Law Level:** Low. Military weapons prohibited (3)

**Tech Level:** (11)

**Trade Data:** Ri

**Principal Trading Partners:** France, Nouvelle Provence

**Interface Capability:** Spaceplane (C)

**Resources:** Farming, Mining

**Military Presence:** Military Base, Naval Base

**Other Bases:** None

**Services:** Pownet (91%), Road Net (85%), Rail Net (72%), Link Network (49%), Airship Net, Weather Satellites, Communications Satellites, Orbital Terminal

Promises of rapid commercial exploitation of Novovoa Kiyev's mineral resources proved too optimistic. The Terran Ukrainian government was unable to expand funding of the colony to meet unanticipated losses of equipment and development costs. In 2245 the French decided to establish a colony of their own in the planet's western hemisphere. The settlement of La Cité d'Aurore was established late in 2246.

During the Kafer War, Aurore was the de facto headquarters of the human naval elements protecting the system. This multi-national force consisted of French, Ukrainian, American, German and Australian units. As the war dragged on, they provided a needed respite for the beleaguered de-

fenders of some of the other French frontier worlds, with raids being staged against the Kafer garrison forces at Adlerhorst, Nous Voilà and further down the Arm towards Earth. While these raids didn't have much of a material effect on the Kafers, they were kept unbalanced and were unable to effectively consolidate their positions.

The French colony saw only sporadic orbital bombardment, and saw very little ground action against the Kafer invaders.

### KAFER ROT:

During the long years of the war, the Kafers introduced a fungal weapon that devastated Human crops, until 2308, when the Pentapods developed a counter-agent. The Kafer Rot attacked terrestrial plants and animals, but left native varieties alone. Kafers have never shown this level of sophistication in bio-weapons, either before or since.

### Third Colony:

**Colony Name:** Tanstaafi

**Colony Population:** 1.4 million

**Date Founded:** 2257

**Nationality:** Independent

**Life Expectancy:** 71 years

**Literacy:** 96%

**College Education:** 59%

**Major Cities:** Tanstaaf City (134,000),

**Currency:** Tanstaaf Dollar

**Government Type:** Representative Democracy (4)

**Law Level:** Low. High Energy Weapons prohibited (2)

**Tech Level:** (9)

**Trade Data:** Po

**Principal Trading Partners:** Adlerhorst, America, Texas

**Interface Capability:** Spaceplane, ROTON (C)

**Resources:** Farming, Mining

**Military Presence:** Military Base

**Other Bases:** None

**Services:** Rectenna, University, Powernet (22%), Road Net (30%), Rail Net (25%), Link Network (72%), Airship Net

In 2257, a third colony was established south of the tidal fissure called "Le Gouffre." Its backers were a multinational cartel of North American and European corporations interested by survey reports which suggested that large deposits of rhenium and other metals might be present in the area in commercial quantities. The American, Texan, and German colonists had already heard of the difficulties encountered by the French and the Ukrainians in establishing profitable mining operations, however, and with wry humor elected to name their colony "Tanstaaf" – a very old acronym for "There Ain't No Such Thing As A Free Lunch."

When the cartel broke up the following year due to the bankruptcy of two of its members, and corporate assets were frozen by the American courts, Tanstaaf declared its independence and applied to the colonial authorities both of Aurore and of Hochbaden in the neighboring system for favored trade status. Presented with a fait accompli and the possibility of broken relations with Bavaria, the United States of America became the first Terran government to formally recognize the independent colony of Tanstaaf on February 12, 2258.

During the long years of the war, Tanstaaf forces were instrumental in hunting down Kafers left on the surface. The Tanstaaf military established a reputation for brutally-effective tactics, and was the first military force in recent Human history to use nuclear weapons.

Tanstaaf was hit hard by the ravages of the war, and saw an effective 50% casualty rate. As the Kaffer fleet fled back

### THE TANSTAAF FREE LEGION:

One of the most famous mercenary forces in history, the TFL sports more than a regiment (2000 soldiers), and at the height of the war consisted of a heavy division (8,000 soldiers). Most of these troops have let their contracts expire, and have taken up the land promised to them by the Tanstaaf government. Most of the remaining division hires itself out to off-planet interests as security and cadre troops, with a few left behind for internal security.

o Kaffer space, several thousand ground troops joined the Kafers already besieging the colony to bring the planetary Kaffer population in the colony to over 10,000. Today, that figure is at least doubled, as the Kafers hide in the hostile environs of the Hotback and breed more Kafers.

## FREILAND

Freiland is notable for several reasons. It is the newest colony in human space, barely 3 years old, and also the first colony established by a former colony, now an independent nation.

## SYSTEM DATA

### STELLAR DATA

**Primary Name:** DM+10 2531

**Spectral Class:** G0 V

**Magnitude:** 4.65

**X, Y, Z Coordinates:** -39.6, -13.3, 7.1

**Number of Planets:** 6 (1, 2, Freiland, 4, 5, 6)

**Number of Asteroid Belts:** 1

## PLANETARY DATA

The sixth orbit contains a small gas giant, about the size of Neptune in the Sol system. Two of its 12 moons have an atmosphere, one very thin, the other very dense, similar to Titan.

### PLANET DATA

**Name:** Freiland

**Distance from Primary:** 0.89 AU

**Year Length:** 307.11 days

**Size:** 8300 km in diameter

**Day Length:** 31.45 hours

**World Type:** Desert

**Surface Gravity:** 0.67

**Atmospheric Pressure:** 0.21, 0.85 at the bottom of the Grossartige Senke

**Climate:** Chilly, Temperate at the bottom of the Grossartige Senke

**Water Presence:** 2%

**Atmospheric Composition:** N<sub>2</sub> (74%), O<sub>2</sub> (22%), Ar (3%)

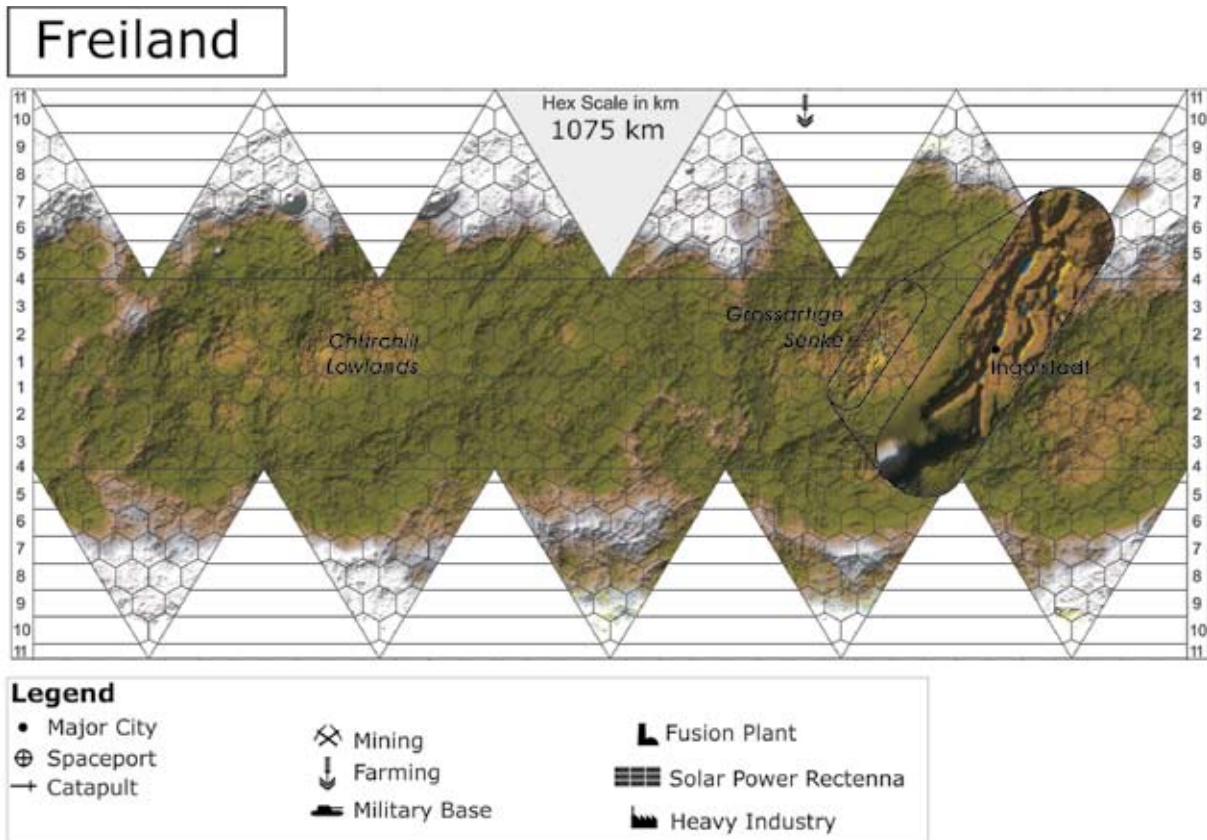
**Biodiversity:** Diverse; useable

**Natural Resources:** 6

**Satellites:** 1 (Kleiner Bruder)

The world of Freiland is a cool, mountainous world with extensive tectonic activity. The thin atmosphere is only breathable at very low altitudes, and the 1800 km trench system of Grossartige Senke provides the lowest terrain on the planet, up to 4500 meters below the surrounding terrain. Pressure is nearly normal at the bottom of the trench, and almost all the





world's water rests here as well. The trench system supports a well-developed biosphere, with some of the vaguely insectoid animals reaching lengths of 3-4 meters.

## COLONIAL DATA

**Colony Name:** Freiland

**Colony Population:** 22,000

**Date Founded:** 2317

**Nationality:** Freihafen

**Life Expectancy:** 97 years

**Literacy:** 99%

**College Education:** 76%

**Major Cities:** Ingolstadt (12,000)

**Currency:** Freihafen Mark

**Government Type:** Appointed Governor (6)

**Law Level:** Moderate. Light Assault weapons prohibited (4)

**Tech Level:** (3)

**Trade Data:** NI

**Principal Trading Partners:** Freihafen, Tanstaafi

**Interface Capability:** Spaceplane, roton (C)

**Resources:** Farming

**Military Presence:** None

**Other Bases:** Science

**Services:** Road Net (5%), Orbital Terminal

Freihafen began survey operations of this world in 2298, just before the outbreak of the Kafer War. They later returned to this remote planet to begin planning their colony. Freihafen sees the establishment of a colony as a final proof of their

standing as an independent nation. The efforts of the initial colonists and survey crews on this world constantly make the nightly 3V news back in Freihafen.

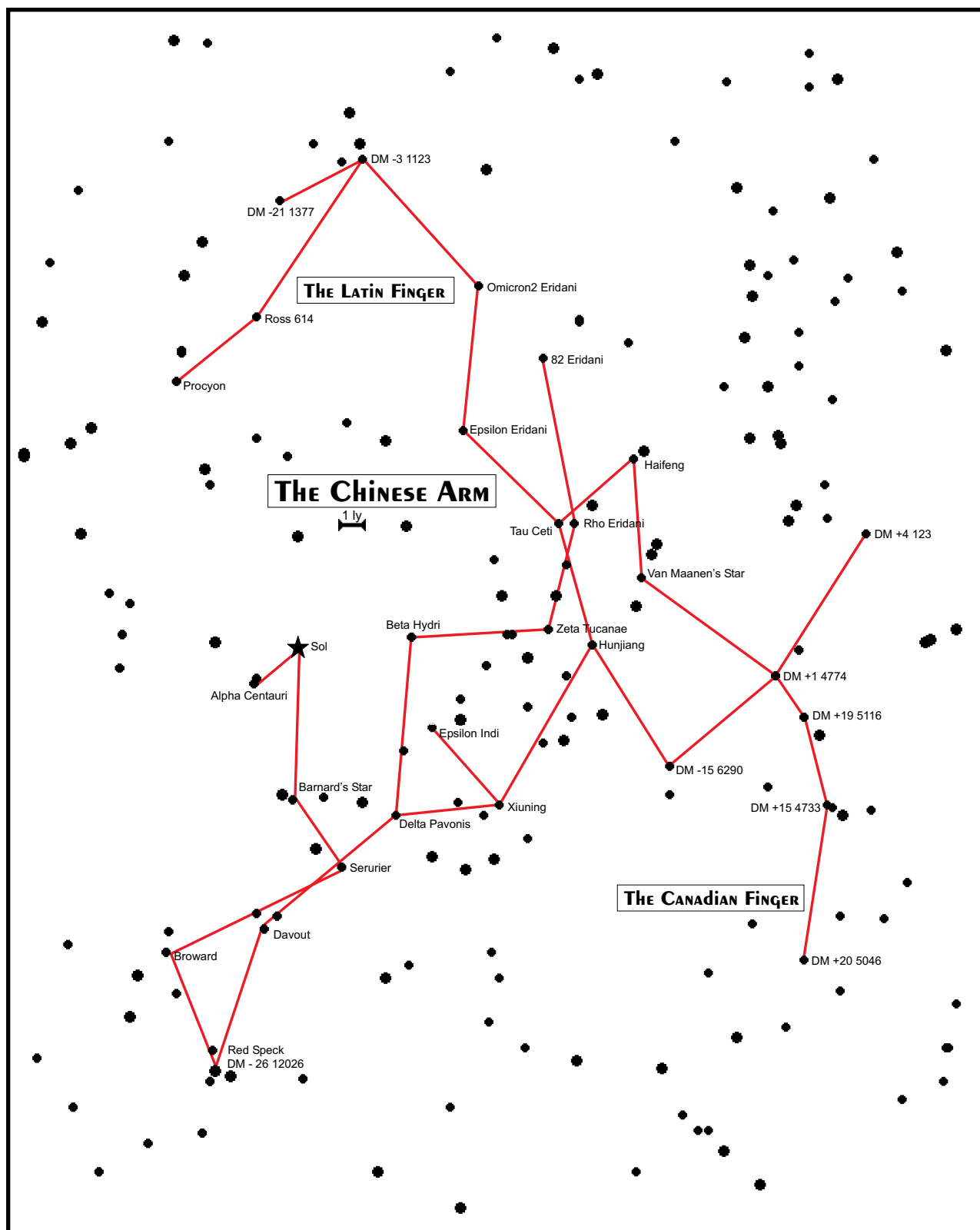
The colony itself is still quite small, clustered around the town of Ingolstadt and its rudimentary spaceport. Freihafen has big plans for this colony, and is quietly building up the infrastructure needed to rapidly expand the colony.

The nearby colony of Tanstaafi has contributed technical expertise to the colony, and a small trickle of migrants have left the harsh world of Aurore for the greener pastures of the Grossartige Senke.

Nibelungen has also expressed an interest in a colony on this world, and are working closely with the Freihafen government to ensure that everything goes smoothly. The lack of usable land is a big limiting factor for any new colonies.

## The AMEISENHUND (ANT-DOG):

One of the animal forms on Freiland has generated considerable controversy. It is a communal animal building large communities that extend tens of meters above and hundreds of meters below the ground. The creatures themselves are about 1.5 meters long, and some scientists maintain that they are intelligent. Most, however, consider them to have more in common with Terran social insects, in developing a complex community that doesn't require sentience. The creatures are very territorial, however, and there have already been clashes between colonists and surveyors and the large hives of these creatures.



## THE CHINESE ARM

The Chinese Arm begins at Delta Pavonis and extends in two directions. One reaches to Beta Hydri, Zeta Tucanae, Rho Eridani, and 82 Eridani, all prime colonization territory. The other reaches through two red dwarf systems (Xiuning and Hunjiang) to the garden worlds of Tau Ceti, Epsilon Eridani,

and Omicron2 Eridani.

Exploration and settlement of the arm proceeded smoothly until the establishment of an outpost at DM+1 4774 in 2247. Shortly thereafter, a Manchurian exploratory mission was sent to DM+4 123 and returned with the electrifying news that the star system was inhabited by an indigenous intelligent race, the first to be encountered by humanity. Most

nations of the Earth hastened to open a variety of diplomatic and cultural contacts with the race the Manchurians named the Sung. (In common with all intelligent races encountered by humanity, their own name for themselves, Ak-char'al-woon, translates roughly as "thinking being.") The discovery of another intelligent race in the Stark system led directly to the events of the Slaver War, recounted in Chapter 2: Background.

During this same period (the mid-23rd century), explorers and colonists in the Beta Hydri branch of the Chinese Arm discovered the ruins of a colony established some 4000 years previous. Another ruined colony was found at Rho Eridani a few years later.

A few years later, an exploratory mission of the United Arab Republic visited 82 Eridani-3 and discovered the Ebers. Considerably less advanced than humankind, the Ebers were nevertheless open to limited contact. Since then, two major colonial enclaves have been established on Kormoran, the Eber homeworld.

Colonization of the Chinese Arm has, overall, been very successful, and there are plenty of systems that have yet to be explored and colonized. Terrorist actions have long been a problem on the Chinese Arm, with a wide variety of groups claiming responsibility, from the universal scapegoat of Pro-Volution to such fringe groups as the Daughters of Mao. These attacks tend to be small and localized, though there are indications that something big is going to happen soon. Of course, people have been saying that for twenty years.

Another ongoing issue faced by the worlds along the Manchurian Arm has been the influx of refugees from the Kafer War. Denied asylum by Core worlds fearing biological and cultural contamination, and allowed only limited access to the American Arm, the refugees found a home with the Manchurians, long-time rivals of the European powers, particularly France. Even Cold Mountain allowed a couple of small resettlement camps, for those willing to brave the "demons" of that world's lethal biosphere.

Life on the worlds of the Chinese Arm tends to be rougher than the other Arms. The longer distances involved in the twisting routes of this Arm mean fewer trips, with priority going more to colonists and animals than to heavy equipment and infrastructure. There is much more reliance on animal power on the worlds of the Chinese Arm, especially the Manchurian colony worlds, which see the lowest level of infrastructure support, and are expected to succeed under primitive conditions with little aid from the mother country. The Inca Republic is in largely the same situation, without even the limited resources available to the Manchurians. Their success is largely due to their tendency to piggy-back on Texan colonies.

**The Canadian Finger:** Canadian explorers were the first to chart the system of DM+20 5046 (Kanata), a distant

but attractive system. In order to support a colonization effort, Canada found it necessary to establish a series of outposts (DM+19 5116 and DM+15 4733) to service ships traveling there. The series of systems is called the Canadian Finger. The finger also leads to Eriksson, a relatively pleasant planet at AC+17 534-105, currently the subject of the first Sung colony, a joint venture with Canada and the Scandinavian Union.

**The Latin Finger:** Extending from Epsilon Eridani is a finite branch which reaches as far as Procyon before dead-ending. Paradoxically, the route to Procyon (so very close to Earth) is one of the longest in general use. The expedition to colonize Omicron2 Eridani was jointly funded and supported by Mexico and Argentina, and the world is a gateway to the Latin worlds: DM-3 1123 (the Inca Republic, Texas, and the Life Foundation), and Procyon (Brazil). Stutterwarp tug technology offers the opportunity of much faster travel times to these worlds, but so far the technology has been unavailable. All the nations involved are attempting to secure licensing from either the Trilon corporation or the Pioneer Society, but so far negotiations are stalled, and they lack the resource to develop the technology themselves.

The Life Foundation has constructed an alternative tug technology, which requires a pair of large space stations equipped with full-size shipyard-style drive tuners, to substitute for the much more compact drive tuners used by Trilon and the Pioneer Society. These stations are expected to begin full operations late in 2320.

## Worlds of the Chinese Arm

### COLD MOUNTAIN/DELTA PAVONIS

The only world to evolve life in the Delta Pavonis system has truly outdone itself. Cold Mountain boasts some of the most exotic alien life forms in all of explored space outside of the halogen-based biosphere of Oiseau. These lifeforms contribute to making Cold Mountain one of the most dangerous worlds in explored space.

### SYSTEM DATA

#### STELLAR DATA

**Primary Name:** Delta Pavonis

**Spectral Class:** G8 V

**Magnitude:** 4.76

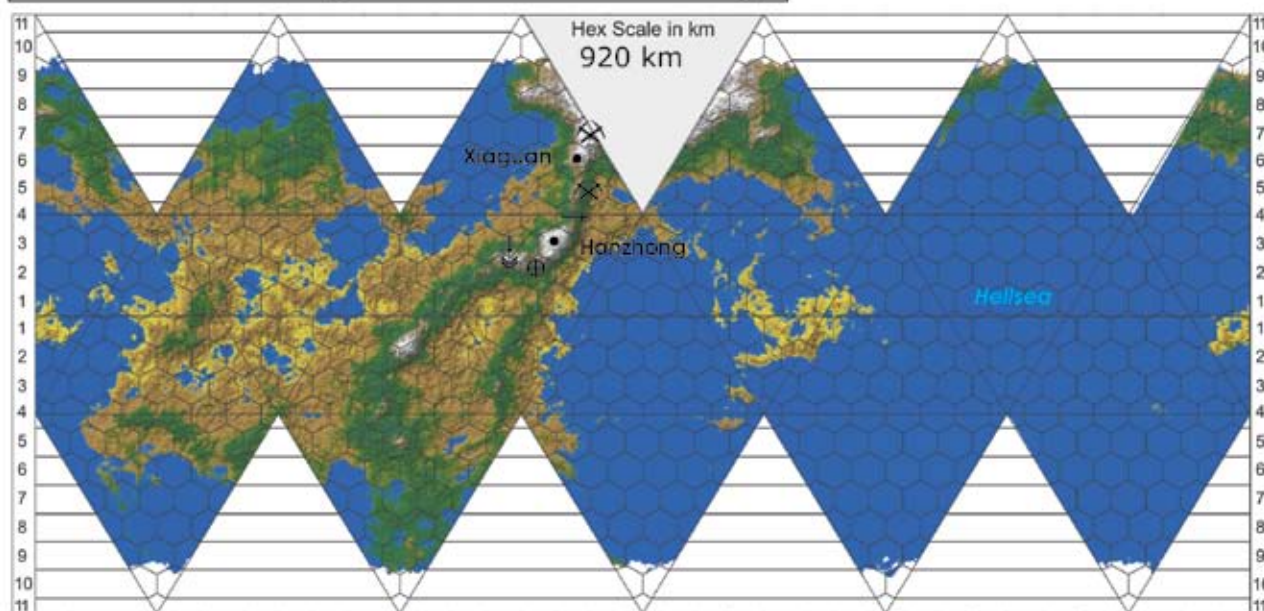
**X, Y, Z Coordinates:** -3.79, -6.50, -17.10

**Number of Planets:** 2 (Cold Mountain, Jade Emperor)

**Number of Asteroid Belts:** 2



## Han Shan (Cold Mountain)



### Legend

• Major City	⚡ Mining	⚡ Fusion Plant
⊕ Spaceport	↓ Farming	☀ Solar Power Rectenna
→ Catapult	🏠 Military Base	🏭 Heavy Industry

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### PLANETARY DATA

The inner asteroid belts have been the target of a small community of Belters, hoping to strike it rich. There have been a few modest strikes so far, but indications are that the belts should be quite rich. These independent miners get their supplies and sell their ore through the Libertine trader network, and are not connected with the Manchurian colony on Cold Mountain.

The facility on the largest of the inner asteroids, Sky Mountain, is a shielded dome and tunnel system in one of the permanently shadowed craters at the worldlet's North Pole.

### PLANET DATA

**Name:** Cold Mountain

**Distance from Primary:** 1.2 AU

**Year Length:** 442 days

**Size:** 10,246 km in diameter

**Day Length:** 25 hours

**World Type:** Garden

**Surface Gravity:** 0.83 G

**Atmospheric Pressure:** 0.806 Atm

**Climate:** Temperate

**Water Presence:** 55%

**Atmospheric Composition:** N<sub>2</sub> (56%), O<sub>2</sub> (39%)  
CO<sub>2</sub> (2%)

**Natural Resources:** 7

**Biodiversity:** Abundant; unusable

**Satellites:** 0

Technically, Cold Mountain is a garden world, but its human inhabitants would hardly agree.

Due to an excess of oxygen in the atmosphere (39 percent), settlements are impossible below three thousand meters elevation. This excess poses a direct health risk, and it puts strict limits on the type of equipment that will function below this altitude. Any spark or backfire starts a conflagration which will spread wildly. Excess oxygen has, over time, led to an acidification of the atmosphere, the water table, the seas, and the soil. Metals corrode and oxidize rapidly at sea level, often within hours. The oxygen problem leads to another, perhaps more dangerous problem. A fire on Cold Mountain is never a trivial event. Lightning, volcanic activity, and other natural forms of ignition create firestorms which spread rapidly over the surface of the planet. Some of these firestorms are large enough to be visible from the orbit. At any given time, some part of the planet will be burning out of control. At higher altitudes, these conflagrations lose force and become as fierce as the worst of terrestrial forest fires.

The lower one's altitude on Cold Mountain, the more hostile the world and its organisms become. Only robotic expeditions have ever gone down to sea level, and even these machines didn't last long against a combination of the acidic atmosphere and the exceptionally hostile animal life. The seas

## DON'T Pull THAT TRIGGER!

Guns are outlawed on Cold Mountain for several reasons. There are political reasons, of course, but more important than that, the muzzle flash from most firearms can easily explosively ignite flammable objects in the high-oxygen atmosphere. In addition, the most dangerous of the animals aren't very susceptible to gunfire, as the bullets just right through with causing significant trauma.

themselves are highly acidic and extremely poisonous, and nothing is known about whether life exists under their waters.

**Native Life:** Cold Mountain exhibits a wide variety of exceptionally hardy lifeforms. All organisms have a high pH value, reflective of the acidity of the world's water supply. Only the plants show any complexity of structure, with the animals being relatively undifferentiated. Nothing on the planet is edible by humans or by Earth-derived organisms. In root plants and tubers, this acidity reaches intensely poisonous levels.

The animal life on Cold Mountain never evolved into complex organisms, perhaps due to the harsh environment. The circulatory systems and centralized nervous systems characteristic of animals elsewhere never developed. In spite of this, some of these animal forms grow to be very large. Specimens of Flying Blinds have been observed measuring 20m long, while an unverified report has a p-shark at close to 30m. Cold Mountain animals are colonies of undifferentiated cells, similar in some way to terrestrial creatures like the Portuguese Man o' War. They creatures are very thin in order to ensure that oxygen reaches all the cells despite the lack of a circulatory system. This structure also allows direct access to nutrients without a complex digestive system. Every animal form on the planet uses selected cellular waste products to build sharp edges, which are as strong as some contemporary composite materials. These edges aid the creature in accessing the nutrients stored in plants and other animals. The remaining surface of the creature consists entirely of ingestion surfaces, which are coated with powerful digestive enzymes. Some of the animal forms also use these waste products to build protective coverings. Due to their high rate of oxygenation, they are always hungry. Food input accelerates their highly efficient metabolisms. This "acceleration" lasts until the food is metabolized. The animals move faster and faster in an effort to maximize the nutrient input. The growth rate of these animals during and immediately after these periods is nothing short of astonishing. Obviously, they are very hard to kill. So far, only five major forms have been identified: Flying Blinds, Razor Flies, Pseudoshark, sandworm and screwworm. Each comes in many variations and sizes and is found almost everywhere on the planet. The only areas which are

clear of animal life are the polar caps and the mountains above 8000m altitude.

## COLONIAL DATA

**Colony Name:** Han Shan (Cold Mountain)

**Colony Population:** 10.3 million

**Date Founded:** 2201

**Nationality:** Manchurian

**Life Expectancy:** 71 years

**Literacy:** 92%

**College Education:** 45%

**Major Cities:** Xiaguan (2 million), Hanzhong (1.2 million)

**Currency:** Manchurian Ruble

**Government Type:** Dynastic house responsible to the Empress (A)

**Law Level:** Moderate. Light assault weapons prohibited (4)

**Tech Level:** (8)

**Trade Data:** Ri, Hi

**Interface Capability:** Spaceplane, catapult (C)

**Resources:** Farming, Mining

**Military Presence:** Naval Base

**Other Bases:** Foundation (NARL), Science

**Services:** Powernet (24%), Road Net (20%), Airship Network (100%) Link Network (12%), Orbital Terminal, Weather Satellites

Cold Mountain was colonized by Manchuria in 2201 during a period of intense nationalism. Due to the statistical similarities between Sol and Delta Pavonis, Cold Mountain was considered prime real estate. The remains of Japan's failed colony (2190) can be found on the big continent.

Ancestors of today's colonists were drawn by the almost irresistible prospect of homesteading their own land. The current colonists are aware of the support Manchuria has supplied them in the past and are fiercely loyal to her, despite the harsh conditions of their new world.

None of the surviving settlements are below 3000 meters elevation. Most settlements consist of a protective bar-

## DEMONS:

The adversarial relationship the colonists of Cold Mountain have with their new home is personified by the animal life of this planet. Highly dangerous, hard to see, and even harder to kill, they have become more than animals in the minds of the settlers, and have transcended to the status of demons. Practically all colonists know someone who was killed by a demon, and many colonists suffer scars from chance encounters. Firearms are largely useless against many of them, and the colonists have fostered a strong martial tradition based around swords and long-bladed polearms.

rier (usually a stone wall, architecturally similar to the Great Wall of China- Manchurians have not forgotten their united past): terraced farmland, consisting of mostly rice paddies; residential and urban areas, set low on the slopes; and the residences and work places of the upper and ruling classes, set high on the slopes.

To protect themselves and their valuable terrestrial imports, the settlers used locally mined stone to erect walls separating the lower elevations from the higher. The walls were strung with wire nets to keep out the flying blinds and the large razoflies. Out of necessity, colonists still perform "watch duty" on the walls, armed with polearms, swords, and air rifles. Being selected for guard duty is considered a great honor, despite the hazards.

Colonization of Cold Mountain was costly. Over half of the original 12,000 settlers were lost to local dangers. But this was Manchuria's first colony world, and every effort was made to make certain it survived, even at a severe cost to the Manchurian homeland. New colonists were sent to replace those killed and to broaden the population base. To this day, Manchuria supports a strong emigration policy to Cold Mountain. The prospects are tempting enough for would-be colonists to ignore the inherent dangers. This strategy has prevented the development of local dialects, while strengthening planet-wide gratitude toward and honoring of Manchuria.

To colonists, the mountain and its environment represent "Heaven Above," an attainable goal of beauty, safety and happiness. Fire, of course, portends disaster. As mentioned previously local life forms, especially the animals, are understandably seen by settlers as devils and demons, intent on destroying the lives and happiness of the colonists. The colonists see the local life forms as the enemy, to be defeated at all costs. The animals and plants are killed preemptively, without remorse. Settlers are also rather callous toward injury or death as a result of the actions of local fauna. For them, it has become a way of life. Otherwise, death by illness, or accident, or (rarely) old age is mourned as in any culture. Visitors are often shocked by this dichotomy.

Colonists usually undergo some sort of rigid martial training involving primitive and modern weapons adapted to

### The Xu Dynasty:

And at the top of it all, on a peak so tall that the buildings have to be pressurized, lives the court of the Xu Dynasty. Subordinate to the Manchurian Empress, the Xu's otherwise have complete power over this world. They take their duties seriously, and the Xu's palace lacks the sort of ostentatious style ascribed to it by popular press and entertainment features. From here, the Xu's and the bureaucracy govern this world, always aware of the importance Manchuria places on her oldest colony.

### PROPER COLD MOUNTAIN ATTIRE:

Normal outdoor clothing on Cold Mountain is a relatively lightweight but fairly thick suit with metal reinforcement at vulnerable areas. Headwear is a padded hood, along with a large, conical metal hat, to protect the head and shoulders from attack by blinds or razor flies. A fine mesh made of metal links hangs down from the hat to drape across the shoulders as further protection. All footwear has metal inserts in the sole of the boot, rendering them somewhat inflexible but immune to sandworms and screwworms.

**Nation:** Cold Mountain

**Weight:** 5 kg

**Area Protected:** All

**AR: Torso:**2 (Rigid) Head: 2 (Rigid) Arms and Legs:1 (Non-rigid)

**Signature:** 0

**Max Dex Bonus:** +7

**Armor Check Penalty:** -2

**Price:** Lv75

All citizens over the age of twelve are encouraged to carry the local long sword or long-bladed spear.

better defeat local animals. Their padded clothing is often armored against sudden attacks.

After 50 years of instability, the survival of the colony was finally assured. A loose dynastic government was set up to manage local affairs and trade. The constant influx of newcomers insured cultural integrity. The social structure of the colony tends toward the rigidity of status, but as in all frontiers, there is room for some upward mobility. Furthermore, there is great potential for lateral mobility within one's station.

(From a news conference given in Melbourne on the eve of the 2319 anniversary of the ratification of the Melbourne Accords) We at NARL have noted with a great deal of concern the Manchurian proposals for the use of nuclear devices on their colony of Cold Mountain. While it is true that the animal life of that forbidding planet is hostile to an almost unimaginable degree, the idea of using nuclear weapons to control them is absurd. There is no consideration given in any of these proposals as the long-term effect on the climate and the biosphere of this world...

Colonists view and treat tourists with disdain. However, new colonists are quickly accepted by the more experienced ones and "shown the ropes." This includes the influx of refugees given asylum at Cold Mountain by the Manchurian government. Though displeased at the arrival of non-Manchurians, the colonists did their best to help the new settlers adapt. As there were relatively few refugees (<10000), and the government made sure to disperse through all the settled



areas, they are expected to fade and blend in with the general population in a relatively short period of time.

For many reasons, visitors to this world are advised to adopt the local style of dress, or provide themselves with protection that is as effective. Note that most personal armors won't stop the razor-like attacks of Cold Mountain's Demons.

## DAIKOKU/BETA Hydri

Daikoku is an important transportation hub along the Chinese Arm. The Eber ruins uncovered there made quite a ripple in the scientific community, and still yield up new secrets, even after over 70 years of exploration.

### SYSTEM DATA

#### STELLAR DATA

**Primary Name:** Beta Hydri

**Spectral Class:** G1 IV

**Magnitude:** 3.8

**X, Y, Z Coordinates:** 4.4, 0.4, -20.1

**Number of Planets:** 10

**Number of Asteroid Belts:** 0

### PLANETARY DATA

#### PLANET DATA

**Name:** Daikoku

**Distance from Primary:** 1.601 AU

**Year Length:** 199.07 Days

**Size:** 20,994 km in diameter

**Day Length:** 25.82 hours

**World Type:** Garden

**Surface Gravity:** 0.659

**Atmospheric Pressure:** 0.66 atm

**Climate:** Hot

**Water Presence:** 39%

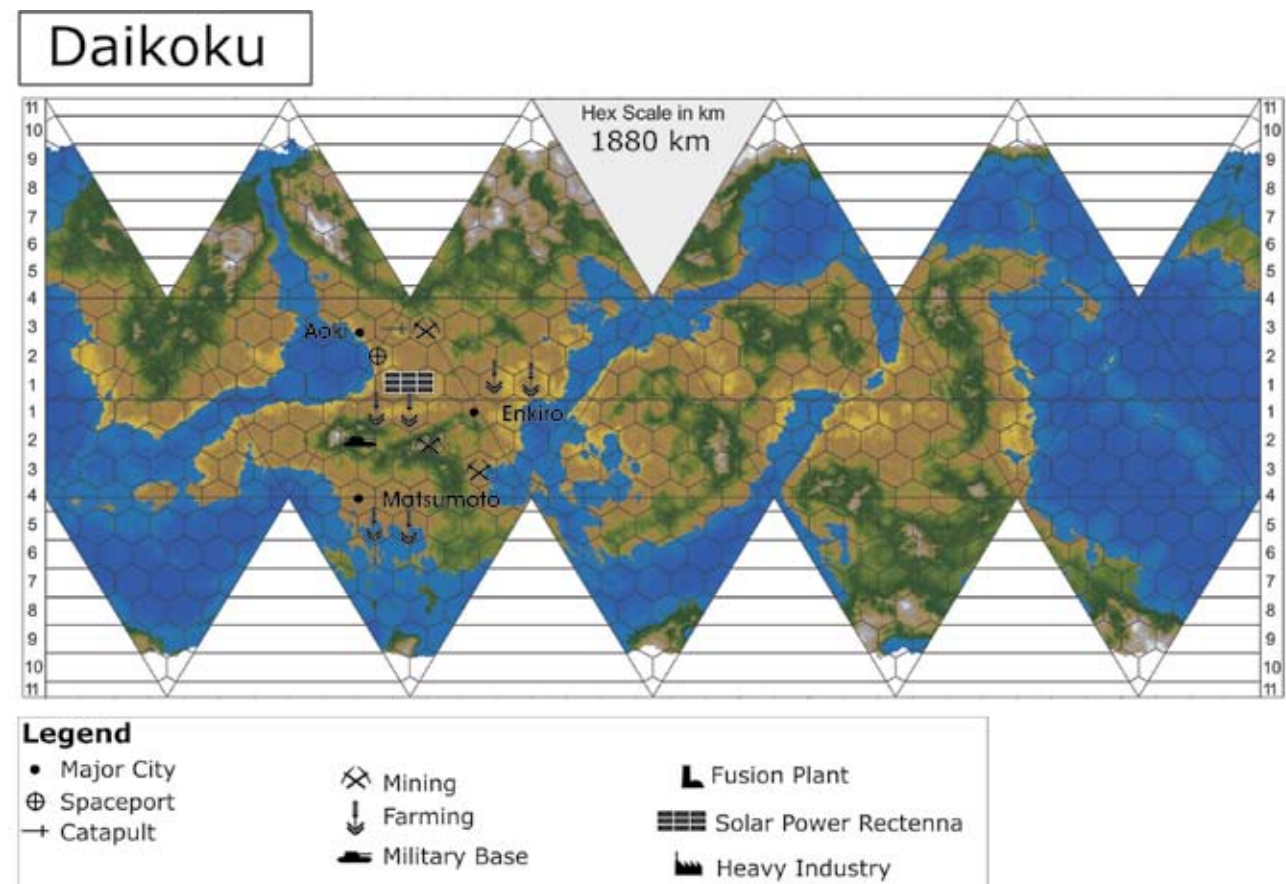
**Atmospheric Composition:** N<sub>2</sub> (69%), O<sub>2</sub> (23%), Trace (6%)

**Natural Resources:** 5

**Biological Diversity:** Diverse; usable, though unpalatable

**Satellites:** 3 (Gamera, Gojira, and Mothra)

Seasonal temperature variations are more extreme on Daikoku than on Earth, with winter temperatures averaging -20° to 20° Celsius, and summer temperatures averaging 35° to 55° in the temperate zones. Seasons are shorter on Daikoku than on Earth, being roughly half as long as their Terran counterparts.



## COLONIAL DATA

By consensus of the survey teams, the sole garden world in the system was named Daikoku, after the goddess of prosperity in Japanese mythology. As a colony world, Daikoku would require effort to prove profitable, but, in all probability, it would be worthwhile to colonize in the long run.

### The Ruins:

In 2249, the ruins of an ancient technological culture was discovered near the Arabian colony. This was evidence for a second interstellar civilization, though the ruins had been abandoned for a least a few thousand years.

Further evidence for this civilization was found on Heidelshiemat in 2253, and in 2256, the Ebers, who had colonized those worlds thousands of years ago, were first contacted on a planet orbiting 82-Eridani.

Study of the ruins is ongoing, and even with the live Ebers to study, new discoveries are being made at both ruins sites on Beta Hydri. Both the Institut des Etudes Xenobiologique and the Astronomischen Rechen-Institut maintain facilities, as does an unusual off-shoot of the Accademia del Lincei, to everyone's annoyance.

## COLONIAL LIFE

Japan's colony is a relatively happy and productive one, serving as a base of operations for Japanese mining activities in the Beta Hydri system as well as being a major producing colony in its own right. The governmental authority is respected and obeyed by virtually all the Japanese colonists (as is required by traditional Japanese ethics). Ultimately answerable to the Japanese emperor and his government on Earth, Daikoku's Japanese government is essentially organized the same as that on Earth.

**Colony Name:** Daikoku

**Colony Population:** 11 million

**Date Founded:** 2167

**Nationality:** Japanese

**Life Expectancy:** 99 years

**Literacy:** 100%

**College:** 92%

**Major Cities:** Aoki (2.2 million), Enkiro (1.5 million), and Matsumoto (720,000)

**Currency:** Yen

**Government Type:** Representative Democracy (4)

**Law Level:** Moderate. Personal concealable firearms prohibited (5)

**Tech Level:** (11)

**Trade Data:** Ri, Ag

**Interface Capability:** Spaceplane, shuttle, catapult (B)

**Resources:** Farming, Mining

**Military Presence:** Orbital Defense Installation, Military Base, Naval Base

**Other Bases:** Foundation (IEX)

**Services:** Solar Power Satellite, Rectenna, University, Powernet (71%), Road Net (72%), Airship Net (80%), Rail Net (75%), Link Network (88%), Weather Satellites, Communication Satellites, Orbital Terminal

The Japanese colony on Daikoku is essentially self-sufficient, with most of the population living comfortably (only a very few could be said to be living affluently). Most colonists work for companies, rather than being self-employed. These companies vary greatly in size, from small companies based exclusively in Daikoku to large corporations which may have headquarters off-world. Employees of these companies are hard-working and fiercely loyal to their employers.

**Colony Name:** Far Riyadh

**Colony Population:** 7.4 million

**Date Founded:** 2245

**Nationality:** Arabian

**Life Expectancy:** 97 years

**Literacy:** 100%

**College:** 78%

**Major Cities:** Al-Fredoun (1.1 million)

**Currency:** Rial

**Government Type:** Appointed council responsible to King of Arabia (6)

**Law Level:** Moderate. Light assault weapons prohibited (4)

**Tech Level:** (8)

**Trade Data:** Ri, Ag

**Principal Trade Partners:** Arabia

**Interface Capability:** Spaceplane (C)

**Resources:** Farming, Mining,

**Military Presence:** Military Base

**Other Bases:** Foundation (ARI, Accademia del Lincei)

**Services:** Rectenna, Powernet (53%), Road Net (58%), Rail Net (97%), Link Network (67%), Orbital Terminal

Since its founding 75 years ago, the Arabian colony on Daikoku has done well for itself. Also essentially self-sufficient, the Arabian colony engages in trade both off-world and with the Japanese on-world, dealing mostly in textiles, handcrafts, petroleum products (notably synthetic materials), and perfumes.

### FOUNDATIONS ON Daikoku

The ARI, the IEX and a somewhat radical branch of the Accademia del Lincei maintain outposts on Daikoku. All have facilities near the Eber ruins, which are the reasons for their interest in the world. The ARI is interested in the ruins from a scientific standpoint, but the reasons for the presence of

## The Prayer Crisis:

All devout Moslems must pray in the direction of the holy city of Mecca. The vast majority of Muslims who travel off-world have adopted the convention that anywhere in the general direction of Earth counts as long as everyone in a given location is consistent ("Allah is very understanding." – Imam Muhammad Achmed Al-Risuli).

On Far Riyadh, however, the colonists were from a highly conservative and fundamentalist group, and this led to a crisis early in the formation of the Arab colony. The solution was unique: with the blessing of the holy men, a small fragment was gently removed from the holy Black Stone at the Ka'aba in Mecca, and shipped to Daikoku. There it was duly enshrined in a newly built mosque, now called "the Mosque of the Stone."

antiquarian Accademia are less understood.

Apparently, this off-shoot of the Accademia is convinced that the long-vanished Ebers of this world were some sort of Christian-equivalent sect, and is searching for clues to substantiate that hypothesis. So far, the only relics recovered have been cruciform shapes of unknown purpose, but still they look, much to the annoyance of the ARI and their Arab hosts.

## HAIFENG/L 1159-16

Almost entirely covered by water, this world has baffled Manchurian planners for over 60 years. There are resources there, but exploiting them would require a different approach than any other Manchurian colony.

### STELLAR DATA

**Primary Name:** L 1159-16

**Spectral Class:** M8 V

**Magnitude:** 13.91

**X, Y, Z Coordinates:** 13.0, 7.3, 3.3

**Number of Planets:** 3

**Number of Asteroid Belts:** 2

### PLANETARY DATA

#### PLANET DATA

**Name:** Haifeng

**Distance from Primary:** 0.11 AU

**Year Length:** 45 days

**Size:** 11,990 km in diameter

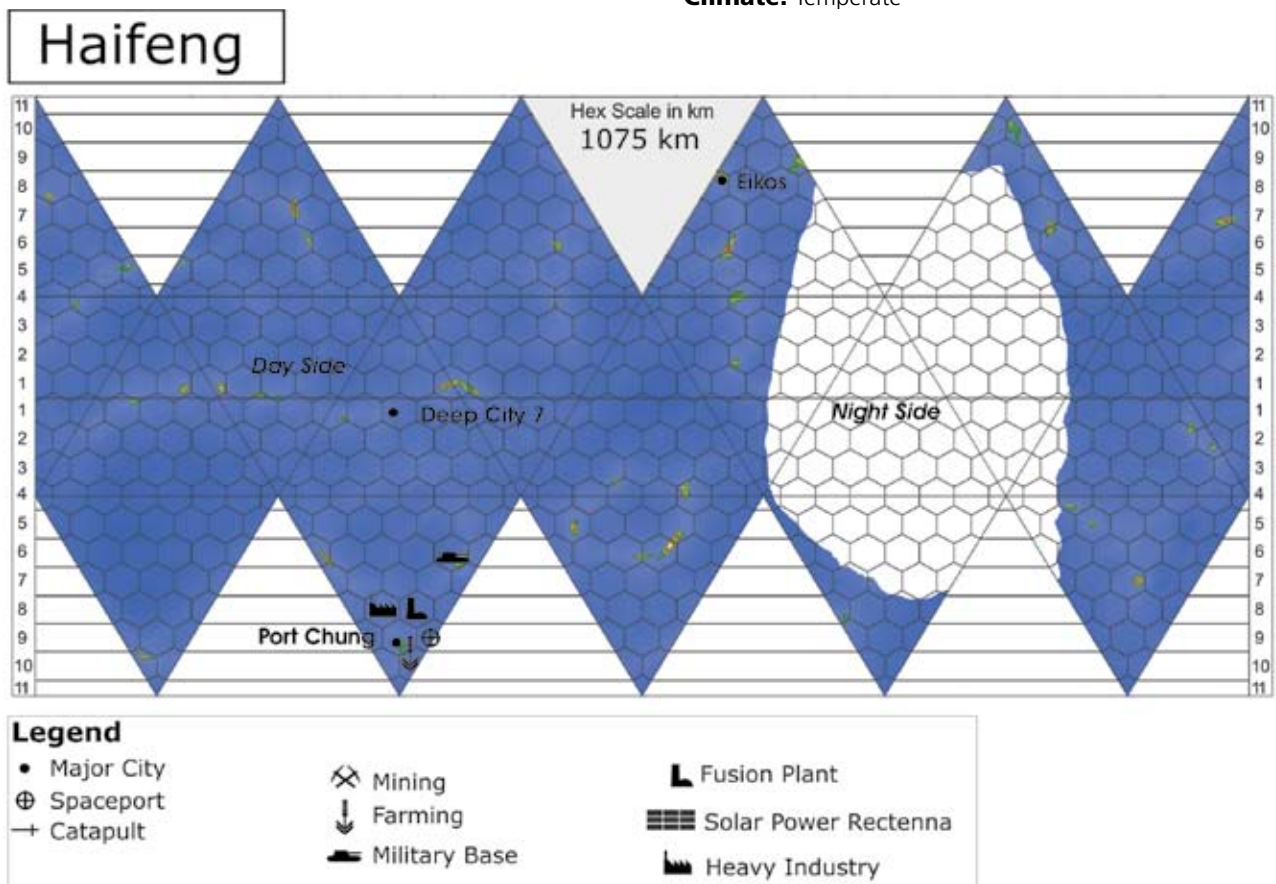
**Day Length:** 54 days (tidally locked)

**World Type:** Ocean

**Surface Gravity:** 0.89 G

**Atmospheric Pressure:** 1.21 atm

**Climate:** Temperate





**Water Presence:** 98%

**Atmospheric Composition:** N<sub>2</sub> (81%), O<sub>2</sub> (17%), CO<sub>2</sub> (2%)

**Biodiversity:** Diverse

**Natural Resources:** 3

**Satellites:** 0

Haifeng is almost completely covered by deep oceans, which range down to 30 kilometers deep in some spots. The few scattered islands are all volcanic in origin, with the largest group being scarcely larger than the Hawaiian Island chain on Earth. Many of the volcanoes are still active. This tidally-locked world orbits close to its primary, and the temperature differential between the hot and cold sides of the planet keep a steady stream of hurricane-sized storms blowing across the equatorial regions from the cold side to the hot side. The polar latitudes are relatively free of such major storms, though they do get a few per year. The high atmospheric pressure is partly responsible for the world's surface temperature, despite the anemic star it orbits. The dense atmosphere also provides some flare protection.

The waters of Haifeng are fresh enough to drink, and indeed one of the major problems with colonization on this world is a lack of critical salts needed to sustain terrestrial life. The plant and animal life is quite edible, though in addition to the mineral supplements some vitamin supplements are required. The native life is equally capable of eating terrestrial life as well, and in the case of some of the larger ocean predators, is fully capable of eating the ship that life happens to be sitting on.

These large life forms are the primary source of the wealth of this new colony world, as some of them synthesize some very unusual and valuable chemicals as part of their metabolic processes. It is possible to harvest these chemicals without killing the animal, but very difficult – far easier to kill them.

### WHALES TO THE SLAUGHTER:

NARL wasted no time in drawing parallels between the Manchurian harvest operations and the ancient practice of hunting and killing whales on Earth. There are often protests at Manchurian embassies throughout many Tier 2 and 3 nations on Earth. Manchuria countered that stunning a 2,000-ton animal isn't very feasible, and farming them would be even worse.

## COLONIAL DATA

### Colony Data

**Colony Name:** Heaven's Waters

**Colony Population:** 135,000

**Date Founded:** 2307

**Nationality:** Manchurian

**Life Expectancy:** 92 years

**Literacy:** 94%

**College Education:** 74%

**Major Cities:** Port Chung (75,000), Eikos (25,000)  
Deep City 7 (12,000)

**Currency:** Manchurian Ruble

**Government Type:** Appointed Governor (6)

**Law Level:** Moderate. Personal concealable firearms prohibited (5)

**Tech Level:** (6)

**Trade Data:** Ni

**Principal Trading Partners:** Cold Mountain, Syuhlam, Manchuria

**Interface Capability:** Space Plane (C)

**Resources:** Farming, Heavy Industry

**Military Presence:** Military Base

**Other Bases:** Foundation (Life Foundation), Science

**Services:** Fusion Plant, Link Network (20%), Weather Satellites, Communications Satellites, Orbital Terminal

The Manchurian colony of Heaven's Waters is situated on Cheju Do, the largest island of the Great Wall chain near the world's north pole. The first outpost on this world went into operation in 2267, after Emperor's Gift, a Manchurian survey vessel, discovered the world in 2254.

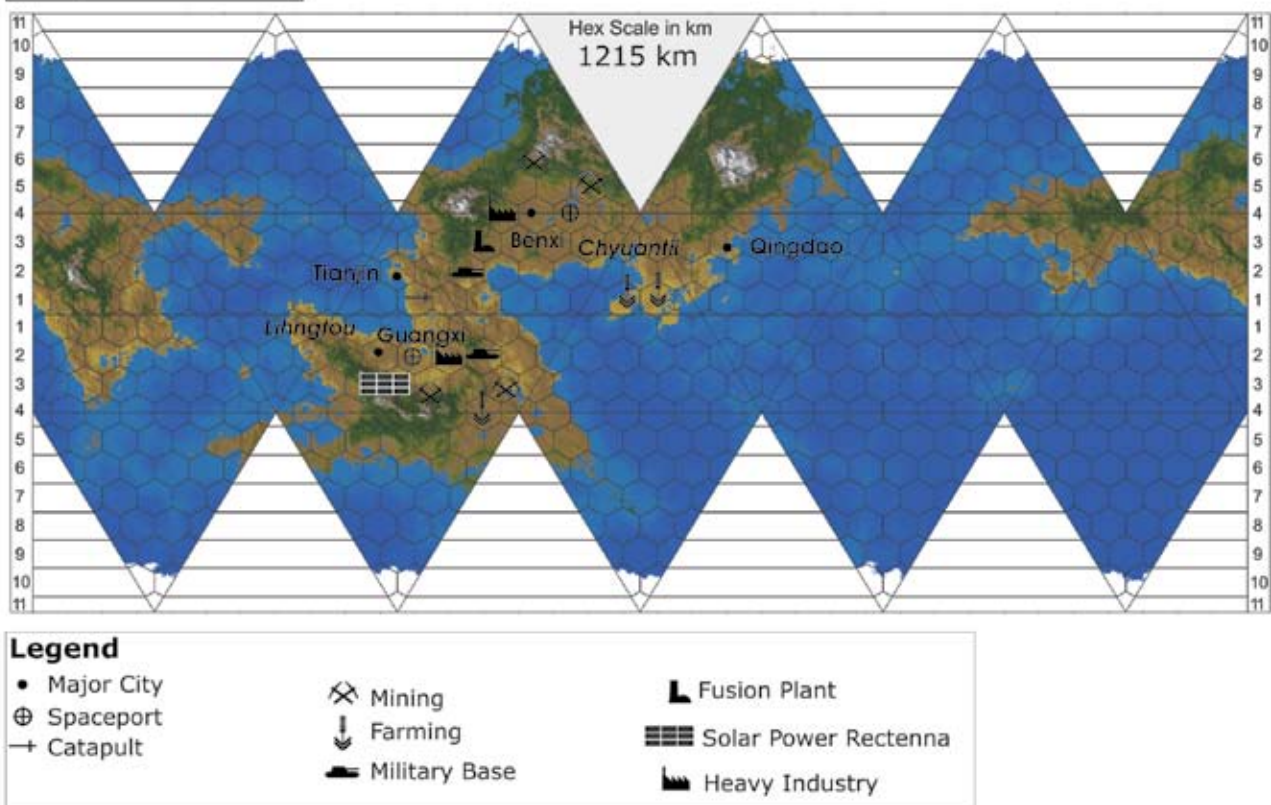
The first permanent settlement was by the Life Foundation performing an experiment, and that outpost went into operation on one of the islands of the south polar Dragon Scale chain.

The colony was built in cooperation with Korea, which provided the ship-building expertise for the giant processing vessels. Nearly 35% of the colony's population are Korean immigrants, even though the colony itself is under Manchurian control.

### THE DEMARCHISTS:

In 2301, the Life Foundation established an outpost-level facility on Haifeng. The isolated facility was the site of an experiment in absolute electronic democracy. The 5200 adult staff of the Eikos facility were outfitted with implanted communications devices and displays, and every major decision for the station was put to a vote. The administrative staff was all non-elected professionals, whose job was to carry out the will of the population. Nineteen years later, the outpost is a small, thriving city, providing support to the new Manchurian colony on the world. This electronic democracy, the Demarchists, is still going strong, and the 21,000 adults of the city all have their implants to ensure their participation in the settlement's unique form of government. The Life Foundation is considering the establishment of this form of government at all its off-Earth facilities.

Syuhlam



In 2307, during the Kafer War, the Manchurian government decided to upgrade the world's facilities. Foremost amongst these upgrades was the construction of a sheltered harbor and construction facilities for large, ocean-going vessels. These vessels were to become the core of the harvesting fleet, pursuing and killing as many of the huge sea creatures as they could in every season. Along with the ship-building facilities, the Manchurians constructed a small fusion plant and a catapult launch facility.

Many of the colonists to Haifeng come from Cold Mountain, another Manchurian colony. Some are looking for new adventure, but some are here because they can't deal with the stress of living with Cold Mountain's demons.

SYUHLAHM/ZETA TUCANAE

Struggles for power between nations have not been completely left behind on Earth, and conflicts on Syuhlahm have been commonplace for some time. The different Chinese nations vying for power here have often turned to warfare to settle their differences.

SYSTEM DATA

STELLAR DATA

**Primary Name:** Amah  
**Spectral Class:** G2 V  
**Magnitude:** 4.96

**X, Y, Z Coordinates:** 9.7, 0.7, -21.2  
**Number of Planets:** 4 (Gaaumouhjeung, Syuhlahm, Yahnhaak, Hongaangge)  
**Number of Asteroid Belts:** 0

The Zeta Tucanae system was both a disappointment and a pleasure to its first explorers. Its G2 V star promised a garden world, and the first sweep through the system confirmed that promise. But the system delivered little else: merely two gas giants and a failed core. Rarely does a G-type star produce such a small brood.

PLANETARY DATA

PLANET DATA

**Name:** Syuhlahm  
**Distance from Primary:** 1.1 AU  
**Year Length:** 412 days  
**Size:** 13,550 km in diameter  
**Day Length:** 17.67 hours  
**World Type:** Garden  
**Surface Gravity:** 1.02  
**Atmospheric Pressure:** 1.10 atm  
**Climate:** Temperate  
**Water Presence:** 67%  
**Atmospheric Composition:** N<sub>2</sub> (78%), O<sub>2</sub> (19%), Trace (3%)  
**Biodiversity:** Diverse; useable

**Natural Resources:** 5

**Satellites:** 1 (Twilight's Daughter)

Syuhlahm proves that an Earth-like world need not have an Earth-like biosphere. The biological mechanisms of this world are very different from those encountered elsewhere. All of Syuhlahm's higher organisms are advanced symbiotes based on a limited number of common parts: limbs, leaves, sensors, and organs.

## COLONIAL DATA

### CHYUANTII, THE MANCHURIAN COLONY

When the initial colonization of a system begins, the survey squadron has effectively finished its job. When the Manchurian colony at Delta Pavonis was established in 2201, the Manchurian survey squadron in the Chinese Arm was dispatched to the next prospect on the list: the Zeta Tucanae system. It spent the next decade carefully investigating the worlds of the system and their potential for colonization.

**Colony Name:** Chyuantii

**Colony Population:** 3.1 million

**Date Founded:** 2241

**Nationality:** Manchurian

**Life Expectancy:** 89 years

**Literacy:** 96%

**College Education:** 59%

**Major Cities:** Tianjin (372,000), Benxi (78,000), Qingdao (55,000)

**Currency:** Manchurian Ruble

**Government Type:** Appointed Governor (6)

**Law Level:** Moderate. Personal concealable firearms prohibited (5)

**Tech Level:** (10)

**Trade Data:** Ri, Hi

**Principal Trading Partners:** Cold Mountain, Manchuria, Lihngtou

**Interface Capability:** Spaceplane, shuttle, catapult (B)

**Resources:** Farming, Mining, Heavy Industry, Orbital Industry

**Military Presence:** Orbital Defense Installation, Military Base, Naval Base

**Other Bases:** None

**Services:** Fusion Plant, Powernet (27%), Road Net (35%), Rail Net (78%), Link Network (41%), Airship Net, Weather Satellites, Communications Satellites, Orbital Terminal

Chyuantii was Manchuria's third extra-solar colony, and has seen rapid industrial development since it was founded.

The Manchurian colony specializes in heavy industry. Ironically, one of its biggest customers is its sometime rival,

Lihngtou.

### LIHNGTOU, THE CANTONESE COLONY

Canton selected Syuhlahm as the site for its first colony because of available and fertile land, the existing (although rival) Manchurian colony, which at least shared a written language with them, and the mineral potential of the proposed territory.

**Colony Name:** Lihngtou

**Colony Population:** 7.2 million

**Date Founded:** 2259

**Nationality:** Cantonese

**Life Expectancy:** 97 years

**Literacy:** 97%

**College Education:** 69%

**Major Cities:** Guangxi (639,000)

**Currency:** Cantonese Yuan

**Government Type:** Colonial Governor (6)

**Law Level:** Low. High Energy Weapons Prohibited (2)

**Tech Level:** (9)

**Trade Data:** Ag

**Principal Trading Partners:** Chyuantii, Canton

**Interface Capability:** Spaceplane, shuttle, catapult

**Resources:** Farming, Mining, Heavy Industry

**Military Presence:** Orbital Defense Installation, Military Base, Naval Base

**Other Bases:** Science

**Services:** Solar Power Satellite, Rectenna, Powernet (67%), Road Net (78%), Rail Net (91%), Link Network (78%), Airship Net, Weather Satellites, Communications Satellites, Orbital Terminal

Canton negotiated with Manchuria between 2240 and 2255 to arrange placement of a colony during a period when the two nations had relatively friendly relations. Since Manchuria would be unable to prevent the placement of a Cantonese colony on Syuhlahm, it was to their advantage to participate in the planning of a new colony, regardless of who placed it.

Chyuantii and Lihngtou have a long-standing rivalry which dates from the first establishment of Lihngtou. Although both colonies depend on each other economically, culturally they are great rivals and occasional enemies. The recent events on Earth are doing little to help this situation. Chyuantii calls Lihngtou Nan Man Chi Yuan, or "The Farness of the Southern Barbarian."

**Colonial Interaction:** The economies of the two colonies on Zeta 2 are inextricably intertwined. Chyuantii's burgeoning population is rapidly straining the food production ability of its farm system; at the same time, Chyuantii's industry has excess capacity that needs to be utilized. Lihngtou's farms and mines are an excellent source of supply for Chyuantii, and there is a continuing interdependence between the



two colonies that both recognize and accept.

Chyuantii has staked out the northern hemisphere while Lihngtou has claimed the southern. Each acknowledges that it is impossible to control an entire hemisphere, let alone a world; instead the colonies' laws and controls apply only to their own settled territories. Beyond their immediate boundaries, there is no law and no civilization. As a result, there are two interfaces between Lihngtou and Chyuantii.

The formal interface is a single point on the equator where trade goods are exchanged, visitors cross the border, and diplomatic notes are presented. A highway leads from the interface to each colony; a rail link is planned for some point in the future. Chyuantii has constructed its orbital catapult just north of the interface. Both governments station officials at the interface to handle the bureaucratic details of imports, exports, and travellers. Lihngtou and Chyuantii, by agreement, share a single orbital terminal. The informal interface is a wide swath of territory between the two colonies, officially dubbed 'no-man's land' and claimed by neither. However, prospectors and fortune-hunters from both colonies make forays into the zone, and there are often clashes between the various groups. Government forces from both colonies are being increasingly called upon for assistance in these clashes, and its only a matter of time before open war breaks out.

### Syuhlahm Walkers:

Combat walkers first made their appearance on Zeta Tucanae by an expensive accident. During the Slaver War a shipment of two-legged walkers was misdirected to Syuhlahm. They were never returned to orbit before the end of the war, and were later sold as surplus.

These first walkers on Syuhlahm were only a novelty, but they engendered an industry, and then a revolution, in combat walkers. The new designs appearing on Syuhlahm were no longer the complex, humanoid designed, but lower, sleeker two- and four-legged pod vehicles, where the operator could recline in enclosed comfort.

The technology transfers from Chyuantii to Manchuria were the basis for most of the Manchurian combat walker systems utilized in the Central Asian War (2282 to 2287). Chyuantii remains the best-known producer of walker vehicles, although few are physically exported; instead, the designs are license-produced on a variety of worlds.

## HEIDELSHEIMAT/Rho Eridani

Heidelsheimat is a world teeming with its own life forms, basking in the warm climate provided by its orange sun. The nations which have settled here have found an abundance of resources and opportunities for growth.

## SYSTEM DATA

### STELLAR DATA

**Primary Name:** Rho Eridani

**Spectral Class:** K2 V

**Magnitude:** 6.67

**X, Y, Z Coordinates:** 10.7, 4.8, -17.8

**Number of Asteroid Belts:** 0

**Number of Planets:** 5

### STELLAR DATA

**Companion Name:** DM-56 328

**Distance from Primary:** 59.25 AU

**Spectral Class:** K5 V

**Magnitude:** 6.83

**X, Y, Z Coordinates:** 10.7, 4.8, -17.8

**Number of Asteroid Belts:** 1

**Number of Planets:** 2

## PLANETARY DATA

### PLANET DATA

**Name:** Heidelshemat

**Distance from Primary:** 0.348 AU

**Year Length:** 112 days

**Size:** 13,997 km in diameter

**Day Length:** 31.2 hours

**World Type:** Garden

**Surface Gravity:** 0.44 G

**Atmospheric Pressure:** 0.68 atm

**Climate:** Temperate

**Water Presence:** 68%

**Atmospheric Composition:** N<sub>2</sub> (81%), O<sub>2</sub> (16%), Trace (3%)

**Biodiversity:** Diverse; unusable (dextro amino acids)

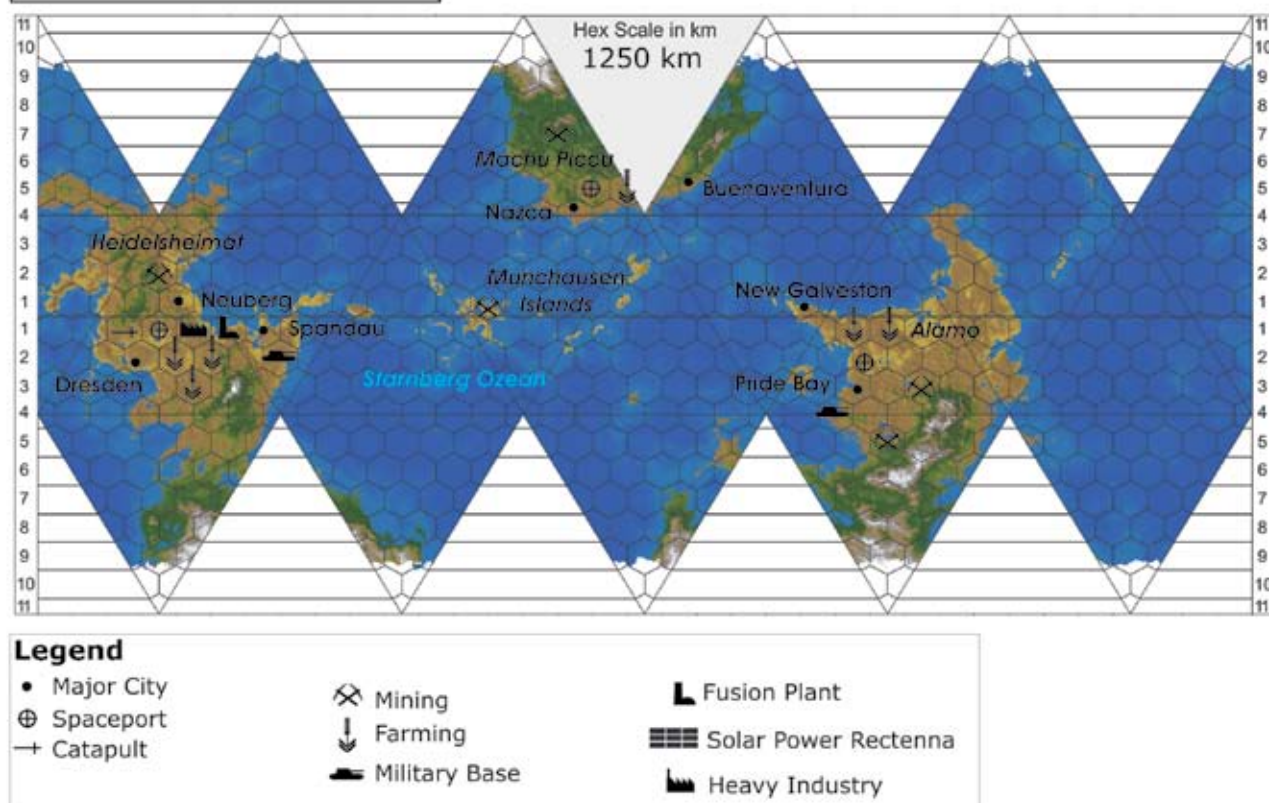
**Natural Resources:** 4

**Satellites:** 2 (Rock, Pebble)

For consistency of dates, local Heidelshematian time is referenced to Terran standard time. With an axial tilt of 13.3°, seasonal variation of the hours of daylight on Heidelshemat is not as great as on Earth. The differences in temperature between winter and summer on Heidelshemat are also less pronounced than on Earth, giving rise to a more temperate climate in general at the middle latitudes.

**Native Life:** Life on Heidelshemat has evolved to levels of complexity comparable to those on Earth. Much of the land-based life takes advantage of Heidelshemat's low gravity and comparatively dense atmosphere, and are either gliders or true flyers. Some of the gliders, like the Sky Jumper, leap from a height, either a tree or cliff, while other, like the bush bunnies, leap 3-4 meters into the air and glide from there.

# Heidelsheimat



142

Though Terran and Heidelbergian biologies are incompatible, some of the local wildlife has been known to gorge on Human crops, only to die of starvation with their bellies full.

The Heidelbergian plant life has a number of interesting adaptations, most of which are simply annoying to the colonists. Umbrella trees release large, parachute-like seeds that can drift for many kilometers, occasionally coming to rest on some of the carefully-planted terrestrial plants. Others shoot their seed in response to external stimuli, like being stepped on, while many others have sticky/hooked seeds that can be difficult to remove from clothes, vehicles and buildings.

## COLONIAL DATA

**Colony Name:** Heidelberg

**Colony Population:** 13.1 million

**Date Founded:** 2228

**Nationality:** Independent

**Life Expectancy:** 101 years

**Literacy:** 100%

**College Education:** 72%

**Major Cities:** Spandau (1.1 million), Dresden (792,000), Neuberg (512,000)

**Currency:** Heidelbergian Mark

**Government Type:** Democratic Republic (4)

**Law Level:** Moderate. Personal concealable firearms prohibited (5)

**Tech Level:** (12)

**Trade Data:** Ri, Hi

**Principal Trading Partners:** Freihafen, France, Dai-koku

**Interface Capability:** Spaceplane, shuttle, catapult (B)

**Resources:** Farming, Mining, Heavy Industry, Orbital Industry

**Military Presence:** Orbital Defense Installation, Military Base, Naval Base

**Other Bases:** Foundations (ARI), Science

**Services:** Fusion Plant, University, Powernet (92%), Road Net (92%), Rail Net (81%), Link Network (91%), Airship Net, Weather Satellites, Communications Satellites, Orbital Terminal, Civilian Shipyard, Military Shipyard

The Heidelbergian nation contains both the former colony at Rho Eridani, and the former Bavarian mining outpost of Geroellblock at DM-56 328. The combination of the two settlements has produced a very powerful new nation, one with the resources it needs and a pleasant world to work with. Food for both is imported from the Japanese at Beta Hydri, but the government is looking to end its dependence on foreign sources.

Until relatively recently, the Bavarians of Heidelberg had been wrestling with the issue of whether or not to join the other Bavarian colonies and accept German control. For years the question bounced back and forth between Earth

and Heidelshiemat, until in 2306, at the height of the Kafer War, the Heidelshiemat government put it to a referendum. The result was overwhelmingly in favor of independence. In 2308, along with the outpost of Geroellblock, Heidelshiemat declared its independence. This was recognized first by France, then by most of the other Tier 2 and Tier 3 powers. Germany did not acknowledge the colony's independence until well after the end of the Kafer War.

Since to formally declared independence in 2307, Heidelshiemat has been quietly building up its military forces, both ground-based and space-based. Most of the designs seem to be imported from Freihafen, though a few new spacecraft appear to be of local design. Heidelshiemat currently has the largest ground military in the Chinese Arm, and one of the largest, and most advanced, space navies.

### The Texan Colony

**Colony Name:** Alamo

**Colony Population:** 3.1 million

**Date Founded:** 2244

**Nationality:** Texan

**Life Expectancy:** 99 years

**Literacy:** 98%

**College Education:** 62%

**Major Cities:** New Galveston (220,000), Pride Bay (37,000)

**Currency:** Texas Dollar

**Government Type:** Participatory Democracy (2)

**Law Level:** Low. Military weapons prohibited (3)

**Tech Level:** (9)

**Trade Data:** Ri

**Principal Trading Partners:** Austin's World, Texas, Kormoran

**Interface Capability:** Spaceplane

**Resources:** Farming, Mining

**Military Presence:** Orbital Defense Installation, Military Base

**Other Bases:** None

**Services:** Fusion Plant, Pownet (100%), Road Net (100%), Rail Net (100%), Link Network (98%), Airship Net, Weather Satellites, Communications Satellites, Orbital Terminal

The year 2244 saw the arrival of a Texan expedition and the establishment of a Texan outpost on a continent well away from the one that the Bavarians settled on. Intending the outpost to be a stepping stone to the 82 Eridani system (still unexplored), the Texans moved in without giving the Bavarians much advance notice, nor even really asking their permission. Although the Bavarians had no really good reason for trying to keep the Texans off Heidelshiemat, the fact of the Texans moving in so blithely without consulting the Bavarians left a bad feeling in the minds of many of the

### Eber Ruins:

In 2253, a group of Texan explorers scouting out the region to the south of their outpost discovered what appeared to be ruins of a sentient culture. Though the remains on the ground were little more than rubble, orbital surveys showed recognizably artificial foundation patterns. Further research, and comparison with the ruins on Daikoku, showed the Rho Eridani ruins to have been built by the same culture: the Eber.

Though the ruins were demonstrably Eber, there are marked differences between the Daikou and Rho Eridani sites, most notably in the layout and the artifacts so far discovered. The current hypothesis is that the two worlds were settled by different Eber groups, perhaps different nations.

Bavarian colonists. Consequently, the Bavarian colony does its best to keep contact with the Texans to the barest minimum.

For the past ten years, the Texans and the Heidelshiematians have been fighting a low-scale "range war" over mineral and oil deposits on a chain of islands in the ocean between the two colonies. Heidelshiemat claims the territory, but has never occupied it, saving it for "later expansion." The Texans countered that, under the Melbourne accords, they had to develop any claimed territory within 10 years, or it reverts back to the common pool. So far the war has been largely between small prospecting groups, but rumors that the Heidelshiematian firm of Carrida has brought in off-world mercenaries to enforce its claim. This action may lead to the colonial governments getting involved, and possibly open war.

### The Incan Colony

**Colony Name:** Machu Picchu

**Colony Population:** 1.3 million

**Date Founded:** 2289

**Nationality:** Incan

**Life Expectancy:** 92 years

**Literacy:** 91%

**College Education:** 58%

**Major Cities:** Nazca (348,000), Buenaventura (284,000)

**Currency:** Incan Peso

**Government Type:** Feudal (5)

**Law Level:** Moderate. All firearms prohibited (8)

**Tech Level:** (9)

**Trade Data:** Ri

**Principal Trading Partners:** Incan Republic,

**Interface Capability:** Roton (D)

**Resources:** Farming, Mining



**Military Presence:** None

**Other Bases:** None

**Services:** Road Net (78%), Airship Net, Weather Satellites, Orbital Terminal

If it were not for the Texans and their colony, the Incas would probably not have been able to plant a colony on Heidelshemat. A relatively poor nation, the Inca Republic had a space fleet comprised of a few second hand ships purchased from other nations. The Texans, who had given the Inca Republic moral support throughout their struggles with the Brazilians, despite the political differences, suggested to the Incas that they try establishing colonies on the same worlds that the Texans had settled on. This would help to promote the Inca Republic as a legitimate member of space-faring society, and it would allow the Texans to help the Incas build their colonial settlements.

The first Incan precolonization expedition arrived in 2280. Ill-equipped to perform much in the way of useful surveys, the Incas found that they had to call on the Texans for equipment and aid. The Texans provided both on the condition that such assistance was temporary. The Incas set about selecting a site for their colony (in an area well to the north of the Texan colony), and, by 2285, they had begun work on some facilities for it. In building their colony, which was formally established in 2289 (even though at this time, it was little more than an outpost with a large spaceport), the Incas relied heavily on the Texans for technical support. The Texans grudgingly acquiesced, thought he feeling was that the Incas should be able to do the work themselves. The Incas felt betrayed by this sentiment, as Texas had originally offered support to the fledgling Incan program. This engendered hard feelings in both camps, leading to a state of hostility between the two colonies today. The Incas are leaning towards the Heidelshematians for support, which the former Bavarian colony is happy to provide.

## CHENGDU/Epsilon Indi

The moderate climactic conditions on Chengdu have attracted a productive population of Manchurian settlers. Their efforts will likely turn the Epsilon Indi system into one of Manchuria's most important off-world possessions within the century.

### SYSTEM DATA

#### STELLAR DATA

**Primary Name:** Epsilon Indi

**Spectral Class:** K5 V

**Magnitude:** 7

**X, Y, Z Coordinates:** 5.2, -3.1, -9.4

**Number of Planets:** 6

**Number of Asteroid Belts:** 2

### PLANETARY DATA

The outermost world of this system is a large brown dwarf, and provides a convenient discharge point for ships moving past.

#### PLANET DATA

**Name:** Chengdu

**Distance from Primary:** 0.45 AU

**Year Length:** 249.23 days

**Size:** 11,980 km in diameter

**Day Length:** 20.13 hours

**World Type:** Garden

**Surface Gravity:** 1.12 G

**Atmospheric Pressure:** 1.19 atm

**Climate:** Temperate

**Water Presence:** 68%

**Atmospheric Composition:** N<sub>2</sub> (75%), O<sub>2</sub> (21%), Trace(4%)

**Biodiversity:** Diverse; useable

**Natural Resources:** 7

**Satellites:** 2

Chengdu is similar to Earth in many ways, though the land is more rugged and the weather is more mild. Though the world has a somewhat higher gravity than Earth, and is somewhat cooler, it has a great of potential as a colony and a provider of resources for the sponsoring nations and foundations.

### COLONIAL DATA

**Colony Name:** Chengdu

**Colony Population:** 22 million

**Date Founded:** 2208

**Nationality:** Manchuria, Canada, Nigeria, Life Foundation

**Life Expectancy:** 97 years

**Literacy:** 99%

**College Education:** 77%

**Major Cities:** Shaoguan (2.1 million), Anyou (980,000),

**Currency:** Manchurian Ruble

**Government Type:** Democratic council responsible to Manchurian Empress (4)

**Law Level:** Moderate. Personal concealable firearms prohibited (5)

**Tech Level:** (11)

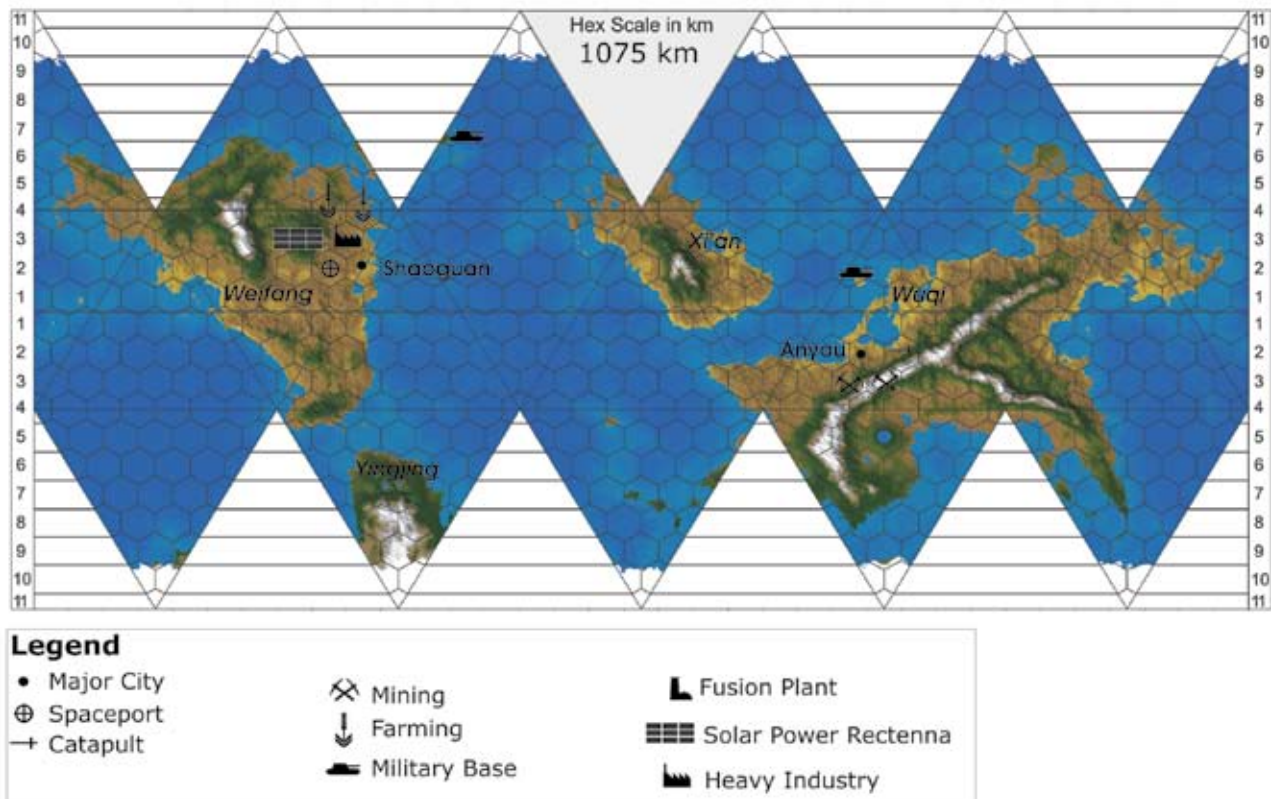
**Trade Data:** Ri

**Principal Trading Partners:** Manchuria, Canada, Nigeria

**Interface Capability:** Spaceplane, shuttle, catapult (B)

**Resources:** Farming, Mining, Heavy Industry, Orbital

# Chengdu



## Industry

**Military Presence:** Military Base

**Other Bases:** Science

**Services:** Solar Power Satellite, Rectenna, University, Powernet, Road Net (92%), Rail Net (89%), Link Network (93%), Airship Net, Weather Satellites, Communications Satellites, Orbital Terminal, Civilian Shipyard

Colonization of Chengdu occurred in two phases. The first phase, centered on what is now the city of Anyou, was dedicated to resource exploitation, and at first did not include industry or farming. The second phase, centered on the city of Shaoguan, was jointly sponsored by the Manchurian government and the Life Foundation, along with participation by both Canada and Nigeria. It took longer to organize, and it wasn't until 2241 that the first ships carrying the colonists for the new colony. This second phase of the colonization effort was aimed at providing the more intangible elements of a successful community, such as a university, along with manufacturing and farming.

After 112 years, the colony is fully self-sufficient, and has an economy equal to most Tier 3 nations. There is a large independence movement, which has led to large demonstrations on several occasions. However, Manchuria is not about to let go of its most successful colony, and only the presence of Canadian and Nigerian nationals has prevented the Manchurian colonial government from cracking down harshly on the independence movement. Even then, there are numerous

stories of pro-independence people "disappearing" or being arrested by Manchurian authorities.

Despite the occasional heavy-handedness of the Manchurians, the colonies are known for their relatively open governments, particularly when compared to other Manchurian colonies.

For a time, Chengdu was host to a Sung enclave, but the higher gravity prevented the aliens from being able to fly freely, and over time that led to psychological problems for them. They abandoned the site in 2305, ceding it to the Manchurian authorities. The Manchurians did nothing with it until after the Kafer War, when they resettled refugees of German extraction from the French Arm. This small camp of refugees is determined to make a go of it with little or no government support, though they do get some aid from Heidelberg.

## Illegal Opportunities:

Political unrest on Chengdu has diverted security forces, and there are enhanced opportunities for smuggling and other economic crimes.

## KANATA/DM+20 5046 (Doris)

Canada's entry into the interstellar community has been a recent one, but the Canadians' efforts on Kanata have been impressive, and their continued success in space seems inevitable.

### SYSTEM DATA

#### STELLAR DATA

**Primary Name:** DM+20 5046 (Doris)

**Spectral Class:** K5 V

**Magnitude:** 13

**X, Y, Z Coordinates:** 19.6, -12.1, 8.8

**Planets:** 4 (Delisle, Kanata, Achilles, Pontus)

**Asteroid Belts:** 0

### PLANETARY DATA

Of the other three worlds, only Achilles, a small, slightly irregularly-shaped world, is of any interest. Achilles is third in DM+20 5046's orbital hierarchy, at an orbital distance of .39 AU from its primary. This lumpy, 1000-kilometer-diameter worldlet provides the foundation for a complex of domes making up the system's Royal Canadian Armed Forces base. A contingent of about 1500 men and women maintain this facility on a rotating basis, with relief crews arriving from Earth once every 11 months. A small squadron of stutter-

warp-equipped vessels are stationed on Achilles, including a dozen fighters along with a few larger vessels and cutters.

### PLANET DATA

**Name:** Kanata

**Distance from Primary:** 0.26 AU

**Year Length:** 33 standard days

**Size:** 12,000 km in diameter

**Day Length:** 22.5 hours

**World Type:** Garden

**Surface Gravity:** 0.85

**Atmospheric Pressure:** 0.87

**Climate:** Temperate

**Water Presence:** 80%

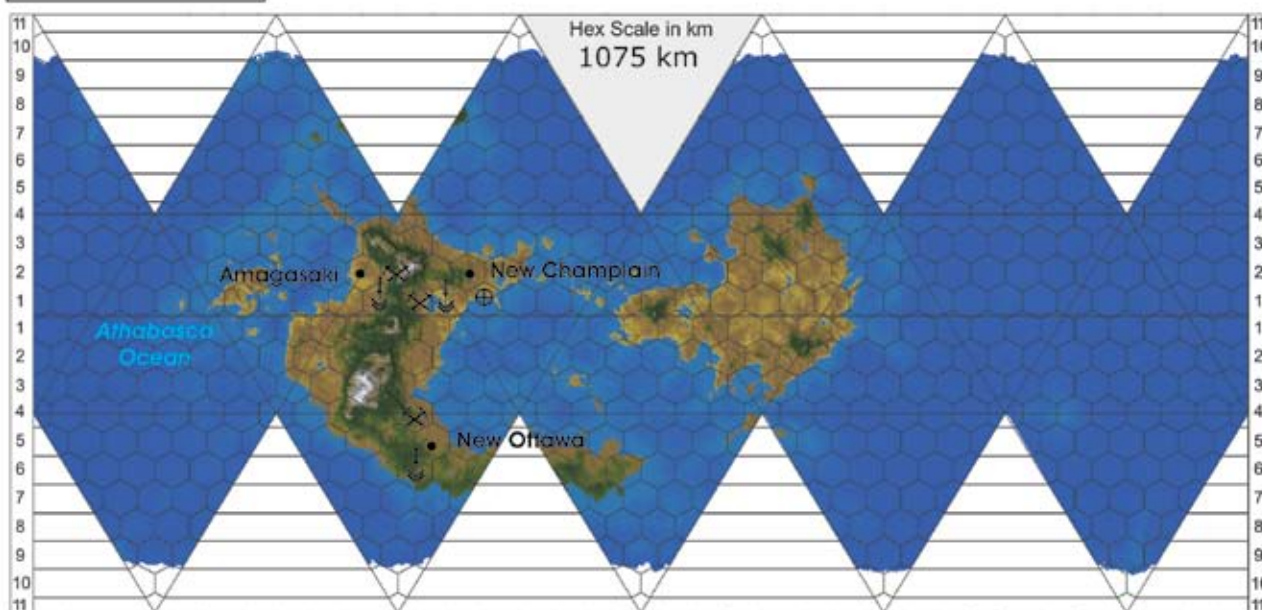
**Atmospheric Composition:** N<sub>2</sub> (77%), O<sub>2</sub> (21%), Argon (2%)

**Satellites:** 0, + Nereids ring system

The Nereids ring system is a dense, stony ring, with an anomalous origin, as it is outside the Roche limit for Kanata. The largest object in the ring is a two-kilometer juggernaut named Ellesmere. This rock serves as Kanata's orbital terminal.

Planetary old age, coupled with the lack of any significant tidal stresses, has left Kanata's core in a solid state. Danger to the colonists arises from this condition as Kanata cannot generate a magnetic field to trap outbursts of high energy particles given off by stellar flares.

## Kanata



### Legend

- Major City
- ⊕ Spaceport
- Catapult

- ⚡ Mining
- ↓ Farming
- ⚔ Military Base

- ⚡ Fusion Plant
- ☀ Solar Power Rectenna
- ⚙ Heavy Industry



In the 47 years since colonization, there have been eleven major stellar flares. The radiation levels rise dangerously on such occasions. The observatory at the orbital terminal gives warning to the best of its ability, sirens are activated, and the populace dives for shelters. For the safety of those caught out in the wilderness, members of the Royal Canadian Mounted Police are equipped with kits which include explosive tunneling charges. Given favorable terrain, they can create a moderately effective shelter in 10 to 15 minutes after receiving radio warning from Ellesmere observatory, though this is often a token safety measure at best.

The atmosphere has an unfortunate sour smell from the so-called "sour yam" plant, which is quite common worldwide. Many find the smell hard to get used to.

In addition to the complex coastline biosystem, with its mats of vegetation that gradually transition from deep-water to shoreline, Kanata presents a Terra-like complexity of variety of environments inland. Some 20 percent of its land surface is covered by the desert and tundra of the equatorial regions. These areas are characterized by a large number of impact craters spread across the surface. Many of these have become lakes, but others have become a remarkable haven for a wide variety of life. With spring-fed pools at their bottoms and their walls covered with a mat of intertwined vegetation, they are like little jungles in the tundra. Although one two-man team has already been lost to unknown hazards in one such "crater garden," some of the most fascinating archaeological finds have been coming out of them, indicating that were the product of intelligent design. Some even speculate that the crater gardens are leftovers from some ancient Medusan colony, though there is no evidence to support that link.

## COLONIAL DATA

**Colony Name:** Kanata

**Colony Population:** 373,000

**Date Founded:** 2273

**Nationality:** Canadian

**Life Expectancy:** 91 years

**Literacy:** 100%

**College Education:** 81%

**Major Cities:** New Champlain (55,000), New Ottawa (21,000), Amagasaki (14,000)

**Currency:** Canadian dollar

**Government Type:** Appointed Governor (6)

**Law Level:** Moderate. Light Assault Weapons prohibited (4)

**Tech Level:** (9)

**Trade Data:** Ni

**Principal Trading Partners:** Canada, Stark

**Interface Capability:** Spaceplane (C)

**Resources:** Farming, Mining

**Military Presence:** Military Base, Naval Base

**Other Bases:** Science

**Services:** Solar Power Satellite, Rectenna, University, Powernet, Road Net (100%), Rail Net (100%), Link Network (98%), Airship Net, Weather Satellites, Communications Satellites, Orbital Terminal

The Canadian colony at Kanata has brought the nation the respect and prestige it was looking for, and the resources available on this distant world make it look likely that the investment will pay off economically as well.

Kanata's resources have been the source of the only unrest in the colonies, as independent prospectors and the major corporations square off against each other. This has usually resulted in victory for the independents, though there is some pressure being brought to bear on the government in Ottawa to relax restrictions on the corporations.

In addition to the Canadian colony, there is a small Japanese enclave on this world, largely concerned with the ongoing biological and archeological studies of the crater gardens.

## ERIKSSON/AC +17 534-105

### SYSTEM DATA

#### STELLAR DATA

**Primary Name:** AC +17 534-105

**Spectral Class:** M4 V

**Magnitude:** 11.27

**X, Y, Z Coordinates:** 15.9, -12.6, 6.3

**Number of Planets:** 3 (Eriksson, Mackenzie, McDonald)

**Number of Asteroid Belts:** 1

### PLANETARY DATA

#### PLANET DATA

**Name:** Eriksson

**Distance from Primary:** 0.22 AU

**Year Length:** 127.8 days

**Size:** 9700 km in diameter

**Day Length:** N/A (tidally-locked)

**World Type:** Garden

**Surface Gravity:** 0.74

**Atmospheric Pressure:** 0.72

**Climate:** Temperate

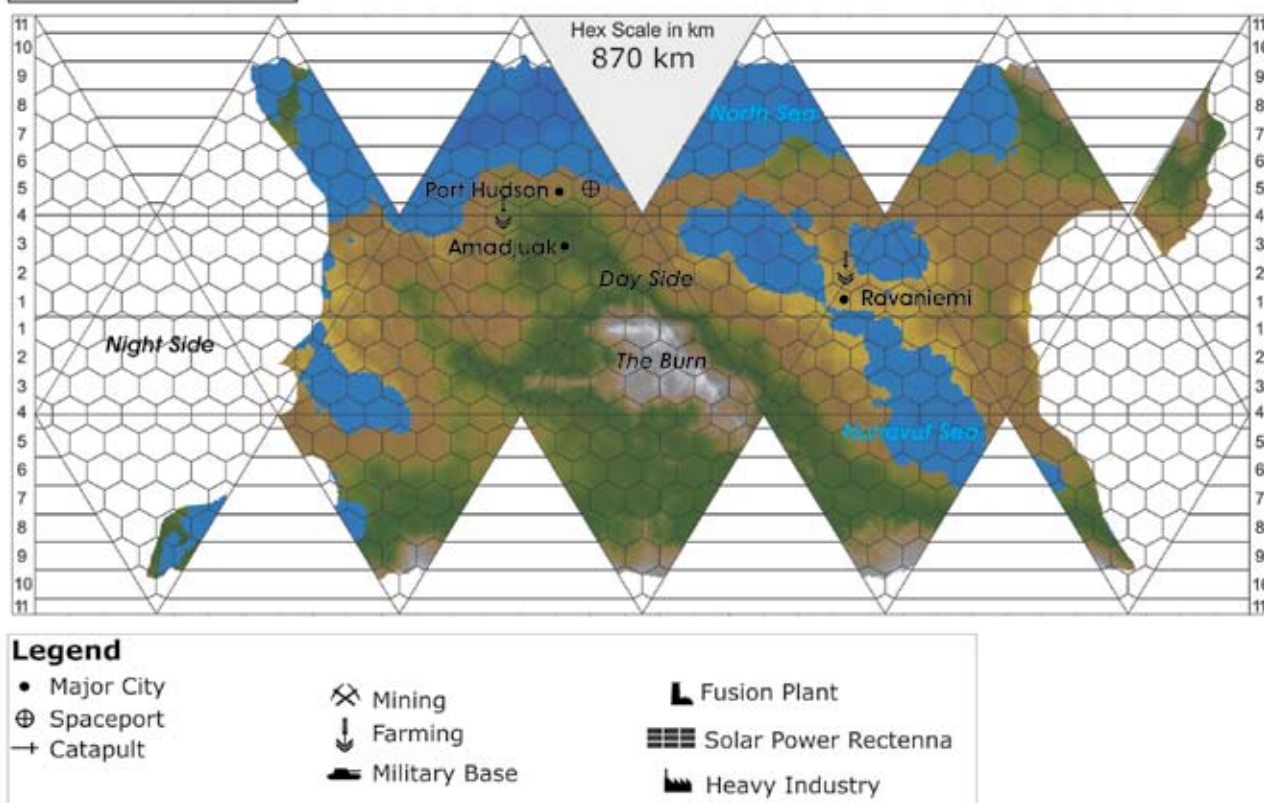
**Water Presence:** 35% (55% including glaciers)

**Atmospheric Composition:** N<sub>2</sub> (79%), O<sub>2</sub> (18%), Trace (3%)

**Biodiversity:** Diverse; usable

**Natural Resources:** 5

## Eriksson

**Satellites:** 0

Eriksson is a pleasant world, if a little cooler than Kanata. Much of the world's water is locked up in the large darkside icecap. This small world is tidally-locked to its primary, and orbits quite closely in. This makes it susceptible to flare activity, but the red dwarf star it orbits seems to be unusually stable. The planet's magnetic field would help attenuate any radiation, but being on the surface during a flare would be dangerous.

Of particular interest on Eriksson is a colossal patch of melted and scorched rock near the center of the dayside. The origin of this 1200 km diameter scar is unknown, but most theories are that it was a scar left by a particularly energetic flare. If it was, that event likely came close to exterminating all life on this small world.

The most diverse ecosystem on the planet is actually found in the glaciers. Several species of large, warm-blooded "worms" burrow beneath the ice in search of food. They exploit weaknesses in the glacier to help them with their tunnels, and have a slow metabolism to help them in the cold. Their tunnels form the basis for a complex, largely self-contained ecosystem.

As it is, life on Eriksson is curiously undifferentiated. Only a few small niches in the local ecology are filled, and even in the few short years of colonization, the other niches have started to fill up with transplanted terrestrial creatures. This lack of differentiation supports an extinction theory, and Mc-

Gill University has established an orbital observatory to study the star.

The temperate zone is geologically active, with a high number of geysers and even a few volcanoes. The dayside is actually quite comfortable, but due to the risks of possible flare activity it is avoided as a place of habitation.

**COLONIAL DATA**

Eriksson has two parallel histories. The first is the official version, as told by the Canadian government, and supported by the Scandinavian Union and the Sung colonists. The second is told by the separatists and radicals who claim to be the first settlers on Eriksson, which they called Wolverine. They settled the world first, but were pushed aside by the official colonization program.

The official colony is a joint effort with the Scandinavian Union and the Sung, and is growing quite rapidly with the combined investment. The Canadian contingent includes a substantial number of Innu natives, while the Scandinavian colony possesses a considerable number of Laplanders. They've even imported a reindeer herd. Likewise, the Sung colonists hail from the northern regions of their home world, and have an unusual tradition of connectedness with their land. Unusual for Sung, that is.

**Colony Name:** Eriksson

**Colony Population:** 25,000 (17,000 human, 8000

## SEPARATISTS:

Canada has always had a problem with separation sentiments, either in the western provinces or in Quebec. By 2320, the issues that led to these feelings have largely been addressed, so the separatist movement, whether east or west, has mostly been relegated to the radical fringes. The separatists of Eriksson left Earth in an attempt to build their version of Canada, only to have Canada follow them out.

The settlement on Eriksson consists of only just over 5000 individuals, who reside near the south pole in the temperate zone.

Sung)

**Date Founded:** 2313

**Nationality:** Canadian, Scandinavian, Sung Akcheetoon

**Life Expectancy:** 100 years

**Literacy:** 99%

**College Education:** 72%

**Major Cities:** Port Hudson (2200), Amadjuak (2000), Ravaniemi (1500)

**Currency:** various

**Government Type:** Appointed lieutenant governor (6)

**Law Level:** Moderate. Personal concealable firearms prohibited (5)

**Tech Level:** (4)

**Trade Data:** Po

**Principal Trading Partners:** Kanata, Cold Mountain,

**Interface Capability:** Roton (D)

**Resources:** Farming

**Military Presence:** None

**Other Bases:** Science

**Services:** Road Net (5%), Rail Net (2%), Link Network (8%), Airship Net, Weather Satellites, Communications Satellites, Orbital Terminal

The main colony is so far primarily concerned with start-up operations. Several promising sites have been identified for mining, and expect to be up and running within a year. The hydroponic farms were a high priority, along with the geo-thermal heat and power plants that supply the main communities. Now that those are up and running, work can be done on expanding the colony's infrastructure.

Eriksson is one of the newest colonies in human space, and unique in that it's the only joint human-alien colony so far. Manchuria is thought to be approaching the Sung nation of Ya'jeera to discuss a joint venture on Haifeng.

The Sung on Eriksson are extremely diffident towards their human counterparts, a legacy of their system of

Sos'soon'atkachar. However, the humans are under strict instructions to not take advantage of it, but to cooperate and show their alien partners everything they want to see.

## KWANTUNG TAU CETI

After a shaky beginning, the Manchurian and Mexican colonists on Kwantung enjoy the benefits of peaceful coexistence. In this respect, Kwantung is a shining example of cooperation in space.

## SYSTEM DATA

### STELLAR DATA

**Primary Name:** Tau Ceti

**Spectral Class:** G8V

**Magnitude:** 5.72

**X, Y, Z Coordinates:** 10.1, 4.8, -3.3

**Number of Planets:** 7 (Lupei, Kwantung, Taonan, Foshan, Sanhsing, Shuangcheng, Hsifeng)

**Number of Asteroid Belts:** 0

## PLANETARY DATA

### PLANET DATA

**Name:** Kwangtung

**Distance from Primary:** 0.72 AU

**Year Length:** 225.41 days

**Size:** 10,000 km in diameter

**Day Length:** 35 hours

**World Type:** Garden

**Surface Gravity:** 0.93 G

**Atmospheric Pressure:** 0.93 atm

**Climate:** Temperate

**Water Presence:** 67%

**Atmospheric Composition:** N<sub>2</sub> (76%), O<sub>2</sub> (19%), Ar (5%)

**Biodiversity:** Diverse; unusable

**Natural Resources:** 8

**Satellites:** 2

Kwantung is a wealthy planet with abundant mineral reserves. Agriculture is difficult, however, due to a microorganism that fixes nitrogen into a form that is unusable by Terran plants. Thus farming got off to a slow start until plant-life could be engineered to deal with conditions on this distant world. One of the side-effects of this problem is that there are no diseases or parasites on this world that attack humans or their animals, though the engineered plants are susceptible.

## COLONIAL DATA

Kwantung was first settled by the Manchurians, and their policy of using drafted convicts for labor led to a serious



crises within the young colony. The outcome of the crises led to the colony being granted an unusual degree of autonomy and democratic government, matched only by Chengdu amongst Manchurian colonies. In fact, the local council has to be consulted on all matters relating to the colony, and even has the ability to stall or block Manchurian plans and proposals.

In 2258, when Mexico approached the Manchurians about setting up a colony on Kwantung, the local council intervened, saying they wanted only an agricultural colony to share the world with them, as the world's weird agricultural conditions and the Manchurian's emphasis on mining had made the need for more agricultural production quite acute. Mexico, however, wanted a mining colony, as minerals were what they needed, not produce. Eventually, a compromise was reached, allowing the Mexicans to settle on the condition that 20% of the colony's output be agricultural. Mexico agreed, and set up a colony in 2263.

At first, there was considerable wariness between the "old" colonists and the Mexican colonists. To a large extent, this was due to the differences between Manchu Chinese and Mexican cultures. The newcomers soon proved themselves to be a hardworking and helpful addition to the planetary economy. The additional effort in agriculture soon turned the planet from a net food importing planet to an exporting planet.

## Oddities:

Quite possibly one of the oddest-looking creatures on any colony world, el alto rana (tall frog) is a vaguely frog-like beast more massive than an African elephant, with a tall, thin neck that can reach over 15 meters. It's name comes from the batrachian look of it's wide-mouthed, pop-eyed head.

## COLONIAL LIFE

**Colony Name:** Kwantung

**Colony Population:** 22 million

**Date Founded:** 2219

**Nationality:** Manchurian

**Life Expectancy:** 96 years

**Literacy:** 98%

**College Education:** 64%

**Major Cities:** Changpei (2.5 million), Chupei (1.1 million)

**Currency:** Manchurian Ruble

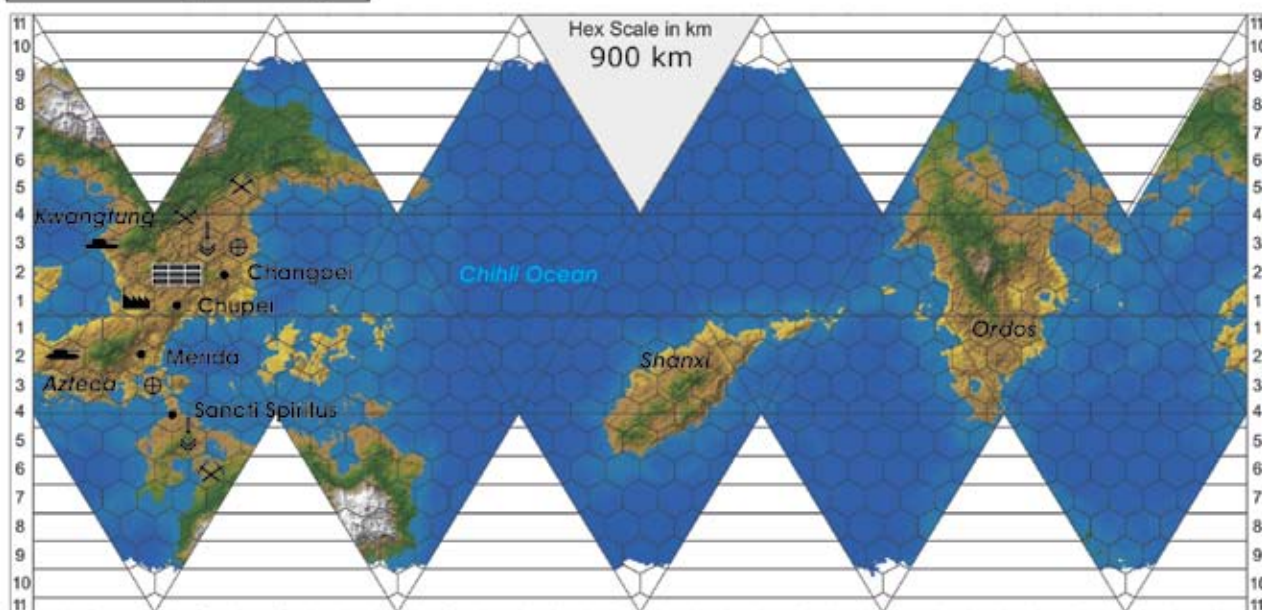
**Government Type:** Elected Congress subordinate to Manchuria (4)

**Law Level:** Moderate. Personal concealable firearms prohibited (5)

**Tech Level:** (11)

**Trade Data:** Ri, IN,

## Kwantung



### Legend

- Major City
- ⊕ Spaceport
- Catapult
- ⚡ Mining
- ↓ Farming
- ⚔ Military Base
- ⚡ Fusion Plant
- ⚡ Solar Power Rectenna
- ⚡ Heavy Industry

**Principal Trading Partners:** Azteca, Chengdu, Manchuria

**Interface Capability:** Spaceplane, shuttle, catapult (B)

**Resources:** Farming, Mining, Heavy Industry, Orbital Industry

**Military Presence:** Orbital Defense Installation, Military Base, Naval Base

**Services:** Solar Power Satellite, Rectenna, University, Powernet (49%), Road Net (55%), Rail Net (68%), Link Network (94%), Airship Net, Weather Satellites, Communications Satellites, Orbital Terminal

The ongoing extensive cooperation between the two colonies has created an interesting linguistic shift. The Mexicans were at first obliged to learn the Manchu language, since they were the newcomers and in the minority. This was the source of some resentment, but as the Mexican colony grew and became a business center, more Manchus began learning Spanish. Now the Spanish of the colony are acquiring some of the tonal characteristics of Chinese, while the Chinese vowels are opening out to the pure Latin sounds. Both languages are sounding more musical all the time as the two cultures mix, and all in less than the forty years since the two cultures were forced to work together. With the increased mixing and cooperation, joint cultural projects have started to increase markedly, including the building of a joint center for the performing arts. The Pengtao Center for the Performing Arts has several stages and concert halls which are used by both colonies. The Center is located in the city of Choupei on Choupei Island, equally accessible by water to both colonies.

**Colony Name:** Azteca

**Colony Population:** 3.5 million

**Date Founded:** 2263

**Nationality:** Mexican

**Life Expectancy:** 98 years

**Literacy:** 99%

**College Education:** 63%

**Major Cities:** Sancti Spiritus (1.1 million), Merida (945,000)

**Currency:** Mexican Peso

**Government Type:** Elected council (4)

**Law Level:** Moderate. Personal concealable firearms prohibited (5)

**Tech Level:** (10)

**Trade Data:** Ri

**Principal Trading Partners:** Kwantung, Montana, Mexico

**Interface Capability:** Spaceplane, shuttle, (C)

**Resources:** Farming, Mining, Heavy Industry

**Military Presence:** Military Base

**Other Bases:** None

**Services:** Solar Power Satellite, Rectenna, Powernet (52%), Road Net (55%), Rail Net (60%), Link Network (78%), Airship Net, Orbital Terminal

Kwantung is, at this time, fully self-supporting, and exports many items to younger colonies in the Chinese Arm. Metals and machinery are the single largest export items, with rum, art objects, and clothing making up another large portion.

The excessively long day had caused the Chinese to adopt the siesta long before the Mexicans had arrived. A sleep period of four hours in the middle of the daylight period is universally observed, so there is no use trying to conduct any business at this time. Standard hours are still used for timekeeping, as they are all over known space (for what would happen to physics if the time unit changed in length?), but clocks are specifically made for local time and the few spare minutes at the end of the day are "thrown away" by a special resetting program in the clocks. Thus the day is always exactly 35 hours long, and noon does not wander through the day as the solstice used to wander through the year in old calendars.

## DUKOU/Epsilon Eridani

Potentially wealthy biologicals were the original impetus for colonization on Dukou, a world in the Epsilon Eridani system. However, being a chilly, high-gravity world, Dukou cannot be listed among the more hospitable colony worlds.

## SYSTEM DATA

### STELLAR DATA

**Primary Name:** Epsilon Eridani

**Spectral Class:** K2 V

**Magnitude:** 6.13

**X, Y, Z Coordinates:** 6.4, 8.4, -1.9

**Number of Planets:** 4 (Dukou, Chongqing, Zigog, Yibin)

**Number of Asteroid Belts:** 1

**Companion Star**

**Companion Name:** Epsilon Eridani UC

**Spectral Class:** M0 V

**Magnitude:** 13

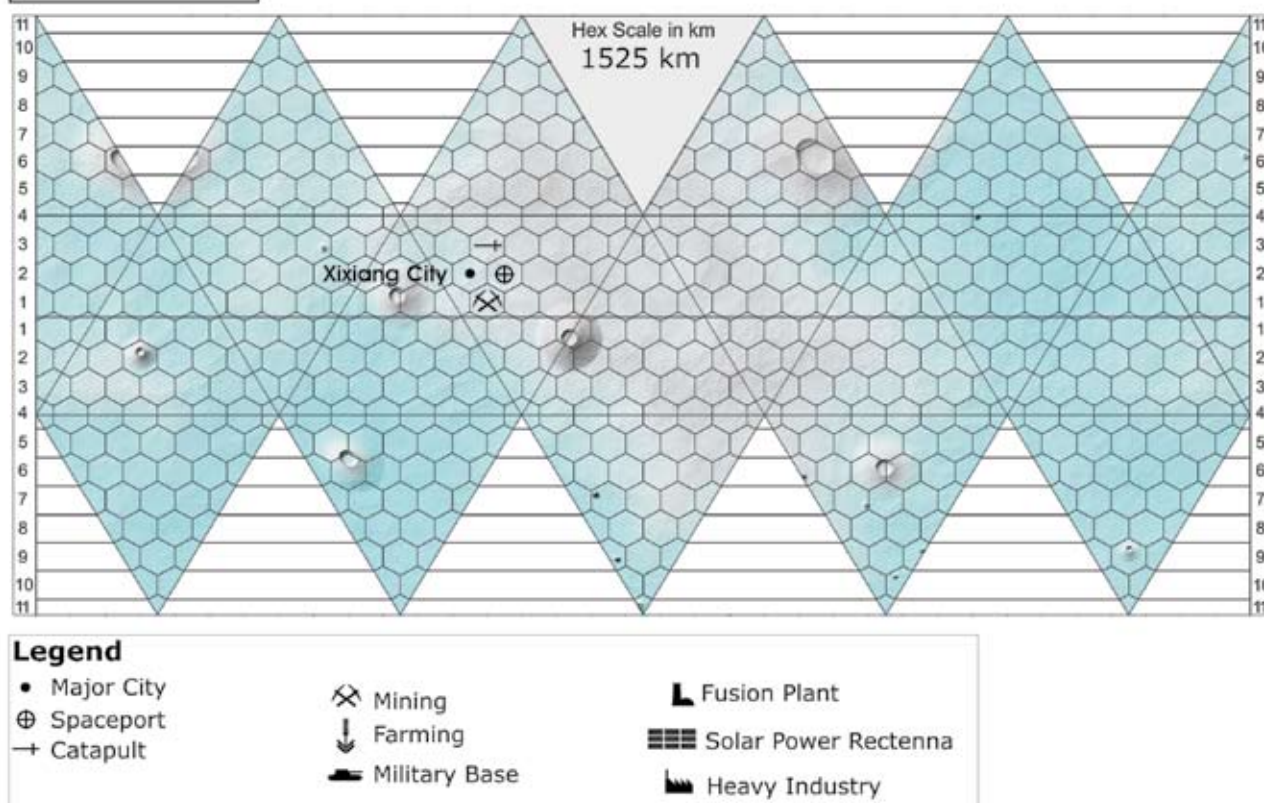
**Distance from Primary:** 135 AU

**X, Y, Z Coordinates:** 6.4, 8.4, -1.9

**Number of Planets:** 0

**Number of Asteroid Belts:** 0

## Dukou



## PLANETARY DATA

## PLANET DATA

**Name:** Dukou**Distance from Primary:** 0.24 AU**Year Length:** 240.3 days**Size:** 17,000 km in diameter**Day Length:** 37.2 hours**World Type:** Glacier**Surface Gravity:** 1.51 G**Atmospheric Pressure:** 1.22 atm**Climate:** Cold**Water Presence:** Ice world (100% covered in ice)**Atmospheric Composition:** N<sub>2</sub> (81%), O<sub>2</sub> (15%), Ar (4%)**Biodiversity:** Minor**Natural Resources:** 3**Satellites:** 0

## COLONIAL DATA

## History Of Colonization

The first planet of Epsilon Eridani, though inhabitable, is only marginal, and would never have been settled were it not for an incredible find beneath the thick mantle of ice that sheathes the world. Pai-leng, a pseudo-fungus, was found to

have remarkable antibiotic properties, more potent than any of the Terran-derived varieties in use.

However, the planet was so inhospitable that the Manchurian government could not find more than a handful of people willing to settle there to exploit the pai-leng.

During these initial planning phases a minor functionary at the Manchurian court came up with the idea of using the world as a penal colony. This enabled the Manchurian government to get around the difficulties in getting people to settle on this forbidding world.

By the year 2294, Xixiang's status as a penal colony had changed. The operation had expanded to the extent that it was necessary to send more colonists than the prisons could provide. The Xixiang Company opted to begin recruiting colonists from the general public and no longer accepted convicts. The official status of the colony was changed from "penal colony" to "semi-penal colony." Those colonists still under sentence would still be required to serve them, but once the last of the sentences had been completed, Xixiang would become a regular colony.

## Life On Dukou

Dukou is a difficult, hostile world. Though it lacks the lifeforms that make many colony worlds inimical, it makes up for that with its environment. The bitter cold, the endless expanses of ice and snow, and the oppressive gravity make this world truly unpleasant. Dukou has one of the highest suicide



rates in Human space.

**Colony Name:** Xixiang

**Colony Population:** 224,000

**Date Founded:** 2235

**Nationality:** Manchurian

**Life Expectancy:** 67 years

**Literacy:** 92%

**College Education:** 54%

**Major Cities:** Xixiang City (184,000)

**Currency:** Various

**Government Type:** Corporate Control (1)

**Law Level:** High. All weapons prohibited (A)

**Tech Level:** (8)

**Trade Data:** Ri, Hi

**Principal Trading Partners:** Manchuria, Cold Mountain, Syuhlahm

**Interface Capability:** Spaceplane, Catapult (B)

**Resources:** Mining

**Military Presence:**

**Other Bases:** None

**Services:** Fusion Plant, Link Network (22%), Weather Satellites, Orbital Terminal

The Xixiang colonists today number 217,000. Fully 90 percent of those colonists are Manchurian, the rest being of mixed nationalities, primarily Mexican and Canadian. The majority of those colonists are no longer convicts, with only a few left to work off their sentences. Many of the convicts who completed their sentence on Dukou opted to stay on and continue working at the colony, finding that they have adapted to the conditions well enough to continue living there.

The remainder of the colonists at Xixiang are either descendants of convicts or regular citizens who decided to come to Dukou of their own free will. Although the living conditions are somewhat less than optimum, the pay is very good. Workers are now paid through direct salary and profit-sharing incentives, and the starting annual income is Lv9,000.

But being a "semi-penal" colony, Dukou is often low on the list for receiving consumer goods manufactured on Earth or elsewhere in the arm. Consequently, there is very little for colonists to spend money on. The only things of interest at the colony are the pai-leng mines and refinement plants. Since there are no industries or farms on Dukou, there are very few luxury items available. Those wanted must be imported along with food and machinery and everything else necessary to keep the colony running. The reputation of "doing without" has spread and gone a long way toward slowing the flow of willing colonists to the planet.

The colony itself is made up of a series of buildings all connected by tubular passageways. The passages are included to avoid constant exposure to the harsh temperature.

The exceptions to this rule are some of the newer pai-leng mine installations, which are located too far away from the original facility to make these connections practical. Workers commute to and from these installations on winter-adapted trains.

The buildings and equipment in use by the colony are generally of poor quality, and have many jerry-rigged patches and repairs. The colony is low on the list for new equipment and supplies, which has led to a thriving black-market trade with the occasional Libertine merchant vessel that makes orbit. It isn't pai-leng that is the basis of these transactions, however, but another fungal organism that grows in the vicinity of pai-leng, called o-lang. O-lang is a moderate narcotic, along with being a potent hallucinogenic, and fetches a sizeable prices on the black market all over human space. It even has some effect on the Sung.

## MONTANA/OMICRON 2 Eridani

Mexican and Argentinean interests in space have traditionally been linked. Their joint colonization of Montana is to date their most successful achievement.

### SYSTEM DATA

#### STELLAR DATA

**Primary Name:** Omicron 2 Eridani

**Spectral Class:** K1 V

**Magnitude:** 5.99

**X, Y, Z Coordinates:** 7.0, 14.0, -2.2

**Number of Planets:** 6 (Phaeton, Montana, San Martin, San Pedro, Gaberiel, Nieve)

**Number of Asteroid Belts:** 2

**Companion Name:** Omicron 82 Eridani C

**Distance from Primary:** 400 AU

**Spectral Class:** M4 V

**Magnitude:** 12.73

**X, Y, Z Coordinates:** 7.0, 14.0, -2.2

**Number of Planets:** 0

**Number of Asteroid Belts:** 1

Omicron 82 Eridani C has a white dwarf companion at 34 AU.

### PLANETARY DATA

#### PLANET DATA

**Name:** Montana

**Distance from Primary:** 0.34 AU

**Year Length:** 155.44 days

**Size:** 11,347 km in diameter

**Day Length:** 36 hours

**World Type:** Garden**Surface Gravity:** 0.98 G**Atmospheric Pressure:** 0.965 atm**Climate:** Temperate**Water Presence:** 90%**Atmospheric Composition:** N<sub>2</sub> (76%), O<sub>2</sub> (21%), Trace (3%)**Biodiversity:** Diverse; useable, though unpalatable**Natural Resources:** 6**Satellites:** 1 (La Luna)

**Native Life:** The majority of native animals are small and cold blooded, diurnal in habits and hibernating in cold weather. A few large carnivores can be dangerous to humans if disturbed, but none will hunt humans by choice. Though the local animal life is digestible, it is unpalatable to most, and Terran livestock is the preferred food source.

## COLONIAL DATA

Montana was settled in 2245 as a joint effort by Argentina and Mexico. Colonists were recruited by a massive public campaign in both countries, appealing to curiosity, patriotism, greed, and anything else the PR men could use to entice the populace. In more recent years, both countries have been funneling increased funds and resources to the world as the Latin Finger becomes more developed. Montana lies at the gateway to this minor branch of the Chinese Arm.

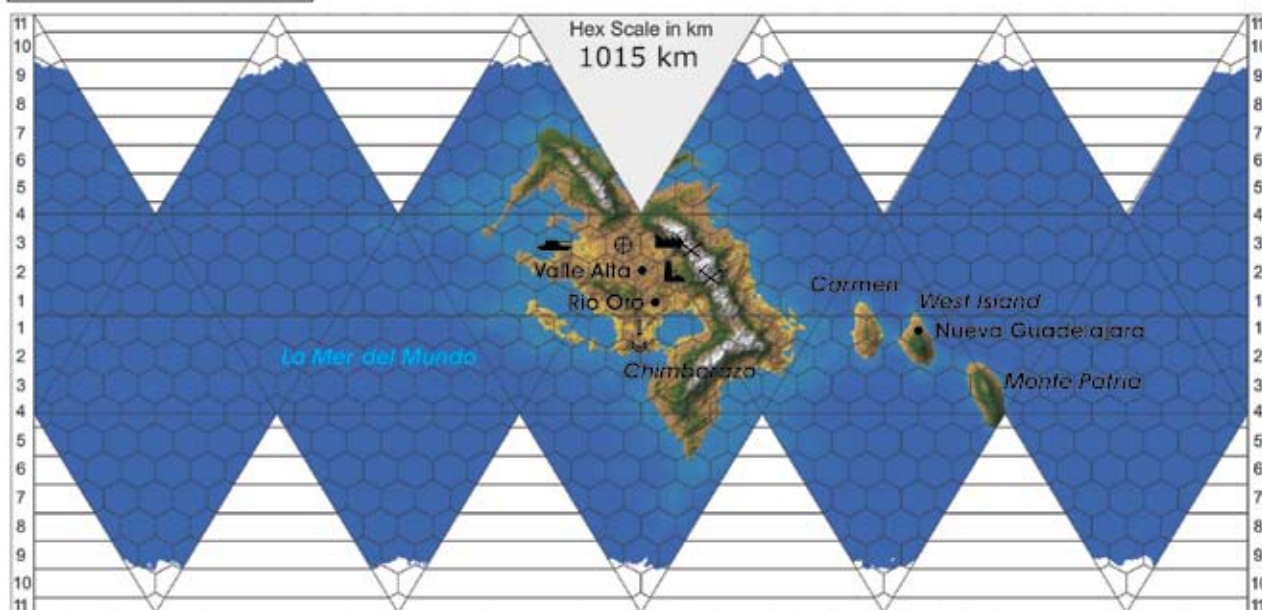
**Population:** 8.4 million**Nationality:** Mexican, Argentinean**Life Expectancy:** 98 years**Literacy:** 98%**College Education:** 73%**Major Cities:** Rio Oro (1.3 million), Valle Alta (320,000), Nueva Guadalajara (110,000)**Currency:** Peso**Government Type:** Limited Democracy (4)**Law Level:** Low. Military Weapons Prohibited (3)**Tech Level:** (9)**Trade Data:** NI, Ag**Major Trading Partners:** Mexico, Argentina, Manchuria**Interface Capability:** Spaceplane (C)**Resources:** Farming, Mining, Heavy Industry**Military Presence:** Military Base**Other Bases:** None

**Services:** Fusion Plant, University, Pownet (17%), Road Net (20%), Rail Net (35%), Link Network (17%), Weather Satellites, Communications Satellites, Orbital Terminal

Many of the Argentinean colonists on Montana were imported as indentured laborers, who worked off their cost of their transport in service to the colony and a few large land-owners.

The dynamics of colonization on Montana created a situation where men outnumber women by about 3-to-1.

## Montana



### Legend

- Major City
- ⊕ Spaceport
- Catapult
- ⚡ Mining
- ↓ Farming
- ⚔ Military Base
- ⚡ Fusion Plant
- ☄ Solar Power Rectenna
- ⚡ Heavy Industry

Though the situation is evening out as the colony matures, the problem still exists, and has led to an unusual solution: polyandry, or multiple husbands for one wife. This has some additional benefits, like being able to bring more hands to bear on work, and ensures that children won't be orphaned by a sudden accident. This solution flies in the face of the normal colonial conservatism, but was the only choice for the first-generation colonists. The current generation, often brought up in these homes, is starting to lean towards group marriages, which have all the benefits of polyandry for a more even gender distribution. Needless to say, the Church is horrified by these trends, but can do little to stop them.

There is a long-running problem on Montana of the indentured laborers taking off before fulfilling their contracts. They often turn to a life of banditry, banding together to form larger, more survivable groups. These groups, while rare, are the terror of the rural populace.

Local police are the only official militia, but a citizen posse can be quickly formed any time renegades threaten an outlying area. The governor tries to insist that bandits arrested by posses be shipped by rail to a population center for trial, but this plan is not always carried out in the case of more serious crimes. A fair number of bandits have been hanged or thrown from cliffs in the outback. If a retrospective investigation proves the accused guilty, the citizens responsible are not punished.

While Argentina and Mexico originally placed two separate colonies within cooperating distance of each other, the distinctions have long since vanished. Even newcomers to the colony sense that planetary and not colonial attitudes prevail. Three major cities have grown up: two near the fusion plant, in the area of the original colonies, and one on West Island, where a university has been started by the Life Foundation.

### Religion in the Colonies:

On many colony worlds, religion serves a two-fold purpose. One is the purely religious, but the other, and often more important, purpose is social. In many small communities, the church has once again become the social center, with dinners, dances, and socials providing a means for neighbors to get to know one another. Religion in remote areas tends to more ecumenical as well, with the question of denomination, or even faith, seldom coming up.

## AUSTIN'S WORLD/DM-3 1123

Having emerged as its own nation centuries ago, Texas has done well for itself in the world community. Its colony on Austin's World is a vital link along the Latin Finger.

### SYSTEM DATA

#### Stellar Data

**Primary Name:** DM-3 1123

**Spectral Class:** M1 V

**Magnitude:** 9.12

**X, Y, Z Coordinates:** 2.5, 18.9, -1.3

**Number of Planets:** 2 (Montana, Hermano Mayor)

**Number of Asteroid Belts:** 0

### PLANETARY DATA

The second planetary orbit holds a moonless gas giant in a highly elliptical orbit with a 48-degree inclination to the system's ecliptic. Obviously a captured world and not originally formed with the star system, this adopted world swings from a perihelion of 1.5 AU to a maximum orbital distance of 3 AU. Some atmospheric probes have been dropped into the clouds of this curious 45,000-kilometer-diameter planet, but the data received showed nothing of any import.

#### Planet Data

**Name:** Austin's World

**Distance from Primary:**

**Year Length:** 41.2 days

**Size:** 16,250 km in diameter

**Day Length:** 16 hours

**World Type:** Garden

**Surface Gravity:** 1.25

**Atmospheric Pressure:** 1.31

**Climate:** Temperate

**Water Presence:** 90%

**Atmospheric Composition:** N<sub>2</sub> (71%), O<sub>2</sub> (20%), Ne (9%)

**Biodiversity:** Diverse; useable

**Natural Resources:** 6

**Satellites:** 2 (Matagorda, Padre)

Austin's World has an extreme axial tilt of almost 90°. This has the planet passing from pointing one pole at the sun for several days at a time, as it swings around to point

### Day or Night:

The day/night cycle on Austin's World is quite variable, and is extremely difficult for people to adapt their circadian rhythms to this world. As a result, the colonists use a great deal of artificial light and create their own schedules, often around a 28-hour cycle.



the other pole at the sun. The uneven heating of the opposite poles produces violent winds that shift directions approximately every twenty days, with frequent heavy rains. The slightly thick atmosphere packs a lot of kinetic energy and can flatten transplanted Terran crops or trees in unprotected areas.

New Austin lacks extensive tectonic activity, and many of the land-raising and creation processes that take place on other worlds are absent here. As a result, the land is gradually eroding away. The lack of any plant cover exacerbates the situation, and the limited amount of land surface grows smaller each year.

Austin's world has no land plants, so preventing erosion is a universal concern of all the colonists. Several types of spreading ground cover from half a dozen worlds has been imported to keep the erosional detritus (it cannot properly be called soil, although the locals often refer to it as such) of the lowlands from being blown away. The essentially sterile soil is ideal for recreating Earth's land ecology, but everything has to be imported, from microbes to earthworms to grass, and the project demands a considerable share of each colony's budget.

All native life is primitive by the standards of most other life-bearing planets. The principal plant life is algae-like, with 53 cataloged genera, including several multi-celled types. Long-leaved seaweeds can be harvested for food and fiber. Tiny creatures feed on the algae and are eaten by larger swimmers. There are no vertebrate forms. Only in shallow waters near the islands and continent are any bottom-feeding varieties to be found. The deep sea waters apparently harbor no life at all; every form found so far inhabits the upper 50 meters of the ocean. A coral-like colony animal is building on the shallower rocky bottoms and will eventually produce small new islands.

All forms of Austinian sea life are edible by humans, though some are scarcely palatable. The aforementioned seaweed is the tastiest of the vegetables, and visitors to the world have spoken highly of one of the bottom-feeders. Colonists, especially of the Life Foundation, have learned to relish most of the possible foods from the sea. However, the only source of vitamin C is Earth fruits.

## COLONIAL DATA

In 2258, Texas and the Life Foundation sent separate colonizing groups to Austin's World with quite different goals. For the Texans, the foundation of this colony signified the culmination of a multi-year plan to settle a planet of their own. This action would serve to elevate their status in the national community on Earth, especially since the comprehensive colonization program for Austin's World was conceived and executed entirely by Texas. With limited resources, Texas carried out the initial planetary surveys in 2253, then followed

through by delivering 15,000 colonists to the world in January of 2258 in surplus transport ships, including a pair of old British Yorks.

The Life Foundation colony established later that year outraged the Texans. Their whole aim in the colonization of New Austin was to prove that they could conquer this untamed world by themselves. The arrival of the Life Foundation hurt their pride, and they raised protests at several levels, but the Melbourne Accords were quite clear, and they lost the appeal process. They responded by upgrading the outpost on Heidelbergmat to a colony, and thus were able to claim the establishment of two colonies in one year. This feat seemed important only to them, however.

Although the Texans had a rocky start with the Life Foundation, a sense of cooperation, partially born out of necessity, grew between the two colonies. The primary motive behind the Life Foundation members' ("Lifers") efforts were to experiment with oceanic colonization techniques. To this end, their activities were restricted to the archipelagos.

In 2294, the Inca Republic, aided by the Texans, set down a colonial population in the central highlands of New Tarrant. This being their second colonial venture, they were eager to prove their legitimacy as a nation of high standing, especially in the face of Brazil. Regardless of their colonies' existence, most were aware that, in both cases, they would be mere pipe dreams without the aid of the Texans.

Most agriculture is carried out in heavily-built greenhouses and utilizes soil which has been enriched with Terran bacteria. Orchards are shielded by rock walls in all directions, so the landscape from the air looks like a set of postal cubbyholes. Grains and other grasses have been engineered to have shorter, stronger stems to survive the occasional cold spells and high winds.

The difficulties of agriculture on the coastal plains are magnified on the high ground inland and are handled in much the same way. However, in the face of all these problems, there is one advantage to farming on Austin's World: there are no weeds. There is no competition whatsoever, nor any pests to destroy crops, because Austin's World has never developed any land life.

The individual colonies on Austin's world are very different entities. Each deserves further, unique explanations, which are given below.

### The Life Foundation Colony

**Colony Name:** Cousteau

**Colony Population:** 762,000

**Date Founded:** 2258

**Nationality:** Life Foundation

**Life Expectancy:** 89 years

**Literacy:** 100%

**College Education:** 81%

**Major Cities:** New Cambridge (220,000)  
**Currency:** Life Foundation scrip  
**Government Type:** Participatory Democracy (2)  
**Law Level:** None. Nothing Prohibited (0)  
**Tech Level:** (9)  
**Trade Data:** Ri  
**Principal Trading Partners:** Trinity Flats  
**Interface Capability:** Roton (D)  
**Resources:** Farming, Mining  
**Military Presence:** None  
**Other Bases:** Foundation, Scientific

**Services:** Solar Power Satellite, Rectenna, University, Powernet (45%), Road Net (10%), Rail Net (5%), Link Network (100%), Airship Net, Weather Satellites, Communications Satellites, Orbital Terminal

The Life Foundation Colony is located in the islands off the coast of New Travis, several hundred kilometers from the Texan and Inca colonies. It is the first full colony constructed by the Life Foundation, though they have several outposts and enclaves across human space. It was constructed as an experiment in ocean living and farming techniques, and is currently involved in trials for new technologies and methods for the Haifeng outpost, which is slated for expansion in the next few years.

The Demarchist technologies developed at the Haifeng facility are making inroads into the population at Cousteau, in particular with the scientists and Foundation staff. Their implants go a step further than the original implants, and allow near-effortless communication that has been dubbed "artificial telepathy" by the popular press. In their most basic form, they allow all colonists with the implants to access the colony's link network and vote on any of the issues up before the government.

Hydrogen-powered ground cars are the most common ground transportation, though people are not averse to walking a few miles if they have time. Sail- and hydrogen-powered ships ply the straits between New Cambridge and Travisville in the Texan colony on the mainland. Stair University, located in New Cambridge, is open to all inhabitants of the world and is noted for its land management curriculum.

The Foundation services the entire planet's population from its powersat, transmitting to an island rectenna. They are on amiable terms with everyone and try to stay strictly out of politics, whether based on Earth prejudices or colonial problems. They regard the entire ocean as their domain, which is a lot of territory, but they will allow equal access to it if conservation rules are observed. They would resist any effort of one colony to deny another colony use of the ocean and its products.

#### The Texas Colony

**Colony Name:** Trinity Flats

**Colony Population:** 2.5 million  
**Date Founded:** 2258  
**Nationality:** Texan  
**Life Expectancy:** 87 years  
**Literacy:** 99%  
**College Education:** 72%  
**Major Cities:** Crockett City (373,000), Travisville (193,000)  
**Currency:** Texas Dollar  
**Government Type:** Representative Democracy (4)  
**Law Level:** Low. Military Weapons Prohibited (3)  
**Tech Level:** (8)  
**Trade Data:** Ri  
**Principal Trading Partners:** Cousteau, Incan Colony, Heidelshemat  
**Interface Capability:** Spaceplane, shuttle, Catapult (B)  
**Resources:** Farming, Mining, Heavy Industry  
**Military Presence:** Military Base, Naval Base  
**Other Bases:** None

**Services:** Rectenna, Powernet (46%), Road Net (22%), Rail Net (0%), Link Network (78%), Airship Net, Weather Satellites, Communications Satellites, Orbital Terminal

The Texan colony is a representative democracy based on the old United States' Constitution. The inhabitants are divided into geographic areas and elect representatives for their areas to two houses of Congress. A president is elected every four years, but in this case he is not the highest authority; he is answerable to the government of Texas on Earth. There are local and district courts as well as a supreme court.

Texan colonists are spread along the western coastal plain of the world's one continent. Two major population centers, Travisville and Crockett City, house heavy industry and orbital interface facilities. Much of this industry relies on imported equipment since there are few metals suitable for making factory machinery on Austin's World. A power network distributes electricity from the Lifers' powersat and from several small hydroelectric dams. The orbital catapult lies directly on the equator. A sizable ground terminal has been built to accommodate freight awaiting shipment. Treaties with the Incan Republic and the Life Foundation guarantee access to the orbital facilities.

Trinity Flats is known for its growing beef exports to other worlds along the Chinese Arm. The value of these exports has become high enough to prompt the government to construct a catapult facility in 2312.

#### The Incan Colony

**Colony Name:** Sechura  
**Colony Population:** 98,000  
**Date Founded:** 2294  
**Nationality:** Inca Republic

**Life Expectancy:** 87 years**Literacy:** 97%**College Education:** 67%**Major Cities:** Huancayo (21,000)**Currency:** Peso**Government Type:** Feudal (5)**Law Level:** High. All weapons prohibited (A)**Tech Level:** (6)**Trade Data:** Ag, NI**Principal Trading Partners:** Trinity Flats, Cousteau, Incan Republic**Interface Capability:** Roton (D)**Resources:** Farming, Mining**Military Presence:** Military Base**Other Bases:** None**Services:** Rectenna, Powernet (8%), Road Net (10%), Rail Net (12%), Link Network (55%)

The Incan colony on New Austin is in the midst of turmoil. The feudal structure of their government broke down in 2311, with the appointment of a new governor, Lord Qavali. His demands quickly grew onerous, and he forgot one of the central tenets of a feudal society: the lord receives the supports of the lower-classes, but in turn is obligated to protect them. His taste for young women proved to be his undoing, as several of his retainers were ambushed as they attempted to "persuade" a woman from one of the more remote villages to accompany them back to the governor's palace.

Using arms smuggled in from Trinity Flats, the peasants rose up in open revolt, and now control the highlands surrounding the colony. The governor's troops are unable to move effectively in the highlands, but the highlanders have very little in the way of arable land, and depend on covert Texan support.

Conditions in the colony have deteriorated ever since, with the level of repression constantly rising. There is a rumor that the Inca Republic is going to move its own troops in to restore order, and perhaps even remove the governor.

Inca colonists were recruited by offers of land grants and resource rights. On top of this, a patriotic duty was stressed. Not all seem to have been informed of the feudal government set-up, and there has been some unrest, especially among the close-knit mining community.

The Incas inhabit the highlands and valleys in the center of New Tarrant. Snow and ice is not unknown here. Roads to connect the valleys have been constructed, and a power net, with huge arrays of solar cells, supplies some of the power, the rest being purchased from the powersat. The major trade items produced here are minerals for fertilizer and the chemical industries, along with light element ores, used for export to Earth as well as being an on-planet trade item.

## QAVALI'S MERCENARIES:

Lord Qavali has recently begun hiring mercenary forces in an attempt to penetrate the highland areas controlled by the rebels. These troops are extremely unpopular with all segments of Sechuran society, from the peasants who hate the new oppression they fear the mercenaries bring, to the regular army, who resent outsiders being brought in to do what they can't, do the government itself, which resents the costs of hiring the mercenaries.

## PAULO/PROCYON

Procyon is a binary star system composed of an F5 subgiant star and a white dwarf, orbiting their center of mass at a mean separation of 15 AU. The solitary dwarf has very little influence of the family of planets orbiting the subgiant star, other than creating a brighter night for about half of their years.

Sitting at a distance of 3.5 AU from Procyon A are the mismatched twins of Pedro and Paulo. The members of the enigmatic double-planet system share many similar characteristics but differ grossly in one respect: Paulo, home of Brazil's newest colony, is an abundant garden world, while Pedro, its partner, is a barren world with but a trace of atmosphere.

## SYSTEM DATA

### STELLAR DATA

**Primary Name:** Procyon A**Spectral Class:** F5 IV**Magnitude:** 2.64**X, Y, Z Coordinates:** -4.7, 10.3, 1.0**Number of Planets:** 4 (Atlanta, Hippomenes, Pedro and Paulo)**Number of Asteroid Belts:** 1

### STELLAR DATA

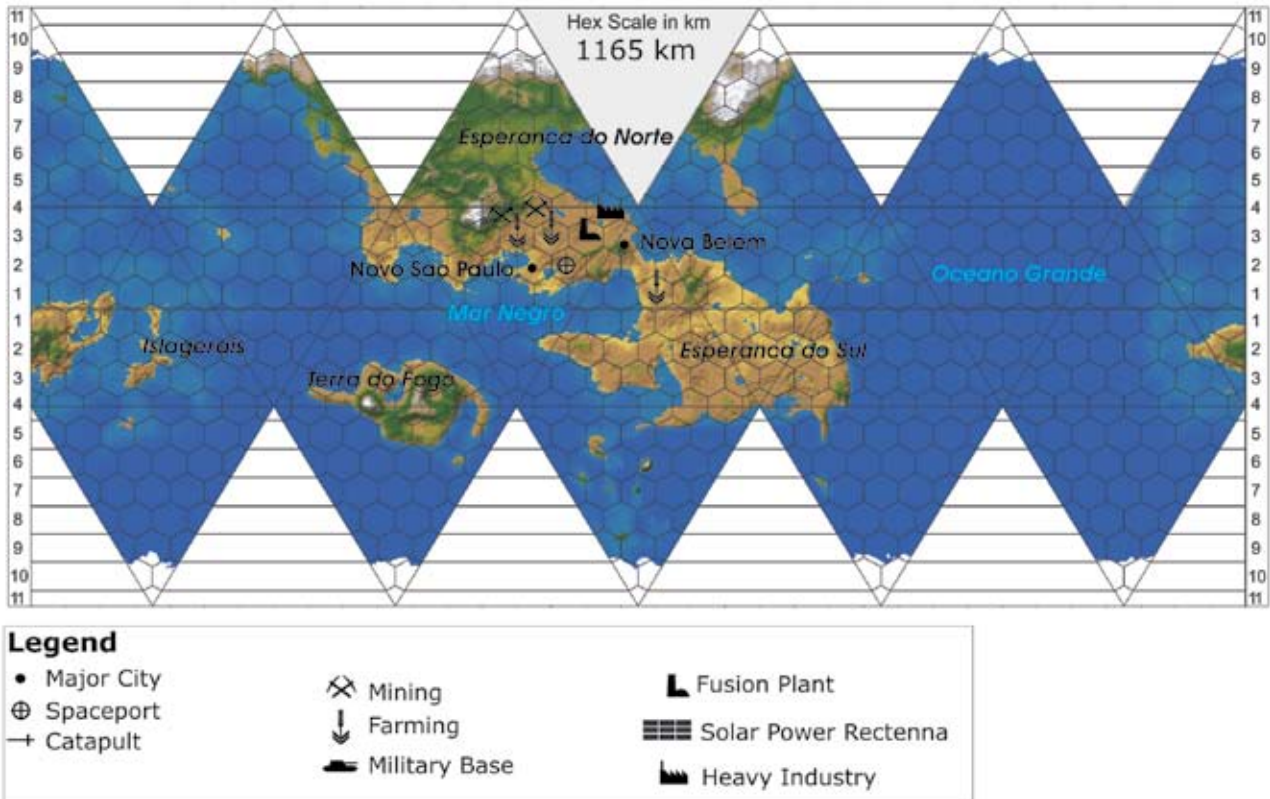
**Primary Name:** Procyon B**Spectral Class:** F0 VII**Magnitude:** 13**X, Y, Z Coordinates:** -4.7, 10.3, 1.0**Number of Planets:** 0**Number of Asteroid Belts:** 1

## RUMOR MILL:

Recently a rumor surfaced on Paulo that the Trilon facility on Pedro is using the corporation's virtual monopoly on stutterwarp tugs to create a secret direct route to Earth. There is, of course, no truth to these rumors.



Paulo



PLANETARY DATA

Paulo is actually part of a double-planet system, with it and its partner Pedro orbiting each other. Pedro is nearly equal to Paulo in mass, yet lacks any sort of appreciable atmosphere.

In 2308, Trilon approached the Brazilian government on Earth and negotiated a mining license for Pedro. One of the conditions of the license is that half of any tantalum belongs to Brazil. The Brazilian government did not consult with the colonial leadership on Paulo over this negotiation, which has caused some hard feelings in the colony. These hard feelings are largely directed at Trilon and its base on Pedro, rather than Brazil. The Trilon facility is large and constantly expanding, employing several hundred locals as well as nearly a thousand imported Trilon employees.

The double-planet system of Pedro and Paulo orbit their common center of mass with a 42-day period, which the colonists of Paulo have adopted as their equivalent of a month. Each month, therefore, the twin planets take turns blanketing each other with an eclipse of considerable duration. Pedro appears about as large as Luna from Terra, and, at 3.5 AU, it covers almost twice as much sky as Procyon A.

PLANET DATA

**Name:** Paulo  
**Distance from Primary:** 3.5 AU

**Year Length:** 975.24 days  
**Size:** 12,980 km in diameter  
**Day Length:** 31.2 hours  
**World Type:** Garden  
**Surface Gravity:** 0.99  
**Atmospheric Pressure:** 1.04 atm  
**Climate:** Temperate  
**Water Presence:** 73%  
**Atmospheric Composition:** N<sub>2</sub> (81%), O<sub>2</sub> (18%), Ne (1%)  
**Biodiversity:** Diverse; unusable (dextro-amino acids)  
**Natural Resources:** 6  
**Satellites:** 1 (Pedro)

Life on Paulo evolved utilizing dextro amino acids, thus leaving it of no nutritional value to any Earth-born entity. The planet's environs hold analogues to both terrestrial plant and animal life. Life is slightly more prevalent in Paulo's vast

GATTINHOS DE SEVA:

In addition to being a moderate-sized carnivore, the Gattinhos de Seva were once one of Paulo's more famous exports, a company-sized mercenary unit that had acquired a good reputation for itself. It was virtually annihilated in the short-lived Kimanjano rebellion, as the company held off nearly a regiment of French Foreign Legion troops for several hours before being overwhelmed.

oceans than on its continents. The predominant pattern of vertebrate organisms is eight-limbed. Most forms that live in temperate or frigid zones are warm-blooded and do not hibernate.

Paulo boasts many varieties of plants and animals, from the cervo draku, a plains herbivore, to the notorious gattinhos de seva, a cunning predator which makes its home in the temperate forests and mountains. At 200 kilograms, it is easily large enough to handle the largest herbivores alone, but the gattinho most often hunts in family groups of three to eight, running down its prey in shifts.

Some carnivores and scavengers remain in the colder zones in the winter, and several small creatures are far advanced in the gathering and storage techniques for grains and fruits. The cone jo negro is judged the most intelligent of the food-gatherers and is protected by colonial law.

In Paulo's forests, there is a riot of competing plants, including strangling vines and mobile plants. The latter have two ends that can take root. If one location becomes too crowded or shaded or the soil is exhausted, the plant extends its end to the farthest limit and puts down its roots. The original end loosens itself from the soil and swings up into the air to make another step. This process takes about four standard hours per step. Most astonishing is the sight presented when a whole meadow these andeadores (walkers) finds its soil too poor and goes on migration. Time-lapse films of these migrations have proven to be a big favorite in the mother country.

## COLONIAL DATA

**Colony Name:** Paulo

**Colony Population:** 1.6 million

**Date Founded:** 2284

**Nationality:** Brazil

**Life Expectancy:** 101 years

**Literacy:** 99%

**College Education:** 59%

**Major Cities:** Novo Sao Paulo (310,000), Nova Belem (180,000)

**Currency:** Brazilian Real

**Government Type:** Representative Democracy (4)

**Law Level:** Moderate. Personal concealable firearms prohibited (5)

**Tech Level:** (8)

**Trade Data:** Ag

**Principal Trading Partners:** Brazil, Libertine Traders (illegal)

**Interface Capability:** Spaceplane (C)

**Resources:** Farming, Mining, Heavy Industry

**Military Presence:**

**Other Bases:** None

**Services:** Fusion Plant, Powernet (78%), Road Net (100%), Rail Net (100%), Link Network (98%), Airship Net,

## Weather Satellites

Almost three decades after the initial surveys, Brazil planted its colony in the Procyon system. Although they could have set the colony in motion a year earlier, Brazil opted to wait till the year 2284 in order to maximize the affect of the event by its concurrence to the Centennial celebration of Brazil's Tirane colony. Also, Brazil had just completed a complicated exchange with Great Britain in which the South Americans purchased three gigantic York-class colonization vessels, the very backbone of this colonization effort. Colonists were drafted according to a master plan conceived in Brazil to provide a range of skills and ages with physical health and strength a limiting factor. Women and men were sent in equal proportions to avoid later sociological problems.

Paulo is strongly loyal to Brazil. Everywhere one looks, the Brazilian flag is flown, and children are taught national songs in school. The new, elected, planetary government operates on guidelines from Earth, with a constitution that is a virtual carbon copy of Brazil's. Paulo's government sends a representative to the Congress on Earth and was granted statehood in 2306 when the population exceeded 1 million people. Brazil hopes to avoid the difficulties other nations have experienced with colonies making a bid for autonomy. However, human nature may be expected to interfere with this carefully developed plan after a few generations.

Despite the head tax paid to Brazil, and some onerous trade restrictions, life on Paulo is quite satisfying for most of the colonists. A few, however, have recently begun illegal trading with Libertine trader captains, selling the more exotic foods and biologicals in exchange for off-world luxuries. This illegal trade has come to the attention of pirates and raiders, who are maneuvering to get their "fair" share.

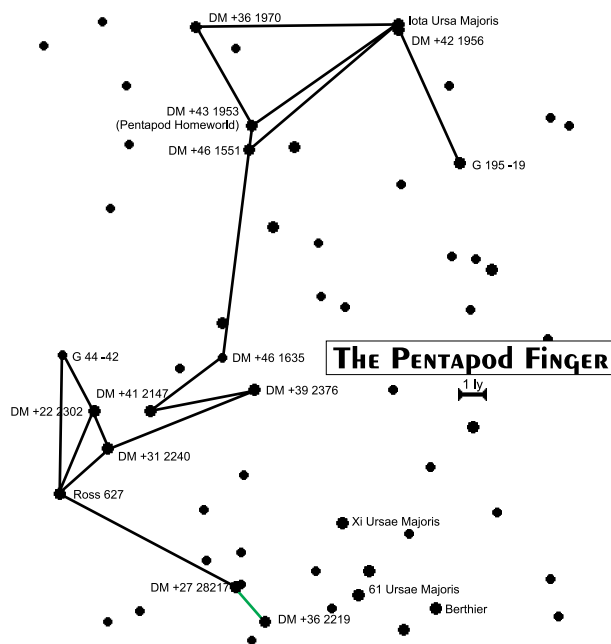
## 4th Rio Plata War:

With the onset of the 4<sup>th</sup> Rio Plata War, Brazil is unable to divert the necessary resources to combat the smuggling problem. They have instead contracted the role out to REBCo SAR, who will provide military, security, and investigative teams to the problem.

# ALIEN SPACE

Outside of Human space exist regions that are home to various aliens. Most of these areas are unexplored and unknown, and they are collectively termed Alien Space.

## THE PENTAPOD FINGER



This branch of space has been poorly surveyed, aside from the work done by the **Bayern** on its voyage to the Pleiades. It did visit the Pentapod homeworld, but no human ships since have been permitted to journey past the Pentapod trade station at DM +41 2147. The Pentapods lack the naval force necessary to enforce any quarantine, so they have made a strongly-worded diplomatic request. Civilian ships that do not honor this request have been known to disappear.

**BODO** It is known that there are at least a couple of Pentapod colony worlds in the Finger, in addition to the homeworld, but little is known about them. Pentapod requirements for habitability are not the same as humanity's. In addition to its worth as the home region of the Pentapods, the Finger has additional value in that it connects human space with the worlds of the Bayern Corridor, including the relief efforts at Littleendia, the homeworld of the aliens dubbed "Little Guys" by the **Bayern's** crew.

### Psycho-Killer:

The Pentapods have approached the nations of the French Arm to offer an apology. One of their new designs for a defender has apparently gone awry. Several prototype specimens went rogue, and stole a **VoidShark**-class ship. They have been responsible for a string of attacks along the French Arm, moving steadily closer to Kafer Space. The Pentapods have offered their help in stopping the vessel and its crew.

## NOTABLE SYSTEMS

### DM +41 2147

The second planet of this system is a hot, dry world barely capable of supporting life. The Pentapods have established a station in orbit around the world, and use it as the base for trading expeditions into Human space. Human merchants are like wise welcome here, but few choose to actually stay in the immense, slowly rotating blob of the station for any length of time. Practically any Pentapod biotech device is available here, though prices will be wildly variable. At least two Pentapod **VoidShark** vessels patrol the immediate environs of the station, along with a multi-national (French, German, British) taskforce.

Travel further up the Finger is not permitted.

### DM+43 1953

This world is the home of the Pentapods, and was subjected to intense scrutiny by the **Bayern** as it visited here in 2300 before going off to the Pleiades. No Human visit has been allowed since. Further details can be found in the Pentapod section of **Chapter 10:Aliens**.

## THE BAYERN CORRIDOR

The Corridor is a linear branch of partially-surveyed systems stretching between the Pentapod Finger and the Pleiades. The Corridor starts at Ross 627, and from there snakes its way into unexplored space. About 20 light years past Ross 627, the Corridor crosses a 15.2 light year gap, a crossing only possible with disposable stutterwarp engines, at least until 2314. In that year, human astronomers, cross-referencing their charts with those of the Pentapods, discovered a small brown dwarf in the gap, able to serve as a partial



bridge. Stutterwarp tugs are still required to bridge the gap, but it is no longer insurmountable. The Corridor consists of 79 systems visited by the **Bayern** on its historic voyage, and stretches out 215 light years towards the Pleiades, stopping at Littleendia, the homeworld of the race known as the "Little Guys." Travel further along the Corridor than this has been forbidden by France, Germany, America and many other colonial powers, for security reasons unavailable to the public. The reason, of course, is the AGRA super-intelligence, and its work of stellar engineering in the Pleiades cluster.

## NOTABLE SYSTEMS

### ISO 912

ISO 912 is an odd interstellar object. It is a large brown dwarf, generating large amounts of heat through internal processes. One of its 21 moons, ISO 912-2, is sufficiently large enough to possess an atmosphere and is marginally habitable. It is a very dark world, as ISO 917 radiates largely in the infrared. The local plants and animals are adapted for these conditions, but the few Human visitors have found the small, dark world to be very unnerving. ISO 917 and its habitable moon serve as the base for human exploration of the Bayern corridor and the worlds that branch off from it. ISO 917 is 71.2 light years from Earth, slightly off the line to the Pleiades.

### ARGYLE 692

The Argyle 692 system was barren and uninhabited, save for a very large vessel seemingly adrift near the larger of the two gas giants. An attempt to investigate the vessel via one of **Bayern's** probes resulted in the destruction of the probe. **Bayern's** captain chose to observe from a distance, and sent no further vessels or probes. All attempts at communication failed. Whether the ship was inhabited or not is unknown. One Alien Cultural and Technologies Expert on Erath who specializes in the Beta Aquilae cluster maintained that the markings seen on the ship before the destruction of **Bayern's** probe resemble writing found in various locations in the Beta Aquilae cluster, but there is no confirmation of his hypothesis.

### LITTLEENDIA

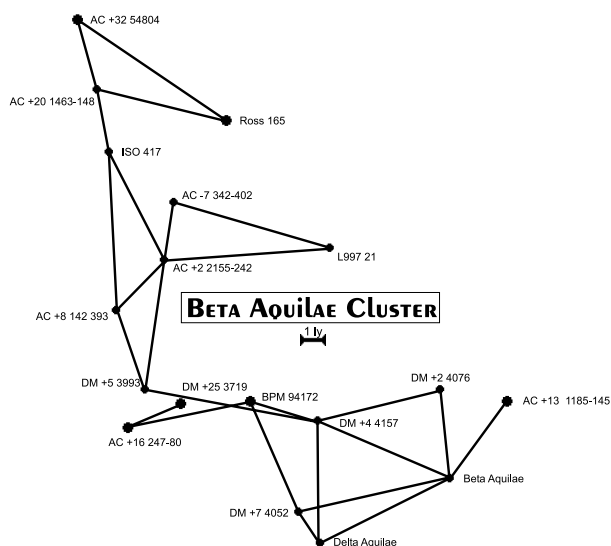
The homeworld of the Little Guys shows the scars of war, and the system itself is littered with abandoned and damaged or destroyed installations and stations. Further information on Littleendia can be found in the Aliens chapter.

### DEARBORN 67

Dearborn 67 is a bottleneck system. All traffic from any

charted world along the Bayern corridor has to pass through this system in order to travel further down the Corridor to the Pleiades. American, French and British warships are on station in this system to prevent any vessel from journeying to the Pleiades.

## BETA AQUILAE CLUSTER



The region of space known as the Beta Aquilae Cluster lies beyond the standard maximum range of stutterwarp drive ships.

Access to this cluster is through the star system of AC+20 1463-148, which connects to the brown dwarf ISO 417. ISO 417 then connects to both the AC+8 142 393 and AC+2 2155-242 star systems. This connection is popularly known as the Acey-Acey bridge, from the initial letters of the stars' catalog names. The American Extrasolar Colonization Administration (AECA) tightly controls this access point, and has placed a small station in orbit around the brown dwarf. This station has refueling facilities for AECA and other approved ships.

Using stutterwarp tugs, (further explained in Chapter 16: Space Travel), two groups are able to bypass the AECA and its tight controls on access. In 2299, maverick billionaire William Stanton demonstrated the first economical use of stutterwarp tug technology, which increase a starship's range from 7.7 light years to 11.55 light years. Using this technology Stanton and his new-founded Pioneer Society were able to gain access to the Beta Aquilae cluster. In order to fund their work, however, they licensed the Trilon Corporation to use the technology for their own purposes, in return for an undisclosed sum of money and two fast survey vessels, the ISV-5 class. Now both the Pioneer Society and the Trilon Corporation run ships into the cluster, sidestepping the AECA and its network of stations.

The Beta Aquilae Cluster wasn't what anyone first thought it would be, however. The first expedition to reach

DM+5 3993 found an abandoned space station, one of many in this system. Attempts to explore the station met with failure, as several members of the Pioneer society's survey vessel, **The Lady of Brooklyn**, were killed or incapacitated by what appeared to be traps scattered throughout the facility. Further explorations of other systems have revealed yet more ruins and abandoned facilities, all littered with traps. Estimates place the abandonment of these facilities at about 350 years ago. AECA investigators have dubbed the vanished civilization as "The Aquilans" The Pioneer Society, however, calls them "The Hidden," and this name has been picked up by Core-based media as well, much to the annoyance of the AECA. Trilon has never stated an official name for the race, though many suspect it would be "near-limitless profit."

### 61 Cygni Cluster:

Nearer to Earth than the Beta Aquilae cluster, the 61 Cygni Cluster is likewise only accessible with stutterwarp tugs. It has yet to be surveyed, as neither Trilon nor the Pioneer society is willing to spend the resources on it. It is available as a new frontier should a GM wish to open it up, however.

The AECA attempted to clamp down on these findings, and tried pressuring Trilon and the Pioneer Society to keep silent about these discoveries. However, the ruins carried them the hint of vast fortunes to be made, and by 2305, fortune-hunters were doing their utmost to enter the Sector, spending large sums of money for passage on a Pioneer Society vessel. Trilon, for its part, refused to carry passengers into the sector, likely so it could reap any profits itself.

The American Space Force (ASF) also entered the cluster, in small ships that could be spared from the ongoing war with the alien Kafer. These ships were in place to ensure that any threat that materialized from the seemingly abandoned worlds could be dealt with.

From what can be pieced together, it appears that the vanished civilization of the Beta Aquilae cluster had stutterwarp technology, and was at least the equal of current (2320) humanity in technology. Where they went, or how, is unknown. Some theories have them migrating away in vast fleets for an unknown reason, or dead of some virulent plague. Their traps point to their possible suspicion that others would follow, however.

It is worth noting that the time of their departure roughly corresponds with the time when the first powerful radio signals from Earth would have reached them.

## NOTABLE SYSTEMS

Most of the systems in the Beta Aquilae Cluster have not been fully explored. Most have had at best a cursory flyby from an unmanned probe.

## ISO 417 AECA BROWN DWARF

ISO 417 has a small system of moons, ranging from a giant the size of Mercury down to pebbles comparable to Deimos and Phobos (the two moons of Mars). In addition, there is a dark dust ring that makes navigation very hazardous. On the plus side, it lacks the intense radiation belts common to gas giants, as without a local sun, its magnetic fields have few charged particles to capture. The AECA maintains a small station here for refueling purposes, with no more than 60 staff.

### AC+2 2155-242

This small red dwarf star is the site of the joint ASF-AECA station, constructed from materials brought all the way from Ellis. The system itself is unremarkable, with a couple of rock worlds, a sparse planetoid belt, and a small gas giant with an unimpressive array of moons. The joint station, FAR Station 9, is constructed on a small moon of the gas giant. This moon is barely more than a small asteroid, and the base has a gravity wheel to provide a healthy living environment for the 450 military personnel and AECA researchers stationed here.

### No Trespassing:

While exploring one of the empty systems, a Pioneer Society ship came under attack by a Sentinel-type system. Before it fled, its scanners noted the presence of an unusual structure on the surface of the planet below, surrounded by several smaller, and differently styled, structures. The central building was at least 200m long by 120m wide. Some of the smaller ones even resemble Human buildings.

### AC+8 142 393

This system has a small array of planets, the most notable of which is Easter, a small world tidally-locked to its primary. It is barely within the life zone of the star, and so is a cold, arid world with barely enough air to breathe. It is admirably suited as a base for the Pioneer society, though, as they lack the resources to put in a space-based forward staging area. Easter even boasts the ruins of small installation from the civilization that inhabited the sector 350 years ago. All attempts to enter the facility have met with failure, and often with casualties. The Pioneer Society has forbidden its members from exploring the abandoned base, as it is too dangerous.

It is notable as the gateway star for both Trilon and the Pioneer society, as they bypass ISO 417 entirely. Trilon has chosen not to make a base in this system, preferring the opportunities inherent in the DM+5 3993 system. They purchase fuel from the Pioneer Society when required, and will make the occasional stop-over here to allow their crews some R & R.

**INTO THE GREAT Wide Open:**

The Beta Aquilae Cluster is pretty much wide open to many different types of adventure, from corporate intrigue and skullduggery (what is Trilon really up to?) to survey and scouting, to looting the treasures of dead (but still dangerous) worlds.

The outpost at Easter has a population of barely 2200 people, and serves as a forward base for Pioneer Society efforts in the largely unexplored volume of space.

**DM+5 3993**

The first ruins of the vanished Aquilans were found in this system. While there are no habitable planets, there are hundreds of space stations and habitats, ranging in size from small 120 meter rings all the way up to a colossal O'Neill-style habitat nearly 40 km long and 8 km in diameter. Two of the planets, though hostile to life, also possess numerous structures and installations scattered over their surfaces.

The first casualties of the Aquilae Cluster occurred here, when AECA investigators boarded one of the abandoned stations. They somehow triggered a trap, which killed two of them and injured several more. ASF Marines attached to the exploration vessel as observers and security effected a rescue of the trapped scientists, losing one of their number in the process.

**DM+4 4157**

This system is heavily-fortified, scattered with autonomous weapons similar to human Sentinel systems, though larger and more capable. There is only a small family of planets, none of which is inhabitable. The major world is a large gas giant, with an extensive system of moons similar to Jupiter in the Sol system. The other three worlds are small rocks or ice balls. Probe flybys of the systems show evidence of space habitats, but no close examination has been conducted.

**DELTA AQUILAE A+B**

This is the presumed home system of the Aquilans. Due to the risks involved, no in-depth exploration of this system has been undertaken by either the AECA or the Pioneer Society. The AECA sent a long-range probe, which returned with information on a treasure-trove. This system is heavily-developed and fortified, and the probe barely escaped destruction.

What it found was enough to whet the appetites of treasure-hunters across human space. A world, habitable, surrounded by an artificial ring, with at least a score of beanstalks connecting the ring to the surface. A system seemingly empty of intelligent life, save for the defensive weapons and the inevitable traps.

**BETA AQUILAE A+B**

This system was likely the site of a major Aquilan colony. Again, due to the risks involved, only automated probes have visited this system. It possesses not only two inhabitable worlds, but a third marginally habitable moon around one of the gas giants. Like Delta Aquilae, this system appears to be heavily fortified by automated weapons and drone systems. The second of the four probes sent was destroyed, and the fourth suffered some damage as well. However, all these probes returned good information on the system.

**THE KAER SPHERE**

Just past Arcturus, along the French Arm, lies the volume of space known as the Kaer Sphere. This was the home of the Kaer empire, a loose collection of worlds ruled by independent warlords called Suzerains. They attacked human space in 2299, again in 2301, and last in 2306. Their ferocity was unbounded, and their capacity for atrocity truly unimaginable. Since the end of the Kaer War, several of these worlds, including the Kaer homeworld of Gamma Serpentis III, have been occupied by human troops. The Gamma Serpentis system is held as a choke point, restricting access from the worlds beyond. The nature of the Pentapod Revenge, coupled with the reverses of the war, has thrown Kaer space into chaos, with widespread fighting between the remaining factions. The war is expected to boil over into Human space again within the next decade, if not sooner.

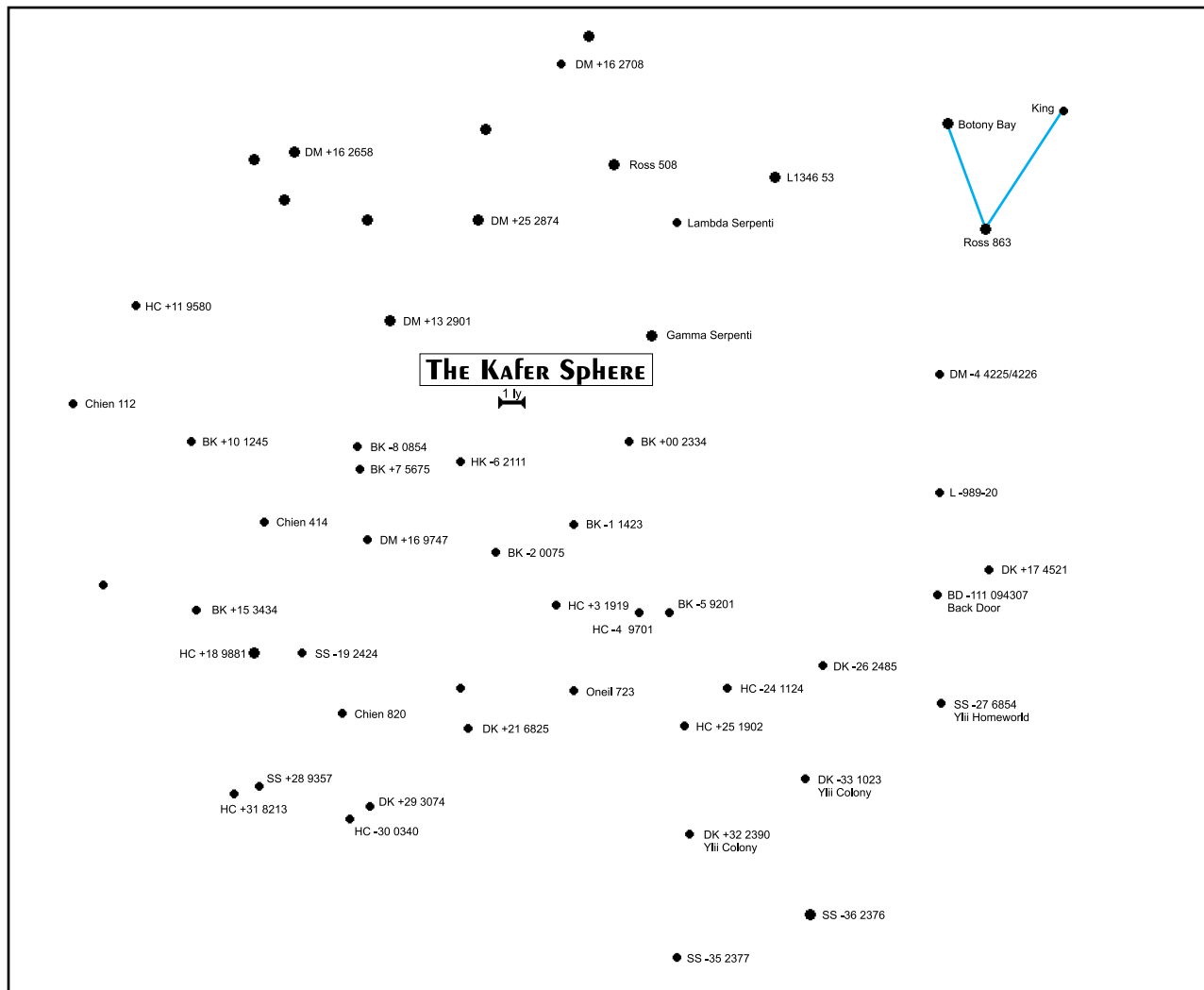
**NOTABLE SYSTEMS****DM +19 2881**

The second world of this star is very nearly a twin to Earth, and one of the most attractive colonization targets in explored space. When Lutke passed through the system, he destroyed the orbital facilities and dropped a couple of small nuclear weapons on the few surface facilities. There was a small Human presence, consisting of prisoners taken over the years. It was untouched by Lutke's attacks, though it did suffer somewhat from Kaer attacks afterwards. They were rescued in early 2318.

**DM +24 2786**

This system was the home of Triumphant Destiny, the being who led the initial attacks on Human space in 2297. When Lutke visited the system in 2311, he bombed both inhabited worlds, and destroyed every piece of orbital infrastructure he could find. Total Kaer casualties were in the tens of millions, and are expected to climb higher as famine and nuclear winter effects devastate the remaining population.





## GAMMA SERPENTIS

This is the home system of the Kafers, sporting two inhabitable worlds, and is detailed further in the section on Kafers in Chapter 10: Aliens.

## Ylii SPACE

Ylii space borders on the Kafer Sphere, and includes only their homeworld and the two colonies that have so far escaped Kafer occupation. They are currently engaged in a clandestine war against the Kafer elements in their area, using human mercenaries armed with Ylii technology. There is a combination tug link/brown dwarf from Ylii space to the American Arm, which gives humanity access to the Ylii without passing through Kafer Space.

## NOTABLE SYSTEMS

The Ylii are only barely managing to hold onto three worlds, one of which is their homeworld. The only thing that has saved them is the internal turmoil in the Kafer Sphere, and the efforts of the AAVF against those few Kafer vessels that do veer off to attack the Ylii planets.

## Hiring Hall:

The Ylii are constantly recruiting for the defensive force that protects their worlds. To get a job with them, not only does a person have to be a military veteran, but they also have to pass a battery of psychological tests. The purpose of these tests are unknown to the mercenaries, save that they are mandated by the Ylii leaders. Pay rates are very high, with offers of land tied in as well.

### SS-27 6854

Called Ssuushni'a (Mother Island), this world is the homeworld of the Ylii. The world looks almost uninhabited from orbit, though the population is in the hundreds of millions.

### DK -33 1023

The American-Australian Volunteer Force (AAVF) has received substantial land grant on this world, called Swyahshni'a (Garden Island) by the Ylii. Most of the mercenary group's assets are based out of here. The world itself is small, with a low gravity, but very lush and fertile right up to the edge of the tundra regions around each pole.

## The Back Door Route

The Back Door Route, which connects the American Arm to the Ylii home system, is a complicated and somewhat torturous route involving both a brown dwarf and a tug route. The tug vessels are leased by the American military from Trilon, and are used to transport equipment and "volunteers" from Human Space to Ylii space. The American-Australian Volunteer Force, (AAVF) is made up largely of veterans from both nations' militaries, and many of the senior officers and non-commissioned officers are seconded from active duty to "advise" the mercenary group.

### NOTABLE SYSTEMS

#### DM +5 3409 A

This binary system sports a habitable world 0.173 AU from the primary. This world is known as Erie, owing to the canal-like body of water that encircles the world and lies just beyond the day/night terminator. Of particular note are a few small collections of technically-sophisticated ruins, which can be traced to no known alien race.

Erie is the location of a small outpost (4000 people) and may soon see development as a colony, despite the difficulty of reaching this system.

#### DM -4 4225 AND DM -4 4226

Despite being only 9300AU apart, these two stars do not form a binary pair. They are slated for further investigation within the next few years.

#### L-989-20

This system contains a garden world (thus far unexplored), in the third orbit. This system is only reachable by tug, and currently the team of two tugs for this route is constantly at work providing carriage for equipment for the AAVF.

#### BD -111 094307 (Back Door)

The so-called Back Door, this is a large solitary brown dwarf, with no other objects in the system larger than a few hundred kilometers.



# ORBITAL FACILITIES

## ORBITAL FACILITIES, OUTPOSTS AND ENCLAVES

Most new colonies lack any sort of orbital facilities, largely due to the expense involved in constructing one. Interface transport is either through planet-based spaceplanes or rotons, or else incoming transports have to provide their own. Almost all colonies will have an array of communications, survey and weather satellites, however.

More well-established colonies will typically have some sort of orbital terminal, where cargo and passengers can be transshipped to the world below. These terminals usually do not have any manner of long-term accommodation, nor do they typically provide any sort of artificial gravity. They are simply a collection of habitats, cargo, and utility modules, designed to handle moderate amounts of freight and passengers. Some of these stations have the ability to effect minor repairs, and a rare few even have a drydock facility, though this is often booked for weeks or even months in advance, servicing local traffic.

Major colonies have full-fledged space stations as their orbital terminals, and many may have more than one. These facilities are capable of handling major repair tasks, and often have several orbital dry docks. These stations are equipped with gravity wheels, and may even have multiple habitats to handle large numbers of people. A station like this has considerable long-term capacity, and may well have permanent staff. Gravity on these stations is usually kept at 0.5 to 0.75 G, both to maximize the number of people who can make use of the station, and to reduce the wheel diameter, and thus the cost, of the habitats. These terminals often have extensive warehousing capabilities, and often serve as transshipment points for cargo, both for the world below and for trade to other worlds. A few of these major colonial terminals include the capability to actually construct new ships, in addition to repairing and maintaining extant hulls.

### PAPERS PLEASE:

Though conditions on the Frontier are nowhere near as regulated as the Core, certain rules still have to be followed. All visitors to a world have to pass through the orbital terminal and ensure that their identification and travel documents are in order before going down to the surface.

Any world that has a planet-based catapult also has orbital facilities designed to catch the cargos sent aloft by the catapult. Cargo launch is carefully calculated to bring the cargo to its destination as close to at rest as is possible, but there is often some residual velocity. To counter this, most cargo is actually caught in giant nets, constructed of heavy-gauge steel cable. These nets catch the cargo, and cancel out any excess velocity through an array of small plasma or ion rockets.

Some colony worlds also possess asteroid and lunar mining facilities. These are rare for start-up colonies, unless tantalum has been found. In those cases, the colony typically exists to support the mining operations. Many of these mining bases are similar to the various orbital terminals. Most of them make use of prefabricated modules, though the larger mining operations can equivalent to a full-fledged outpost, particularly if they are based on a moon or other airless world.

Most asteroid mining operations are conducted with purpose-built ships, like Britain's **Dalton**-class vessel and **Andrew Carnegie**-class mining station. These ships can move around the asteroid belt, and conduct their own refining of ore, either holding the resultant metal for pickup or using their onboard mass drivers to fling their cargo to nearby colony worlds.

Lunar mining operations, or mining on other airless worlds, often incorporate a catapult to launch their ores into orbit. These ores are usually not refined on site. On other worlds, where there is no catapult in place, the ore is refined locally, and the metals picked up by regularly scheduled supply vessels.

## Outposts

Outposts are usually small colony operations established in hostile systems, where there is no world capable of supporting life, yet the system still has something to offer. In many cases, the system happens to be a convenient resupply and refueling point for ships on their way to other systems. At other times, the system has resources that are attractive to exploit, often tantalum or other rare metals. A few outposts exist for purely scientific reasons, but these are set up and maintained only by the wealthier nations and Foundations. Most outposts have to pay their own way somehow.

Outposts will either be established on available planets, or on small-to-medium-sized asteroids, where the asteroid



can provide the bulk of the raw material required to construct the outpost. Only very rarely will a true, large-scale independent orbital habitat be constructed, due the enormous costs involved.

Outposts are designed for long-duration habitation, so even the asteroid-based stations will have a gravity wheel for long-term health and comfort. These wheels usually only provide 0.3 G to 0.7 G, as they tend to be small. Zero-grav DNAMs are very common for the crew of these outposts, and are often required.

One of the major industries for these outposts, whether space or planet-based, is providing fuel for incoming ships, as most civilian vessels use Magnetohydrodynamic (MHD) turbines or fuel cells. Often a small fleet of ice mining vessels will be in use to obtain fuel feed stock from icy asteroids or ring systems.

An asteroidal outpost is a maze of fuel tanks, hangers and maintenance bays, temporary habitation and storage modules, solar panels, heat radiators and antennas. From one end juts the gravity wheel, while at the opposite end of the asteroid can be found a power plant, usually nuclear.

Many outposts are based on planets or moons, and burrow deep to escape the harsh conditions of the surface, in particular high levels of radiation. Most planetary outposts are built on a similar scheme: a deep central shaft, with the various components of the outpost ringing the shaft.

The top of the shaft is crowned with a dome, or sometimes opens up into a cavern. At the bottom is found power and warehousing, with utilities above. Continuing up the shaft are residential and commercial levels, a park or two, offices, schools, hospitals and everything the population requires. Several elevators, both personnel and cargo, connect the various levels. Between each level is a heavy-duty door that can slide shut almost instantly in the event of decompression or other problems.

Planetary outposts tend to be much larger than their space-based counterparts, and the staff are much longer term. As habitability is not a concern when selecting these sites, they will be located on worlds where there are available resources, in particular ice or valuable minerals. Helium-3 mining is another major industry for these vacuum worlds, to provide fuel for fusion reactors. Concern for the environment is not a feature of these settlements, and most mines are strip-mines.

### SMUGGLER'S PARADISE:

Asteroidal outposts are hotbed of smuggling, as the chaotic exteriors of these facilities makes it easy to hide, and later retrieve, all manner of contraband.

## ENCLAVES

Enclaves are defined as small areas settled by groups culturally distinct from the major group. In 2320AD, enclaves can be further defined as human settlements found on, or near, a world controlled by an alien race.

## HUMAN ENCLAVES

### KORMORAN

Both the Texans and the United Arab Republic have enclaves on Kormoran.

#### UNITED ARAB REPUBLIC ENCLAVE

The UAR enclave is a trade delegation in the midst of Kormoran's largest city, called F-flat-C by the Eber, and el-Madina el-Adima (Old City) by the UAR delegates.

Though the UAR delegation once numbered over 6000, recent reverses suffered on Kormoran at Texan hands have caused the UAR government to scale back the operation. The former embassy facility of Nasser has been closed down, and the remaining 1200 members of the enclave staff are currently housed in the bottom floor of an ancient skyscraper on the edge of the city.

#### THE TEXAN ENCLAVE

**Colony Name:** New Austin

**Colony Population:** 120,000

**Date Founded:** 2258

**Nationality:** Texan

**Life Expectancy:** 81 years

**Literacy:** 99%

**College Education:** 72%

**Major City(s):** New Austin (30,000)

**Currency:** Texas Dollar

**Government Type:** Representative Democracy (4)

**Law Level:** Low. Personal Energy Weapons prohibited (3)

**Tech Level:** Low (9)

**Trade Data:** NI

**Principal Trading Partners:** Texas, Eber Nomads, Eber Black Sky nation

**Interface Capability:** Spaceplane, Roton (C)

**Resources:** Farming

**Military Presence:** Military Base

**Other Bases:** Science Base

**Services:** Rectenna, Pownet, Road Net (55%), Rail Net (20%), Link Network (10%), Weather Satellites, Communications Satellites, Orbital Terminal

The Texans view their holdings on Kormoran as more of a colony, and are developing it that way. Though stuck out in the desert by the UAR and their Manchurian allies, they have

persevered, and even prospered. They have agreements and treaties with several of the nomadic Ebers near their settlement, and are extending their influence into the cities of the civilized Ebers as well.

After the events of 2300-2301, when the United Arab Republic staged a native uprising against the Texan settlement as a response to continued Texan success, the Manchurians allowed the Texans to have their own interface facilities and satellites, including a newly-constructed orbital terminal. This has allowed the enclave to grow much more quickly than in the past.

The Texan enclave currently boasts a population of over 120,000, with much of that coming in the last seven years since the end of the Kafer War. Though the settlement is in the deep desert, Texan deep wells and directed irrigation make the land the most productive on the planet, and Texan agricultural products are becoming much sought after on the tables of Kormoran's Eber elite.

#### **ECONOMIC HEARTBREAK:**

With rumors coming in of a possible closure of the Texan settlement, the local population is considering trying to go it alone as an independent colony. This may be possible, but would also entail great hardship for the settlers.

### **STARK**

Stark is the homeworld of the Sung, and is heavily urbanized to support the large Sung population. As part of the reparations after the Slaver War, the Sung Akcheetoon nation provided land and material for the Canadian and Manchurian victors of the war.

### **THE CANADIAN ENCLAVE**

The Canadians decided to put their enclave in the middle of the Akcheetoon capital city, Sosorra. Five of the Sung super-sky-scrapers serve as home and office to the Canadian diplomats and scientists, housing the 7000 members with room to spare. The largest of the buildings is a full 500 stories tall, and that's with the floors sized for a human.

A full company of troops provide security for the enclave, but there has been very little trouble since the conquest of the Akcheetoons. The Canadian Parliament is discussing replacing these troops with conventional RCMP forces, but that decision is still months away.

#### **The Transfix:**

A ship thought to belong to the terrorist organization Coyfederacy, the **Transfix**, was recently spotted in Sung space. There is some indication that the organization receives some support from various Sung governments.

Sosorra is in a temperate climate, on a sea coast with mountains inland, and is a very popular diplomatic posting.

On the whole, the Canadian Enclave enjoys very good relations with the Sung, though there is a low-level, but growing, unrest with the pace of technology transfers between the humans and the Sung. Sos'soon'atkachar demands that the uplifting of the losers by the winners takes place in a timely fashion, and its been over 60 years since the Slaver War, and the Sung still can't build their own star drives. They have been allowed to build their own starships, though, albeit with human-supplied drive systems.

### **THE MANCHURIAN ENCLAVE**

The Manchurian Enclave, on the other hand, is in the middle of a wilderness area, and is constructed more like a fort than an embassy. The Manchurians maintain their own spaceport facilities on the grounds of the enclave, and keep at least two companies of troops as security. There have been a few incidents at the Manchurian enclave, mostly arising out of environmental protests at the Manchurian's choice of location, in the middle of what is effectively a national park.

The Manchurians seem to be less of a focus for resentment over Sos'soon'atkachar payments than the Canadian enclave, possibly due to its more remote location, far from any major city, or even any substantial town. As well, the Manchurians seem more forthright about demanding payments for any technology transfer, as opposed to the Canadians who seem to be trying to think through the effects of these technology transfers too much.

### **GAMMA SERPENTIS III**

The Kafer homeworld was subjected to heavy attack, including precision orbital bombardment, before the final landings that seized control of the planet. The world was unpleasant enough to begin with, and it is now well-nigh intolerable. Despite this, Humanity maintains six enclaves on the world's forbidding surface.

The nations of America, France, Germany, Britain, Ukraine, and Japan all have military enclaves on Gamma Serpentis III, located in abandoned Safe Places, old Kafer forts and shelters left behind when the world's population was plunged into chaos. These Safe Places are home to thousands of troops, heavily armed and fortified. From these Safe Places, patrols range out over the landscape of the Kafer homeworld. These patrols also drop off food near any group of Kafers they find, in an attempt at providing some relief for the world's devastated population. Though the troops on Gamma Serpentis are unaware of the release of the Pentapod bioweapon, the behavior of encountered Kafers, coupled with the presence of a Pentapod enclave, has led to a profusion of rumors, centering around bioweapons and conspiracies.

The last Human enclave is located in the ruins of the Kafer Over-Suzerain's palace, located in the center of a burnt-out city. The city itself supports a large population of Kafers, and the civilian enclave does its best to ensure that they have food and water. Along with representatives of the major churches, the North American Research League, the Life Foundation, **Zapamoga** and the **Accademia del Lincei** all have a presence on-world. In addition to providing aid to the Kafers, these organizations are also charged with keeping a watchful eye on the military in order to protect the remaining Kafers on this world. The Foundations know that something is wrong with the Kafers, and are investigating rumors of bio-weapon use.

## Ylii Space

### DK 33 1023

The oldest of the Ylii colony worlds, called *Swyahshni'a* (Garden Island), is home to the American-Australian Volunteer Force. Ostensibly a mercenary force, the AAVF is largely funded and supported by the two governments as unofficial support for the beleaguered Ylii worlds. The AAVF enclave of Heinlein is home to 12,000 military personnel and their dependents.

## ALIEN ENCLAVES

### THE PENTAPOD ENCLAVES

With the exception of the enclave on Mars, all the Pentapod enclaves are constructed on or near water. These enclaves typically consist of a series of interlocking bubbles and towers, all constructed of a translucent, resin-like compound. The configuration of these enclaves is never static, with the size and position of the various structures slowly shifting over time to suits the needs, or whims, of their bizarre masters.

#### BETA CANUM VENATICORUM

This is the site of the first, and largest, enclave in human space. The sprawling facility sits in the waters of La Baie du Sebastien, off the west coast of the French continent. A large part of the complex appears to be unused, and indeed even seems to be falling into disrepair, though the rest of the facility is healthy and growing. It sprawls for many tens of square kilometers on, and under, the waters of the bay.

#### MARS

Mars is an unusual choice for a Pentapod enclave, as the world is particularly hostile for an aquatic species. However, in 2305 the Pentapods roofed over and sealed off a large

portion of the Labyrinthe Nocturne, and have made conditions inside their bubbles much more hospitable. They are still pushing for a full embassy to be established on Earth, but that doesn't appear likely for the near future.

#### Qualp:

Qualp is the head of the Pentapod delegation on Mars, and a representative of one of the pro-Human factions in Pentapod society. It has spent the past 50 years studying Humans, and in many ways knows more than most people do about the inner workings of Human society. It would love the opportunity to visit Earth, but it does understand Human concerns regarding contagion, unlike most others of its kind.

Despite being head of the Legation, Qualp isn't entirely in charge. Several other factions have representatives at the sprawling Martian complex, each working to their own ends. Qualp expects at least one of these representatives is from an anti-Human faction, but doesn't know which one.

Qualp itself is rather pleasant to talk to, with a rich, deep voice very unlike the normal piping, sing-song voices of most Pentapods. It is conversant in all aspects of Human popular culture, and seems particularly taken with the music.

### GAMMA SERPENTIS III

The Pentapod enclave on the Kafer homeworld is very nearly in the center of the small ocean that covers the world's south pole. In contrast to the bubbles and towers that characterize the other Pentapod enclaves, the one on Gamma Serpentis is barely visible until you are almost on top of it. The rigid, almost skeletal surface of the enclave dome seems to be armored, and the waters around the enclave are liberally salted with defensive constructs.

#### NIBELUNGEN

The latest Pentapod enclave is on Nibelungen, and was established in 2314 in the swamps bordering the Ostmeer. The Nibelungen government was startled when a Pentapod emissary requested permission to construct the enclave, but quickly acceded. Nibelungen is the Pentapod gateway to the other Arms of human space, and the enclave has contributed a great deal to the world's economic health.

### SUNG ENCLAVES

The Sung enclave is typically low-key, as the Sung see their role in these enterprises to be a subservient one. This is starting to change as their Human hosts grow more comfortable with the role they've assumed under Sos'soonatkachar.

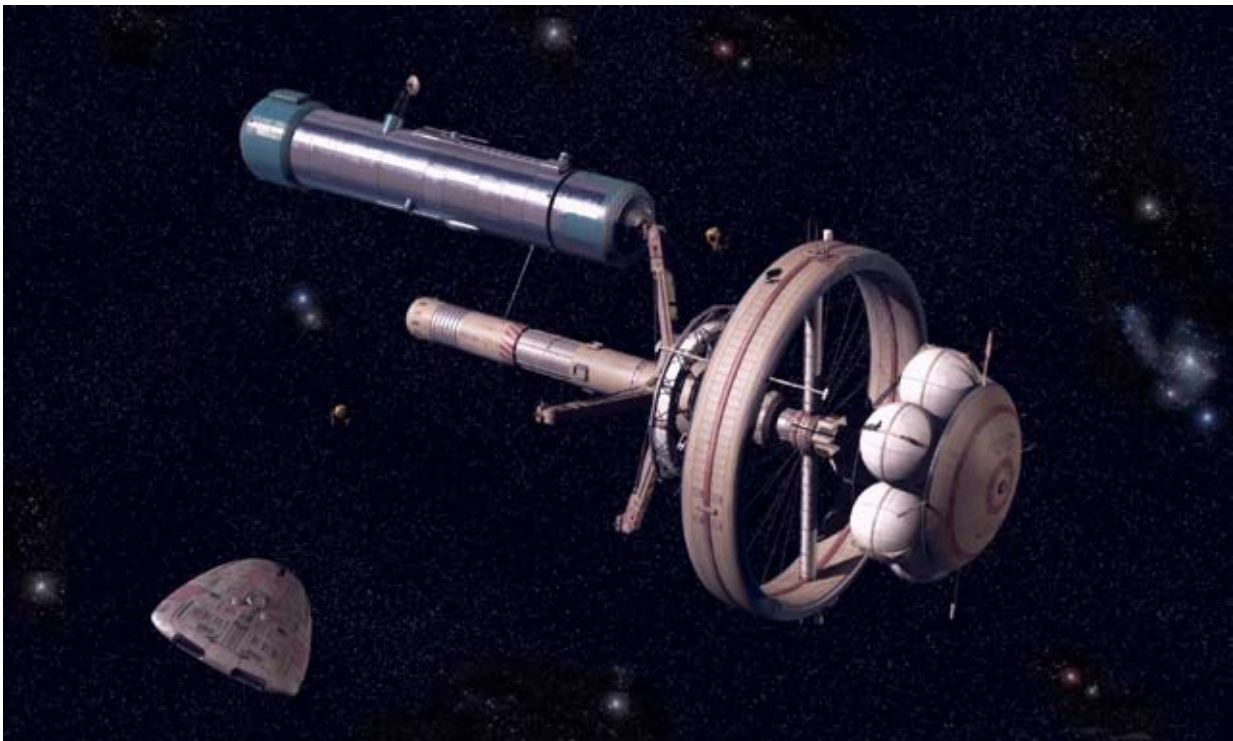


**KANATA**

This is a Canadian colony world, where the small Sung enclave serves as a training facility for those Sung wishing to take part in the colony at Eriksson. The Sung train here for six months before moving on to the joint Human-Sung colony. Only about 1000 Sung at a time are ever on world, with each class of trainees having about 120 members.

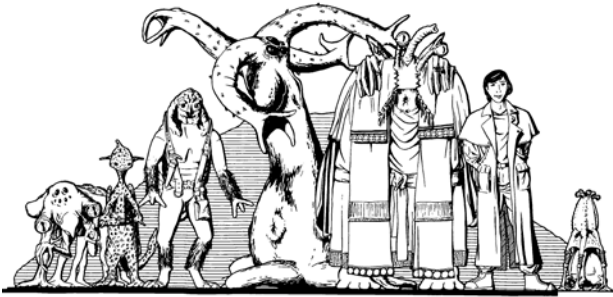
**CHENGDU**

For a time the Sung had maintained an enclave on the colony world of Chengdu. However, the substantially heavier gravity made it very difficult for them to fly, and over time the small population of the enclave started to suffer psychological problems. These problems were found to relate to their inability to fly properly, and the enclave was abandoned in 2305.



## ALIEN RACES

By 2320, Humanity has encountered seven other sentient races, from the hostile and murderous Kafers to the bizarre and unfathomable Pentapods. Of these races, only three had starfaring capability at time of contact: Kafers, Pentapods and Ylii. The Sung have obtained the drive from Human sources, while the Ebers lost the technology, along with all their other technology, when they bombed themselves back to the Stone Age 4000 years ago. In a similar vein, the Little Guys, though not starfaring, managed to destroy their system-spanning culture only 120 years ago. The remaining two, the Xiang and the Klaxun, are far too primitive to have ever developed starflight, and too alien to really understand the importance of doing so.



## THE EBERS

Nearly 4000 years ago, the ancestors of the Ebers ventured out to the stars. Unfortunately, they brought their fierce territoriality and ancient hatreds with them. Interstellar war ravaged their culture, leaving only a lone colony world to survive. They have only just built themselves back to the point where they've reinvented the steam engine.

### FIRST ENCOUNTER

The first Eber ruins were discovered in 2249 on Daikoku, and again on Heidelbergat three years later. These discoveries set the stage for the discovery of an inhabited Eber world at 82 Eridani in 2256, the third alien race contacted by Humanity. At first it was thought that this world, named Kormoran by the first Human investigators, was the Eber homeworld, but later evidence led to the discovery that Kormoran had been a colony, and that the Ebers of the homeworld had all been killed in an ancient war.

Though they are the remnants of an interstellar society,

### Chronology of CONTACT:

2247	First Contact with the Sung
2249	Discovery of Eber Ruins on Daikoku
2250	First Contact with the Xiang
2251	First Contact with the Pentapods
2256	First Contact with the Eber
2263	Pentapod enclave established on Beta Canum
2255	Slaver War
2261	Irregularities noted in Pleiades
2295	First Contact with the Kafers
2298-2312	Kafer War
2299	First Medusan artifact discovered
2300	First Contact with the Klaxun
2301	Discovery of a Ylii corpse in Kafer warship
2302	First Contact with the Ylii
2305	First Contact with the Little Guys
2307	First Contact with AGRA intelligence
2311	Discovery of Beta Aquilan ruins

the Ebers on 82 Eridani have a level of technology roughly equal to Renaissance Europe. They still tell stories of the time when their ancestors sailed between the stars. To the long-lived Ebers, it's only been about 10 lifetimes.

Initial relations with the Ebers were awkward, due to the importance of ceremony and protocol to the aliens. Once Humans understood this fact, relations became much warmer as Humans learned to adapt (and not the reverse). Humans who deal with Ebers must do so in Eber dress, using Eber customs, at an Eber's pace.

## HOMEWORLD

Though the ancient Eber civilization had spread through four worlds, they are currently only found on Kormoran, the third planet of the star 82 Eridani.

### PLANET DATA

**Name:** Kormoran

**Distance from Primary:** 0.94 AU

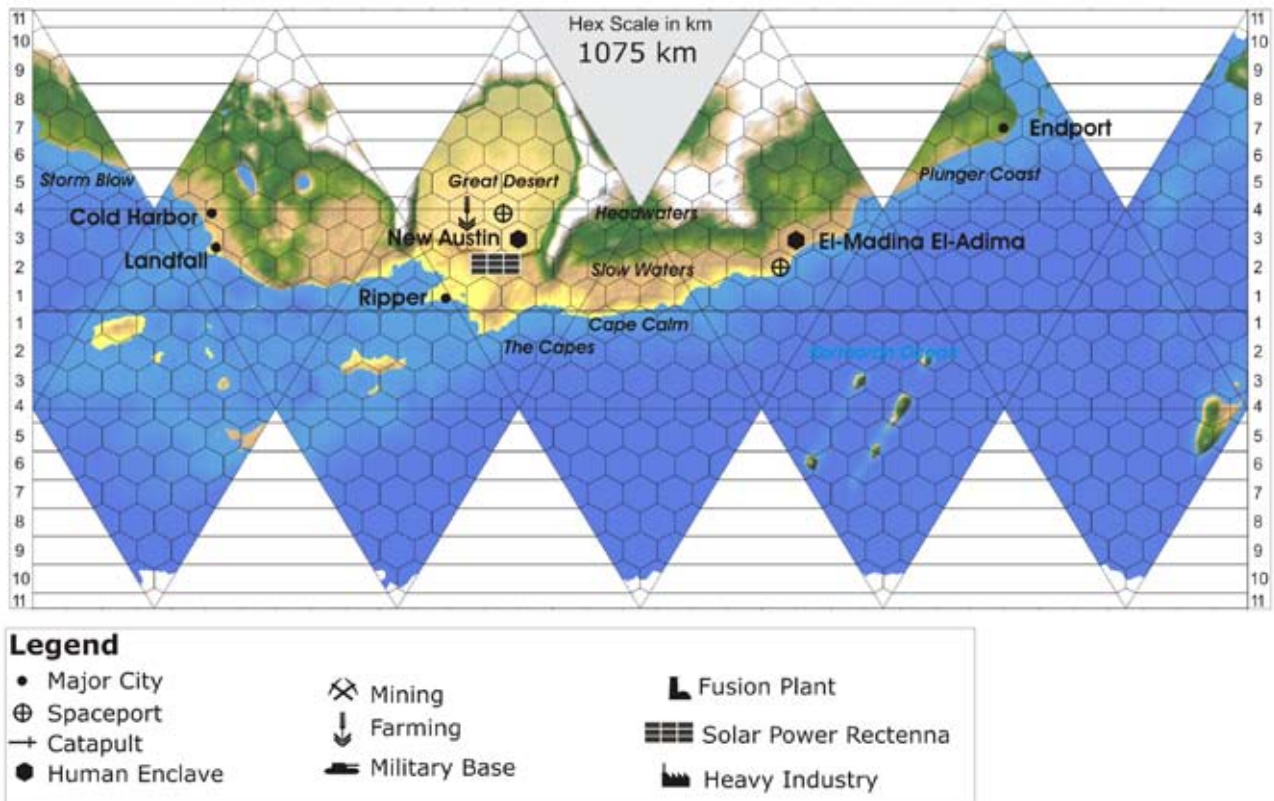
**Year Length:** 313.9 standard days, 423.2 local days

**Size:** 14,000 km in diameter

**Day Length:** 17.8 hours

**World Type:** Garden

# Kormoran



**Surface Gravity:** 1.46 G

**Atmospheric Pressure:** 1.49 atm

**Climate:** Temperate

**Water Presence:** 70%

**Atmospheric Composition:** N<sub>2</sub> (79%), O<sub>2</sub> (18%), Trace (3%)

Kormoran is a dry, hot world, with extensive deserts and deep blue seas. The surface gravity of 1.46 Gs is uncomfortable for the uninitiated, but adaptation is relatively easy. Most of the civilized Ebers make their homes in the ancient ruins along the sea coasts, while the nomads have taken to the extensive desert wastes.

## THE EBERS

### Physical Description

Ebers are about 2 meters tall, heavy, bipedal creatures with thick, short legs, extremely long, thin arms, and no discernable heads. The body and legs are covered with a thick, shaggy fur, usually of a rust-brown color. The short legs and thick, heavy body give Ebers a pronounced, waddling walk.

The major Eber sensory organs are located in a cluster atop the body between the shoulders. A pair of 15cm-tall, flexible ears resembling those of a Terran horse are spaced widely apart and slightly back from center. A pair of 10 cm-tall eyestalks are located just forward of center and closer together. Between these two pairs of organs stands a flexible

proboscis similar to a miniature trunk. Forward and slightly lower on the body is the oral sphincter, backed by a four-way arrangement of grinding jaws and a long, narrow tongue.

Eber arms are deceptively thin, in part because they are nearly hairless. Their great length also contributes to the deception, as the arms are nearly twice as long as the body is tall. When at rest, the way the arms are folded makes this less noticeable.

Eber shoulder joints are extremely complex, and have been labeled the "pseudo-pelvis" by Human researchers. This pseudo-pelvis is arranged in such a way that the arms can be lifted upward and forward, where, with the elbows straightened, the hands can reach nearly six meters into the air. It is in this way that the earliest Ebers gathered the majority of their food from tall plants, since Ebers are leaf and fruit eaters. They likewise allowed the early Ebers to lift themselves into the trees to escape predators. With the shoulders lifted, the elbows can bend forward, bringing the hands down to the mouth for feeding, or the eyes for close handiwork. Alternatively, with the arms resting down the back, the shoulders can roll forward and to the side, putting the elbows into such a position that the hands can be brought in front of the creature.

Ebers are very long-lived creatures by Human standards. Average natural life span is 350 Terran years, and some individuals are reported to be nearly 500 years old.



**EBER LANGUAGE:**

The vocal apparatus of Ebers is capable of producing a wide variety of sounds and tones. The language itself is almost musical in quality, with notes ranging from well below Human hearing thresholds to just above. Few Humans can duplicate this range, and even then artificial help is required, in the form of a "growler," an artificial palate that is inserted in the mouth to allow a Human to produce the lower tones of Eber speech. Some researchers have even gone as far as to get cybernetic modifications to assist them with Eber speech, including a growler implant and augmented hearing.

**SOCIETY**

**World Population:** 300 million

**Nationality:** Eber

**Life Expectancy:** 350 years

**Literacy:** 54%

**College Education:** 12%

**Major City(s):** Black Sky (350,000), Plunger Coast (455,000), Ripper (350,000)

**Currency:** Various

**Government Type:** Variety of national governments (7)

**Law Level:** Varies. Moderate among Civilized Ebers (4), nonexistent with Nomadic Ebers (0)

**Tech Level:** Very Low with Civilized Ebers (3). Extremely low with Nomadic Ebers (1)

**Trade Data:** Ag, NI

**Principal Trading Partners:** Texan Enclave, UAR

**Interface Capability:** None

**Resources:** Farming, Mining

**Military Presence:** Orbital Defense Installation (Texas)

**Services:** Road Net (22%), Rail Net (35%), Link Network (20%) (Texans), Airship Net (UAR), Weather Satellites, Communications Satellites, Orbital Terminal

The Eber way of life is conducted in a slow, sedate, ceremonial way. The creatures have a marked fondness for bulky, ornate clothing involving multiple layers of drapery and robes, as well as heavy, intricate jewelry. Business typically involves a plethora of formalities: gifts and speeches are exchanged, meals are given, visiting is done, a multitude of reports are filed, and various other types of red tape, more so than with the worst of Human bureaucracies. Some of the Eber ceremonies made little or no sense to Human researchers and diplomats, as they seemed to involve complex rituals and changes of clothing.

Civilized Eber society has often been compared to Renaissance Italy, with its feuding merchant houses and weak central control. There are several dozen nations amongst the civilized Ebers, ranging in size from small city-states to much

larger nations about the same size as Spain. The civilized nations produce a large number of goods, some of which are even suitable for off-world trade, mostly as luxury goods. The United Arab Republic traders on Kormoran trade mostly for mineral and exploitation rights, along with some of the luxury goods, including some very exotic, and savory, spices.

The nomadic Ebers are broken up into hundreds of small tribes, each members of one of seventeen larger clans. Clan ties predominate in their society, and while a nomad won't go to war against a member of his own clan, he will happily fight a member of a different clan, any civilized Eber, or, on occasion, a Texan settler. The nomads trade spices, metals, animals, and artwork to the civilized Ebers and the Texans. They will no longer deal with the UAR.

It was only in the early 2300's that the truth of the Eber's ceremonial life was accidentally discovered by Texas Rangers dealing with a UAR-instigated native uprising. The ceremonies are related to the complex structure of Eber brains, which consist of a central lobe and six smaller lobes. These smaller lobes are actually arranged outside of the skull case, though partially protected by the pseudo-pelvis and supporting structures. This leaves them more vulnerable to damage, but also allowed increased brain development in the proto-Eber millions of years ago. Due to the relatively narrow columns of connective neural tissue between the lobes and the central brain, the auxiliary lobes function almost independently of the central system. Over time, this led to certain higher functions becoming associated with certain areas. Each lobe effectively has a personality of its own, coupled to the primary sense of identity of the central brain. For the Eber, the central brain handles all non-voluntary functions of the Eber body, and acts, to an extent, as a coordinator of the signals coming from the exterior lobes. One lobe is always dominant, however. Which lobe is dominant is a function of environmental conditions and chemical cues. Lobes can be switched voluntarily through a combination of ceremony, to place the mind in a receptive state, and drugs, which initiate the change. Each lobe is usually only dimly aware of the memories of the other lobes, and as a consequence Eber often seem to have bizarrely fractured personalities.

Their big secret was revealed in 2301, when a Texas Ranger team observed a nomad Eber ceremony. This ritual, dubbed "The Dance of the Quarks," gave Human researchers the clues they needed to determine that the ancient Eber had a longer-ranged stutterwarp than Humanity, and that Zeta 2 Reticuli, not 82 Eridani, is the location of their homeworld. This homeworld was devastated by what the rituals described as nightmare weapons, a reference possibly to the Nightmare creatures that live in isolated regions of the Kormoran high desert.

The two younger colonies were apparently destroyed by more conventional weapons, while the oldest colony, at 82

Eridani, was able to preserve a remnant of its populace and begin the climb to civilization once again. The Ebers of 82 Eridani strive to hide the fact that it is not their original homeworld; if possible, they would even deny it to themselves. Many are unaware of the truth, and refuse to believe it or participate in any discussion of their “lost” home world.

## EBER ADVENTURES

Players might encounter an Eber on a Human world or vessel, of course, but most encounters should be kept to the 82 Eridani system. It is possible that one of the players might even have been raised at one of the Human enclaves there.

Ebers should always be played as ceremonious and secretive. This can range from the friendly silence of the nomads near the Texan enclave to the tight, even hostile reactions from many of the old merchant houses.

### ZETA 2 RETICULI:

The ancient Eber homeworld is well out of range of conventional stutterwarp vessels. However, in 2317, the Texas government chartered the Trilon corporation to create a tug route from Kormoran to Zeta 2 Reticuli via DM-68 47. The first scout vessel sent to the planet in 2318 did not return, nor did a Texan military relief expedition later that year. In desperation, Texas requested American assistance. A company of American marines went in, and fewer than 10% of them returned, with no trace of the two earlier expeditions. What they found there has never been revealed, and no one is talking. Texas, together with America, maintains a small naval task force at DM-68 47 to prevent anyone from establishing a tug route to go further, though even Trilon seems to have no desire to return.

## GENERATING EBER CHARACTERS

Eber racial traits:

+4 Strength, +2 Constitution, -1 Dexterity, +1 Wisdom

Eber base speed is 6 meters

Homeworld is High Gravity

Long Reach – Ebers can threaten opponents one or two squares away. They are at -1 on all attacks at 1 square, normal for attacks at 2 squares.

Nomadic Ebers can only choose the Barbarian Class, while civilized Ebers can choose any low-tech profession.

**Alien Levels:** Ebers all start with 1 Alien Level to reflect their toughness and special abilities

**Starting Stamina Points:** Constitution x 2

**Starting Lifeblood Points:** 8 + Constitution

**Starting Feats:** In addition to the Feats outlined under Multiple Personalities, below, all Ebers receive Heavy-Gravity Adaptation, and one more bonus Feat.

**Multiple personalities:** Through the use of ceremony and drugs, Ebers can shift dominance between the various lobes of their brain. The ceremony and is different for each lobe, though the drug, an extract of the C-D plant, remains the same. Thus, certain Feats are available only to certain lobes. These Feats are automatically granted whenever the Eber is “in” a certain Lobe.

**Survival Lobe (Su):** This lobe is concerned with locating and finding food, including hunting skills and agriculture.

Tracker Feat, Trapping Feat

**Competitive Lobe (Co):** This lobe handles high-stress situations where the Eber is pitted against intelligent foes, whether in combat or competitive sports

Tactics Feat, Combat Reflexes Feat

**Social Lobe (So):** This is the general-purpose lobe for the Eber brain, and handles societal interactions and elaborations of other skills

Strategy Feat, Skill Focus Feat (chosen by player)

**Reproductive Lobe (Re):** This lobe is concerned both with the Eber’s romantic life and feelings for their consort, along with parenting and domestic skills

Sixth Sense Feat, Trustworthy Feat

**Professional Lobe (Pr):** Sometimes called the Economic lobe, the professional lobe guides the Eber in its career.

Skill Focus Feat (chosen by player), 1 bonus Feat

**Aesthetic Lobe (Ae):** Also called the artistic lobe, this section of the brain is concerned with artistic and creative expression

Skill Focus Feat (chosen by player as appropriate), Entertain Skill (choose)

## NEW FEATS

**Ritual Leader:** The Ritual Leader Feat is required to lead the Lobe Change Ritual, and allows the Ritual Leader to add its Wisdom Bonus to the rituals. It requires a Wisdom of at least 16.

## RITUALS ASSOCIATED WITH THE LOBE-CHANGE

The first ritual associated with the Eber lobe change is the actual lobe-change ritual itself. Some Ebers have the ability to lead themselves through the change, though this is rare. Most require a guide, and so the lobe change is often done by a group of Ebers. The exact ritual performed depends on what new lobe the creature is entering. The ritual begins by ingesting the C-D drug, and then a series of songs and dances guides the Eber consciousness to the correct lobe. Each ritual takes between 3 and 4 hours.

In game terms, to switch between lobes requires a Will Save vs. a DC equal to (16 - the leader’s WIS bonus).

There is also the Lobe Unification Ceremony, which dis-

tributes memory and information through all six lobes. This ceremony is difficult and time-consuming, and is usually only done when the Eber is about to undertake some sort of major change in their life. This Ceremony effectively serves to “reunite” all the scattered parts of the Eber personality, reintegrating all memories from all the lobes. An Eber who has undergone this ritual gains a permanent +1 to their Wisdom.

In game terms, the Lobe Unification Ceremony requires a Will Save vs. a DC equal to (20 - the leader’s WIS bonus). It

also requires an experience point cost of 4000XP. The XP cost is only paid if the ceremony is successful, and the ceremony can only be attempted once per level.

A Ritual Leader is required for both of these rituals. An individual with the Ritual Leader Feat can guide themselves through the changes.

**Barbarians:** Eber Barbarians receive Weapon Proficiency (Armsman) at their first level rather than Weapon Proficiency (Archer), and do not receive the shield Proficiency at all, instead getting Weapon Specialization (Javelin).

## TYPICAL EBER NPCs

### Eber Nomad Warrior

An Eber warrior encountered alone will most likely be in his Survival Lobe

Eber Nomad		Alien 1/Barbarian 6				TL	2	ST	72	LB	22				
Grav	H	Core/Frontier					Frontier	Body		N/A					
Str	15	Dex	11	Con	15	Int	10	Wis	15	Cha	11	Edu	3	Soc	8
Init	+0	AC	10	AR	0	Spd	6m	Fort	+8	Ref	+2	Will	+4	SZ	M
Attacks	+10/+5 Javelin (1d10+4/18 held) +8/+3 Javelin (3d10+4/x2 thrown +1 AP) +8/+3 knife (1d6+2/x2), +8/+3 Hook spear (1d10+2)														
Feats	Animal Whisperer, Dodge, Iron Will, Ritual Leader, Trapper (Su*) , Weapon Proficiency (Swordsman), Weapon Proficiency (Armsman), Heavy Gravity Adaptation, Technophobia, Shield Proficiency, Weapon Focus (Javelin)														
Skills	Animal Empathy 2, Intuit Direction 6, Listen 6, Hide 1, Move Silently 4, Spot 6, Survival +2														
Equipment	3 javelins, knife, hook spear, clothes, four skins of water														
* a Lobe-specific Feat															

### Civilized Eber Soldier

A civilized Eber soldier is normally encountered in his Professional Lobe, unless actively at war, in which case he will have shifted to his Conflict Lobe.

Eber Soldier	Alien 1/Army 5			TL			3	ST	68	LB	24				
Grav	H				Core/Frontier			Frontier	Body	N/A					
Str	14	Dex	11	Con	14	Int	11	Wis	12	Cha	10	Edu	8	Soc	9
Init	+4	AC	16(13),	AR	6(3)	Spd	6m	Fort	+7	Ref	+2	Will	+4	SZ	M
			17(14 ) w/shield												
Attacks	+8/+3 Fist (1d3+2/x2), +9/+4 Eber Longsword (Dam 1d10+4/x2)														
Feats	Brawling, Armor Proficiency (Light Armor, Medium Armor), Weapon Proficiency (Swordsman), Shield Proficiency, Combat Reflexes (Co*), Weapon Focus (Eber long sword), Weapon Specialization (Eber Long Sword), Mounted Combat														
Skills	Leader 2, Handle Animal 3, Ride 6, Listen 3, Spot 8, Gambling 7, Gather Information 1, Survival 5														
Equipment	Eber long sword, Eber chainmail, Shield														
* a Lobe-specific Feat															

### Civilized Eber Merchant

The Merchant is often encountered with at least a couple of guards, and represents one of the myriad of competing Merchant Houses in civilized Eber society. The Merchant usually stays in the Professional Lobe

Eber Merchant			Alien 1/Merchant 5			TL	2		ST	64		LB	22		
Grav	H		Core/Frontier				Frontier		Body			N/A			
Str	13	Dex	10	Con	12	Int	12	Wis	14	Chr	12	Edu	10	Soc	12
Init	+0	AC	16(13)	AR	6 (3)	Spd	6m	Fort	+7	Ref	+2	Will	+4	SZ	M
Attacks	+2 Eber Long Sword (Dam 1d10+1/x2)														
Feats	Armor Proficiency (Light Armor, Medium Armor), Barter, Calculating Eye (Pr*), Connections (Merchant House), Carousing, Weapon Proficiency (Swordsman), High-G Adaptation, Mounted Combat														
Skills	Appraise 8, Bribery 7, Gather Information 9, Bluff 9, Broker 5, Trader 9, Ride 5, Speak Language (Arabic, English), Read Language (Arabic), Liaison 8, Intuit Direction 4, Survival 6, Listen 4, Spot 4, Gambling 3														
Equipment	Robes, purse with coin, Eber long sword, Eber chainmail vest														
* Lobe-specific Feat															



## THE KAFERS

Implacable, violent, and frightening, the Kafers play a very important part in 2320 AD. Even the Kafers of Gamma Serpentis III, effectively non-intelligent, have a brooding sense of imminent violence to them.

### FIRST CONTACT

Humanity's first contact with the Kafers came in 2295, when several vessels entered the Arcturus system from outside Human space. The French research station orbiting the star attempted to make contact, broadcasting greetings in several languages. The alien vessels did answer, but the language gap was too wide. After a couple of days the alien vessels withdrew back into unknown space.

Three years later, the aliens returned. This time, they attacked and captured the station then swept on to attack the nearby colony world of Aurore. Though that attack was repulsed, they attacked again in 2301, and again in 2305. The last stage was marked by a slower, more deliberate progress than the first invasion, and the war dragged on for nearly 8 years.

Humanity eventually drove the Kafers back to their homeworld by early 2311, and the work of conquering the alien world had begun. The remainder of the Kafer sphere was plunged into civil war, as the successors to the now-dead Suzerains struggled for power and to expand their territory.

### SYSTEM DATA

#### STELLAR DATA

**Primary Name:** Gamma Serpentis

**Spectral Class:** F6 V

**Magnitude:** 3.9

**X, Y, Z Coordinates:** -20.3, -33.1, 10.9

**Number of Asteroid Belts:** 0

**Number of Planets:** 7

**Notable Planets:** Gamma Serpentis IV, the next world out from the Kafer home world, was a relatively pleasant world, suitable even for colonization by Humanity, until Konteradmiral Wilhelm Lutke and his German squadron virtually annihilated the planetary population through kinetic and nuclear bombardment.

#### Homeworld

The Kafers originate from the third of five planets orbiting the star Gamma Serpentis. The official Human word for this world is Serpentis III, but occupation troops simply call it "Bugville."

### PLANET DATA

**Name:** Gamma Serpentis III

**Distance from Primary:** 1.275 AU

**Year Length:** 470.3 days

**Size:** 16,589 km in diameter

**Day Length:** 22.22 hours

**World Type:** Garden

**Surface Gravity:** 1.2 G

**Atmospheric Pressure:** 1.23 atm

**Climate:** Hot

**Water Presence:** 32%

**Atmospheric Composition:** N<sub>2</sub> (79%), O<sub>2</sub> (19%), Argon (2%)

**Biodiversity:** Abundant

**Natural Resources:** 3

Gamma Serpentis III is a hot, dry world, heavily industrialized. The level of industry was sufficient to put out a significant quantity of pollutants, including SO<sub>2</sub>, H<sub>2</sub>SO<sub>4</sub>, CO, O<sub>3</sub>, and HNO. The concentrations of these chemicals are sufficient to give the atmosphere a taint requiring filter masks for Human personnel. This taint is slowly filtering out of the atmosphere, as the industrial areas have all stopped running, but it will take decades for the poisons to clear.

As a result of the Human attack and subsequent occupation, most of the extensive cities and Safe Places have been abandoned, and the industrial areas have fallen into disuse and ruin. Coupled with the effects of the Pentapod Revenge, the Kafers of Gamma Serpentis III are almost an endangered species.

#### SAFE PLACES:

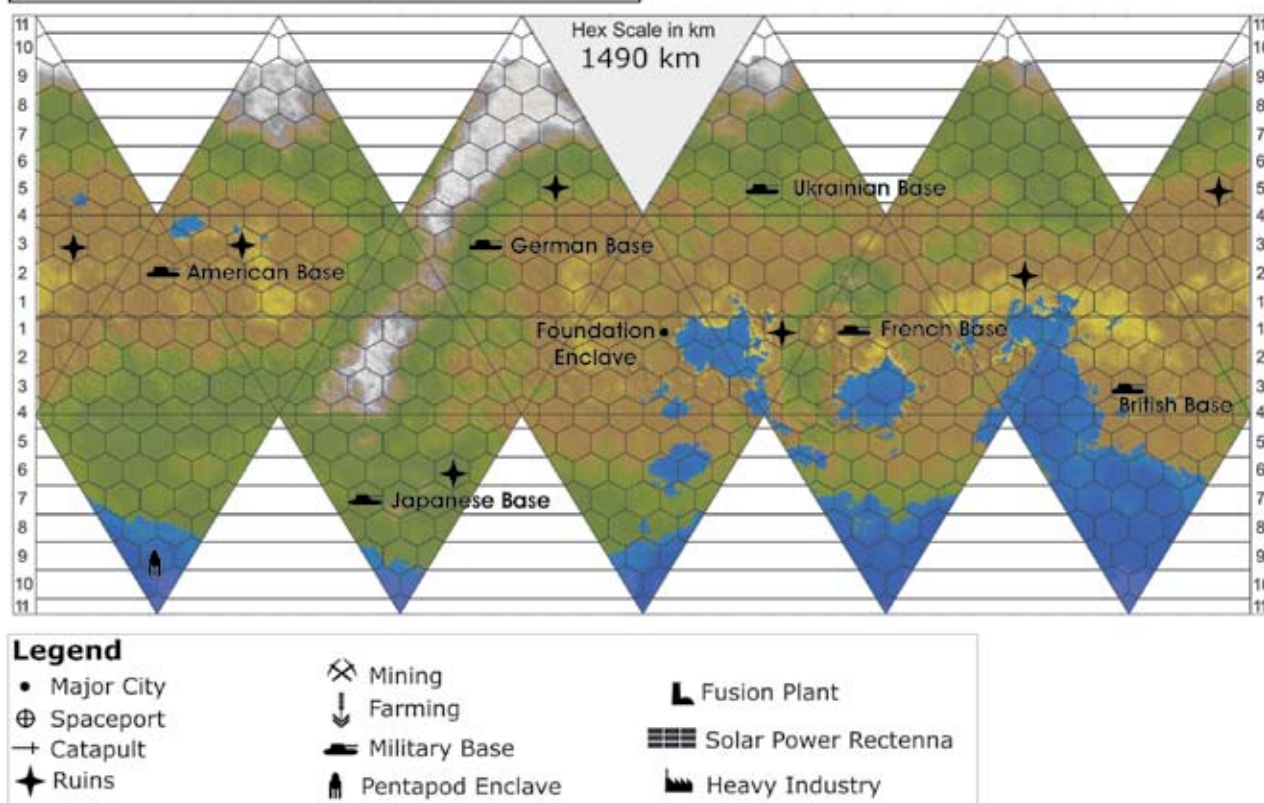
The ancestors of the Kafers were burrowing animals, and they still feel safest in enclosed places. Safe Places are fortress-cities that burrow as deep into the ground as they tower over the surroundings, with an average population of over one million. After the plague came to Gamma Serpentis III, they were largely abandoned, though packs of feral Kafers still wander the decaying halls.

### Physical Description

The Kafers are an upright, bipedal, roughly Humanoid creature approximately two meters tall. They have a vaguely insectoid appearance, enhanced by the large carapace on their backs, the bristly, hair-like projections on their forearms and lower legs, and their vertical lobster-like mouths, which consist of a complicated arrangement of mouthparts between two large, powerful mandibles.

A Kafer's carapace covers not only the creature's back, but projects upward to protect the rear of its head as well. The thickness and stiffness of the carapace makes the Kafer's torso less flexible than a Human's and gives it a permanent hunched appearance.

## Gamma Serpentis III



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Kafer limbs are very similar in shape and function to Human's. Each Kafer extremity terminates in three digits; those on their hands are set as mutually opposable thumbs. While Kafer limbs are very powerful, Kafer hands have a much weaker, and less dexterous, grip than do Human hands. Kafer have even been observed doing fine work with some of their very dexterous mouth-parts.

As alien-appearing as the Kafer's body, it is the face that is the most terrifying to Humans. Besides the vertical, slit-like mouth, Kafer faces are very rigid and nearly inflexible, giving them a static, emotionless expression. What little flexibility they have in their faces is concentrated in the complex mouth parts and mandibles, which as constantly moving and twitching, even when the creature is otherwise still. The small, black eyes are set much like a Human's, though the heavy, protective brow-ridge almost hides them from view. Gamma Serpentis is much brighter star than Sol, and as a consequence,

**GETTING SMART:**

The common term for the action of the Kafer pseudo-adrenal glands is "getting smart," and indeed, Kafers do become smarter while under the effects of the hormone. However, there is more to it than that. Their reactions and situational awareness improve, but moreover, there is a real sense of being "more alive." Researchers studying the pseudo-adrenal response have likened it to a euphoric high, tinged with homicidal rage.

Kafers see farther into the violet end of the electromagnetic spectrum and less into the red end than do Humans. They can even perceive the near-ultraviolet, including the lasers used in some Human targeting systems. In dim red light, though, Kafers are nearly blind to anything more than a few meters away. Kafers are completely hairless except for the bristles on their arms and legs.

Coloration among Kafers ranges from reddish brown to an almost charcoal grey. Their skin is very tough, although still pliable. There appears to be some casting behavior associated with color, though sociologists studying them haven't come up with a definite pattern.

The most important factor in a Kafer's physiology and psychology is the action of the pseudo-adrenal gland. In response to stress or violence, the pseudo-adrenal gland releases a chemical that boosts the action of the neurotransmitters in the Kafer brain. This has the effect of making them both smarter and faster. The mechanism behind this was unknown until the first prisoners were delivered to the Pentapod enclave on Beta Canum in 2309. With the assistance of Human doctors and geneticists, the Pentapods were able to come to an understanding of this process. The series of experiments at the Pentapod enclave allowed the researchers to map the Kafer genome, and they derived a virus that could block the action of the pseudo-adrenal glands, thus preventing Kafers from getting "smart."

## SOCIETY

**Homeworld:** Gamma Serpentis III

**World Population:** 900 million

**Nationality:** Kafer

**Life Expectancy:** 32 years

**Literacy:** 8% (estimate)

**College Education:** 0%

**Major City(s):** Abandoned (names unknown)

**Currency:** N/A

**Government Type:** Human military dictatorship (6)

**Law Level:** High. Possession of any weapon is prohibited (A)

**Tech Level:** Very Low (2)

**Trade Data:** Po

**Principal Trading Partners:** N/A

**Interface Capability:** None

**Resources:** Farming

**Military Presence:** Orbital Defense Installation, Military Base, Naval Base (Human)

**Services:** Weather Satellites, Communications Satellites, Orbital Terminal (Human)

Kafer society is based almost entirely upon two interlinking, driving forces. One is the need to ensure the survival of the species; the other is the love of violence.

**Survival of the Species:** Kafers are a very rapid breeding, hermaphroditic species. Each Kafer is instinctively driven to breed regularly throughout its adult life, starting from age six. Usually, both partners are fertilized during a tryst. Gestation takes about six Terran months, at which time, a pregnant Kafer will deliver two new Kafer young, each about one-twelfth the size of an adult.

The newborns are able to scramble about on all fours within a few hours of their birth, and can walk upright within about four months. During the first three years of their lives, Kafer young feed on partially digested foods that are regurgitated by their "mother," who also cares for their safety and teaches them the basics of Kafer culture. Kafers look after their own young only, and typically do not cooperate in the raising of the young. At the end of this period, they will have attained about three-fifths the size of an adult and can expect no more help from "mother." At this age, Kafers are recruited into training camps where they will learn their adult occupations. Conditions in these camps is rough, and nearly half of the juveniles do not survive.

**A Love for Violence:** Most Kafers have an intelligence level equivalent to a Human IQ of about 40 (sub-moron), although the occasional exceptional individual approaches Human norms. But intelligence is variable in each Kafer, depending upon its environment. Danger causes a physiological response in them similar to the action of adrenaline in Humans, except that instead of increasing strength, the Kafer response stimulates intelligence and speed. Kafers who are

spectators to another's danger experience this response as well, though at a lower level. Most of the time, the increase is of relatively short duration – once the danger is over, a Kafer grows dull and sluggish again. But its intelligence never quite falls back to what it was before. In other words, with repeated stimulation, a Kafer's normal intelligence will see a slowly but steadily rise. The virus seeded onto Gamma Serpentis III short-circuited this reaction.

Beginning early in their history, Kafers repeatedly experienced one pattern of events: First, a group of Kafers would begin to develop a localized, permanent, city civilization. One benefit of such a civilization is that life is safer for its members, but for Kafers, this means that there is less stimulus to intelligence. Over and over again, city civilizations would fall before the onrush of nomad barbarians who were smarter, and trickier, because their lives were more dangerous. Eventually, a city civilization was developed in which routine violence was incorporated into the culture. With the pairing of this stimulus to intelligence and the technological developments that only a stable culture could bring, the nomad bands had met their match-but the "smart barbarian" remains an archetypal figure in Kafer horror stories.

All of this has made Kafers addicted to violence. Violence makes a Kafer more self-aware, makes it feel more alive. It also makes it intelligent enough to realize that a stable society is to be desired-this is what keeps Kafers from killing each other off indiscriminately.

### SMART BARBARIANS:

The greatest fear of any Kafer is the Smart Barbarian, the archetypal figure from their history who cast down civilization after civilization. Humans are viewed as "Smart Barbarians" and are thus the ultimate nightmare to the Kafers.

## THE KAFER WAR

The Kafer War lasted for 16 years, and resulted in the loss of approximately one-quarter of the Kafer Sphere to Humanity, including the Kafer home world of Gamma Serpents III. Casualties to the Kafers are likely to reach into the hundreds of millions with the collapse of civilization on Gamma Serpentis III.

Human occupation of the Gamma Serpentis system creates an effective bottleneck to Kafer forces attempting to continue actions against the French Arm. The occasional small ship gets through, but the large fleets are reluctant to approach the system. The biological weapon employed by the Pentapods in the Gamma Serpentis system struck terror into the remainder of the Kafer Sphere, and they are extremely hesitant to approach, as none of them want to catch the **Vog\*gach Aach\*ah** (Barbarian's Curse).

There is very little known of the worlds beyond Gamma



Serpentis. The Human fleets stopped at the Kafer homeworld as much out of exhaustion as the completion of their strategic goal. From reports filtering out of Ylii space, the remaining Kafer Suzerains are embroiled in some sort of war, though the war appears to be largely contained to starship battles and occasional surface sorties. The aging Suzerains from the time of the war are battling to stay in power, and to increase the size of their holdings.

## Kafer Adventures

It is possible to encounter small groups of Kafers on virtually every world of the French Arm, as ground troops were landed on most worlds during the war. In addition, Kafer raiders and scouts occasionally get past the blockades and go ravaging up and down the French Arm until hunted down by Human naval forces, or they somehow manage to retreat back into Kafer space.

## GENERATING A KAFER NPC

Kafers are not intended for use as PCs.

## Kafer Racial Traits

A Kafer is generated as a normal character, with the following modifiers:

+3 Strength, +1 Dexterity, +4 Constitution, -8 Intelligence, -7 Charisma

**Education:** -8 to generate a normal Kafer. Add +6 for an officer and +8 for a Professional or Engineer

As a Kafer advances in experience, they gradually get smarter. If they live long enough, they become officers, scientists and technicians. For every two base (i.e. non-aroused) levels a Kafer attains, they add 1 to the permanent, low-level Intelligence. They also subtract 1 from the Intelligence bonus they receive when aroused. This add to the base intelligence can never exceed 9

The Intelligence and Charisma shifts only apply to Kafer never exposed to the Pentapod Revenge. Infected Kafer use the initially-generated number, and never get smart.

**Carapace Armor:** A Kafer's tough carapace protects its torso as non-rigid armor (Armor Rating 1).

**Racial Feats:** All Kafers start with the following Feats: Toughness and Endurance.

**Alien Levels:** Kafers receive two Alien levels, due to the powerful nature of their intelligence shifts.

**Movement:** All Kafers move at 9 meters

**Getting Smart:** Combat and violence stimulate a Kafer to greater intelligence. This causes a shift in Intelligence and Class Level. The Intelligence of a "Smart" Kafer can leap by as much as 10 points. When running wild Kafers in combat, use the lower listed intelligence for 1d6 turns, then switch to the greater number. This arousal also causes an emotional rush, as the Kafer feels more alive and aware. This happens even in

those who no longer experience Intelligence increases.

**Variable Intelligence and Charisma:** When a Kafer is aroused (see below) they add 10 to their base intelligence and 6 to their Charisma.

**BAB and Save Bonus:** A Kafer that is Smart gets +2 levels for purposes of BAB and Saves only. A multi-classed Kafer would use the most favorable table

**Skill Bonus:** In addition to the intelligence boost, Kafers get a +2 to all skills when "smart"

**Feats:** Some Feats are only available to Kafers when they get Smart:

Lightning Reflexes, Tactics, Stealthy, Improved Initiative

For every three character levels, a Kafer can choose one of these Feats as an Extra Feat (thus at 3rd, 6th, 9th, and 12th levels). This is in addition to the other Feats the Kafer can acquire.

## CLASSES AND RESTRICTIONS

The Following classes are not available to Kafers. All class Skills and Feats are modified as per Chapter 3: Character Generation.

Kafers cannot get any armor proficiency better than Light Armor. There is no equivalent to Vessel (Combat Walker).

**Barbarian:** Though unavailable to most Kafers, the infected Kafers of the home world would use this class.

**Convict:** Any crime amongst Kafers almost immediately results in either death on the spot or the crime is ignored. Kafer crimes are crimes of property, not violence, as anyone who can't defend themselves is better off being killed.

**Corsair:** Kafer raiders are regular Navy and Army personnel.

**Diplomat:** Kafers do not negotiate.

**Entertainer:** There is no comparison to this in Kafer society.

**Law Enforcer:** Law enforcement, such as it is, is either immediate or neglected. Army troops fulfill the keeping-the-peace role.

**Medic:** Kafers do not have specialized medical technicians, nor any sort of real doctors.

**Mercenary:** Not generally available. However, if a player wanted to run a Kafer as a PC, than this career would likely be the best choice. However, a Kafer PC is not an easy option to play.

**Merchant:** Kafers do have an analogue to Merchants, but they are better described by the Professional class. They are extremely rare and it would be very unusual for them to be encountered in Human space.

**Noble:** Doesn't fit in the Kafer scheme of things.

**Traveller:** The notion of Travelling through space for entertainment has never occurred to the Kafer.

**Prestige Classes:** Only the Special Forces Prestige

Class is available to Kafers, and only Kafers with a low Intelligence of 12 or more can get in.

## Kafers in Combat

When combat occurs, the referee should stress the confused way that Kafers mill about for the first several rounds,

their officers prodding and beating them. Once the Kafer intelligence mechanism takes effect, however, the referee should stress the almost supernatural cleverness of the response. Kafers will disappear into any available cover and will use every trick conceivable in counterattacking.

## Typical Kafer NPCs

### Average Kafer Trooper

The average trooper isn't very bright, but does remember things for the next time it gets bright. The sight of Kafer officers beating their troops into intelligence was common during the war.

Common Trooper		Kafer 2/Army 4				TL	12	ST		LB					
Grav	N	Core/Frontier													
Str	15	Dex	13	Con	16	Int	4 (12)	Wis	11	Chr	4 (11)	Edu	3	Soc	-
Init	+1 (+5)	AC	12	AR	1	Spd	9m	Fort	+4 (+5)	Will	+1 (+2)	Ref	+5(+8)	SZ	M
Attacks	+4 (+6) Thud Gun (2d12 (x2), Rng 72m RoF:1/4/10 66 rounds),														
Feats	Weapon Proficiency (Marksman), Weapon Proficiency (Combat Rifleman), Weapon Proficiency (Heavy Weapons), Brawling, Toughness, Endurance, Stealthy, (Lightning Reflexes, Tactics, Improved Initiative),														
Skills	Driving 8, Spot 6, Survival 7, Gambling 1(5), T/Mechanical -2														
Equipment	Thud gun, 4 hand grenades, 4 propelled grenades, combat knife, 2 weeks rations, string of human ears														

Values in parenthesis are for a Kafer when "Smart."

### Average Kafer Officer

The Kafer Officer is usually a soldier who has survived long enough, is tough enough, and violent enough, to have increased their base intelligence to a high level. The average Kafer officer is as smart as an average Human, and smarter still when "Smart."

Officer	Kafer 2/Army 8					TL	12	ST	LB					17	
Grav	N	Core/Frontier						Body	N/A						
Str	16	Dex	15	Con	17	Int	12 (13)	Wis	13	Chr	10 (12)	Edu	9	Soc	-
Init	+2 (+6)	AC	12	AR	1	Spd	9m	Fort	+5(+6)	Will	+3(+4)	Ref	+8(+10)	SZ	M
Attacks	+8/+3 (+10/+5) Horse Pistol (Dam: 2d10/x2 RoF 1 Range 20m 7 shots) +8/+3 (+10/+4), Flashlight Laser Rifle (Dam 3d12/x2, RoF 1, Rng 112m, 12 pulses), +9/+4 (+10/+5) Scepter (1d6+3/x2), +9/+4 (+10/+5) Combat Knife (1d4+2/x2)														
Feats	(Lightning Reflexes, Improved Initiative), Weapon Proficiency (Marksman), Weapon Proficiency (Combat Rifleman), Weapon Proficiency (Heavy Weapons), Weapon Proficiency (Lasers), Brawling, Toughness, Endurance, Stealthy, Tactics, Command Presence,														
Skills	Driving +8, Spot +10, Survival +7, gambling +5, T/Mechanical +4, Sense Motive +4, Leader +10														
Equipment	Horse Pistol, Scepter, flashlight laser rifle, combat knife, 2 weeks rations, human ears hung from carapace														

### Kafer Infiltrator

Kafer Infiltrators are the elite of the Kafer military. Their job is to drop behind enemy lines and provide intelligence. Their ships are also used for deep strikes and raids.

Infiltrator	Kafer 2/Army 12					TL	12	ST	LB				17		
Grav	N	Core/Frontier					N/A	Body	N/A						
Str	16	Dex	16	Con	17	Int	12 (13)	Wis	13	Chr	10 (12)	Edu	9	Soc	-
Init	+7	AC	14	AR	1	Spd	9m	Fort	+5(+6)	Ref	+8(+10)	Will	+3(+4)	SZ	M
Attacks	+12/+7 (+13/+8) Flashlight Laser Rifle (Dam 3d12/x2, RoF 1, Rng 112m, 12 pulses), +12/+7 (+13/+8) Combat Knife (1d4+2/x2)														
Feats	Lightning Reflexes, Improved Initiative, Weapon Proficiency (Marksman), Weapon Proficiency (Combat Rifleman), Weapon Proficiency (Heavy Weapons), Weapon Proficiency (Lasers), Brawling, Toughness, Endurance, Stealthy, Tactics, Command Presence, Tactics II, Heavy Metal,														
Skills	Driving 15, Spot 16, Survival 8, gambling 5, T/Mechanical 5, T/Electronics 3, Gather Information 10 (11), Forward Observer 7														
Equipment	flashlight laser rifle, combat knife, 2 weeks rations, thermal-visual camouflage poncho, PAA dispenser														

## THE KLAXUN

The Klaxun are one of the most recently discovered alien races, from a world on the very fringes of the French Arm.

### FIRST ENCOUNTER

The Klaxun were accidentally discovered by the crew of the **LaFarge**, a Trilon survey vessel operating in the Wolf Cluster of the French Arm. In late 2300, it was attacked and heavily damaged by a Kafer scout force in the DM+17 2611 system, and the crew was forced to abandon ship in one of the space planes carried aboard the starship. But the time of their crash landing and trek across the frozen tundra coincided with the Klaxun hibernation. When they arrived at the equatorial sea, they found themselves almost overnight in the middle of a bizarre civilization of aliens whose biological clocks had awakened them. Actually, without the help of the Klaxun, the stranded Humans would have never survived the next two winters on DM +17 2611 II. After those two winters, a rescue ship finally did arrive in system, and the Klaxun were officially introduced to Humanity as a new alien intelligence.

### HOMEWORLD

Expeditions to the Klaxun homeworld are restricted (see below).

## PLANET DATA

**Name:** Lightfall

**Distance from Primary:** 0.51 AU

**Year Length:** 198 days

**Size:** 10,550 km in diameter

**Day Length:** 26.2 hours

**World Type:** Garden

**Surface Gravity:** 0.87 G

**Atmospheric Pressure:** 0.89 atm

**Climate:** Chilly

**Water Presence:** 67%

**Atmospheric Composition:** N<sub>2</sub> (79%), O<sub>2</sub> (19 %), Ar (2%)

**Biodiversity:** Diverse

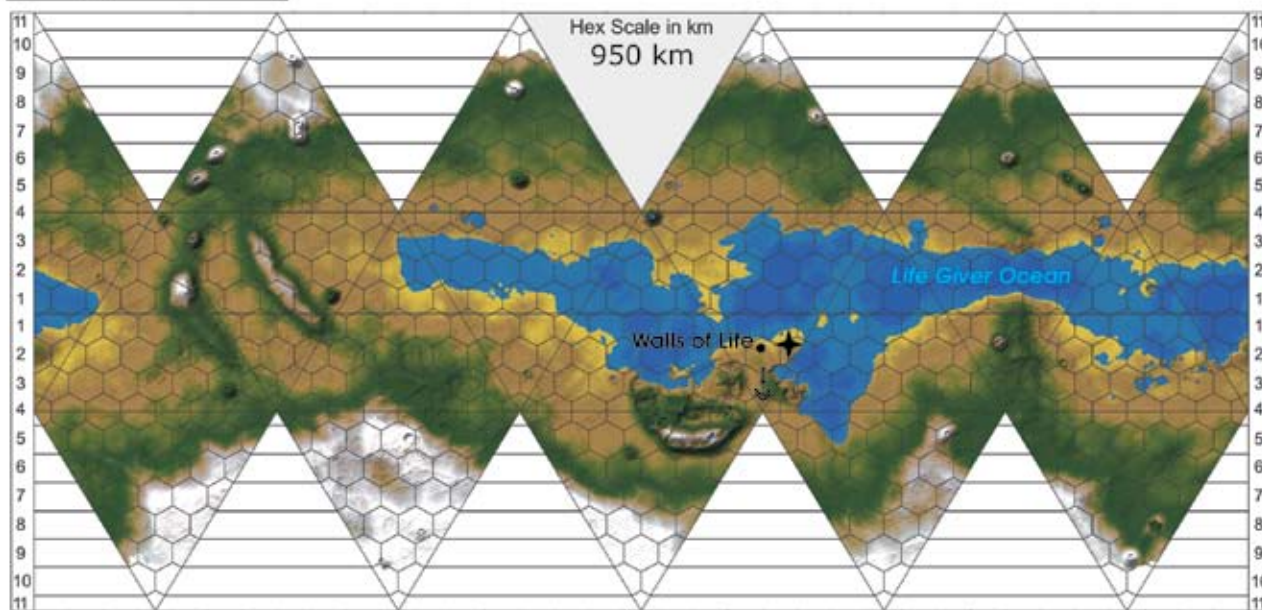
**Natural Resources:** 4

## Physical Description

The Klaxun are bizarre creatures from a Human standpoint, since they do not readily fit into any one of the broad categories ("animal" "plant," "fungus") of terrestrial life – they show characteristics of both "animals" and "plants." forcing biologists to create a new classification system for their world. For now, the Klaxun are referred to as free-moving producers, or walking trees, to quote one scientist.

The Klaxun stand between 1.3 and 2.6 meters in height (when fully extended), and mass approximately 50-100 kilograms. They are usually green or grey in coloration, and this

## Lightfall



### Legend

- |              |                 |                        |
|--------------|-----------------|------------------------|
| • Major City | ⚡ Mining        | ⚡ Fusion Plant         |
| ⊕ Spaceport  | ↓ Farming       | ☀ Solar Power Rectenna |
| → Catapult   | 🏰 Military Base | 🏭 Heavy Industry       |
| ★ Ruins      |                 |                        |



may change with the proximity to moisture and how much sunlight they are receiving at the moment. Of course, each Klaxun is unique, even to the extent that individuals have variable numbers of limbs.

From the ground up, the Klaxun have several root/legs, which are used for locomotion and for drawing nutrients from the soil when necessary. The root/legs have feelers attached to them, which are the Klaxun's primary sensory apparatus. The root/legs extend from the base of the brain/body case, the very core of the individual. The case is very rugged, protecting the brain and vital organs of the individual. At the top of the brain/body case is the mouth, the opening of the digestive system which operates in concert with the photosynthesis centered elsewhere. From the top of the creature extends several branch/arms, each with weak tentacles. The exact number of branch/arms varies from individual to individual. At the center of the branch/arm cluster is the eye-cleft. Klaxun are capable of distinguishing sounds, but the sense can't exactly be described as "hearing." They don't differentiate sounds to the same degree as Humans, and are incapable of hearing above the middle of the Human range (~9,000 Hertz).

Their diet is a combination of foraged food and photosynthesized compounds. Primitive Klaxun forage for native food in the equatorial countryside, eating through the mouth much as Terran animals do. However, this is supplemented by the ability to photosynthesize. Leafy structures form along the branch/arms of all Klaxun, and during the summer can account for upwards of 30 percent of the individual's personal energy.

Klaxun reproduce through seeding, a process practiced by all adults. Most seeds do not survive the harsh conditions of the mother planet; there is a 90 percent death rate. The introduction of certain techniques by the Life Foundation is already working to drop this high seedling mortality rate, though this presents the possibility of an over-population problem, as currently the numbers of Klaxun are near the productive capacity of their territory, at least at current technology levels.

Where an individual is seeded dictates the creature's sightedness. Crystal structures in the soil are collected by the growing creature and centered in the eye-cleft to enhance light gathering. For the Klaxun, sightedness has been a fairly recent evolutionary event, and their vision, at best, is far inferior to that of a Human being. Having determined the events that favor sightedness, the Life Foundation is in the process of adding artificially produced crystals to the soils around seedlings. Already this project has begun to bear fruit, as the numbers of sighted individuals is steadily rising.

The Klaxun do not sleep by any Human definition. They do hibernate through the very long, cold winters of their native world, emerging for a brief period each year to live and

move freely through the summer season. A Klaxun will live through about 50 local years (25 standard). From our point of view, they are terribly slow creatures, due to slower synaptic processing in their brain.

Klaxun communicate through physical contact, using the branch/arms and tentacles to relay their information. This Klaxun "dance" is very difficult for Humans to imitate, but successful communication has been made by Humans using their hands and fingers as barely adequate substitutes.

## SOCIETY

**World Population:** 150-200 million

**Nationality:** Klaxun

**Life Expectancy:** 25 years

**Literacy:** 2%

**College Education:** 0%

**Major City(s):** Walls of Life (12,000)

**Currency:** N/A

**Government Type:** None. Clan ties predominate (0)

**Law Level:** None. No restrictions (0)

**Tech Level:** (1)

**Trade Data:** Po

**Principal Trading Partners:** N/A

**Interface Capability:** None

**Resources:** Farming

**Military Presence:** Orbital Defense Installation (Life Foundation)

**Services:** Link Network (25%), Communications Satellites, Orbital Terminal (Life Foundation)

Before their discovery by a Kafer raiding group, the Klaxun were in the very earliest stages of civilization. To put this in terms of Human history, the Klaxun were at about the level of very early Mesopotamian civilizations, and thus only beginning to develop systems of government, cooperation, and hierarchy.

The Klaxun had built a large city complex on the southern shore of the equatorial sea, but this was destroyed in the Kafer raid. The small mercenary force hired by the Life Foundation managed to save a large number of the city's inhabitants, but the city itself was ruined. The artisans are currently trying to build a new city, with the cooperation of the Human mercenary forces and their controlling foundation. The old city was a collection of maze-like open-roofed rooms and corridors with few trappings, and was organized to house the various higher level artisans, such as canal diggers, toolmakers, shipbuilders, tree fellers, and artists.

The new city, though so far more of a town, is beginning to take shape, affording a few of the artisans the freedom to again pursue their old vocations. However, the vast majority of the Klaxun are still occupied with the gathering of food.

The old Klaxun hierarchy based on sightedness has been forced to change. In the wake of the Kafer raid, sightedness was no longer the advantage it had been in the old city-state. Artisans, of necessity, have to be sighted, but many of them died with the city. As well, the intervention of the Human foundations has led to a discovery of the root causes of sightedness, and more and more seedlings are growing up with this ability.

The Life Foundation was best positioned to dominate Human interaction with this primitive race, and it was the actions of the Life Foundation staff and their hired mercenaries that allowed the fledgling Klaxun civilization to survive and recover from the Kafer attack in 2306.

## Klaxun Adventures

Now that the Klaxun have been contacted, there is great interest in learning about them. Almost all foundations are conducting expeditions and/or filming documentaries across their world, most centering on the joint efforts to rebuild their city. Many young Humans, looking for a cause to devote a few years to, join the Life Foundation, and can be found working side-by-side with Klaxun artisans and laborers to erect the new city walls.

Independent expeditions to the Klaxun world are discouraged by the various foundations, and the Life Foundation has the means in place to back up this restriction with force. The Klaxun are felt to be at too primitive a level to be open to free contact. A few Klaxun have left their home world for worlds in the French Arm, and some have even gone as far as Tirane, in the Core.

Despite the ban on contact, a few private expeditions do run the gauntlet of foundation ships to attempts to land on the forbidden planet. They are largely prospecting and phar-

maceutical teams, looking for a rare find to justify the costs, and risks. A very few are hunters and poachers, concerned wholly with hunting and killing things. Which can even include the Klaxun.

## Klaxun Character Generation

Klaxun roll normally for their stats, with the following modifications:

**Str:** +4, **Dex:** -2, **Con:** +4, **Int:** -4, **Edu:** -6

Sighted Klaxun move at 6 meters

Unsighted Klaxun move at 3 meters

Unsighted Klaxun are blind, and are unable to perform visual checks. They may still try to Spot using their hearing, but that is a poor second choice.

Unsighted Klaxun can only be Barbarians, and start with the following Feats and Skills:

**Feats:** Skill Focus (Outdoor Survival), Trapping, Natural Medicine

**Skills:** Must take Survival

Even sighted Klaxun have poor vision. Add -2 to all Spot and visual recognition checks.

**Special Racial Feats/Abilities:** Two levels of Toughness, Natural Compass, Natural AR of 1

Klaxun add 2 to their stamina rolls and begin play with their Con +8 in Lifeblood

Klaxun fists hit like clubs (Damage: 1d6/x2, counts as armed for attacks of opportunity.)

## Classes

Only the Barbarian class is open to unsighted Klaxun. Sighted Klaxun can choose from Academic, Barbarian, or Professional, all at very low technology levels.

## Typical Klaxun NPCs

### Typical Unsighted Laborer

Though conditions are improving, the vast majority of Klaxun are still unsighted, even near the joint city being built with the assistance of the Life Foundation. Klaxun are tough enough to survive, and within a few decades the majority will be sighted, if all goes according to plan.

Klaxun Laborer			Barbarian 3			TL	0		ST	38	LB	29			
Grav	N		Core/Frontier			Frontier									
Str	17	Dex	9	Con	15	Int	7	Wis	12	Chr	11	Edu	4	Soc	-
Init	-1	AC	10	AR	1	Spd	6m	Fort	+5	Ref	0	Will	+2	SZ	M
Attacks	-1 (fist 1d6/x2)														
Feats	Skill Focus (Outdoor Survival), Natural Medicine, Trapping, Toughness (x2), Natural Compass														
Skills	K/Farming 0, Listen 6, Spot 2, Craft 1, Survival 5														
Equipment	Wood and stone farming tools														
-4 on all tasks requiring vision, including combat															

Typical Sighted Protector

The sighted Klaxun are the still the upper-class of Klaxun society. There are enough of them now that they have taken on the role of protecting the city and its inhabitants from the wild creatures that roam the world, including one that a mercenary working for the Life Foundation dubbed a "rabid beaver," which preys upon Klaxun and their relatives.

Klaxun Protector			Barbarian 7			TL	0		ST	78	LB	28			
Grav	N		Core/Frontier			F									
Str	19	Dex	10	Con	18	Int	8	Wis	10	Chr	10	Edu	6	Soc	14
Init	-1	AC	11	AR	1	Spd	9m	Fort	+14	Will	+4	Ref	+1	SZ	M
Attacks	+9/+4 spear (1d8/x2), +9/+4 axe (1d10/x2)														
Feats	Listen, Move Silently, Weapon Proficiency (Swordsman), Brawling, Endurance, Natural Compass, Stealthy, Toughness (x2)														
Skills	Intuit Direction 8, Listen 8, Spot 5, Survival +6, Hide 6, Speak Language (Esperanto)														
Equipment	Spear, Human-made axe, wood-and-resin shield														
-2 on all tasks requiring vision, including combat															

THE LITTLE GUYS

The advanced civilization of the Little Guys perished in a system-spanning war about 120 years ago, though pockets of them survive on the home world and in isolated bases and stations scattered throughout the system. Even the ones marooned on the space facilities have lost most of their technological ability, and simply struggle to survive in the ruins.

FIRST CONTACT

The Little Guys were first contacted by the ARI starship Bayern during its historic flight to the Pleiades and back. In 2305, The Bayern and her crew rescued a number of the small aliens from a base on the moon of the homeworld, where they were fighting a war of attrition with ancient combat robots. There have since been three more expeditions to the Little Guy homeworld, including a joint military task force to prevent further travel down the Bayern corridor.

HOME SYSTEM

STELLAR DATA

- Primary Name: DM+5 1117
- Spectral Class: G8 V
- Magnitude: 4.8
- X, Y, Z Coordinates: -4.06, 97.03, 9.63
- Number of Planets: 6
- Number of Asteroid Belts: 2

Though much of the Little Guys homeworld was ruined in the war, enough remains intact to support a population of several million in primitive communities.

PLANET DATA

- Name: Littleendia (Native name unknown)
- Distance from Primary: 0.62 AU
- Year Length: 126.9 days

- Size: 10,560 km in diameter
- Day Length: 31.2 hours
- World Type: Garden
- Surface Gravity: 0.89 G
- Atmospheric Pressure: 0.92 atm
- Climate: Temperate
- Water Presence: 58%
- Atmospheric Composition: N<sub>2</sub> (75%), O<sub>2</sub> (22%), Ar (2%)
- Biodiversity: Diverse; usable
- Natural Resources: 3
- Satellites: 2

The Homeworld itself would be a pleasant enough world, if its cities didn't glow at night. Slightly smaller and drier than Earth, it is still a prime piece of real estate, and there is some discussion of settling the world. It is in a very dangerous location, however, and would be difficult to sell.

PHYSICAL DESCRIPTION

The Little Guys are roughly 1 meter tall, thickly furred, with two legs and four arms. The head rests on a thickly muscled neck close to the torso. Their large expressive eyes are more sensitive to light than Human eyes, though not to the extent that nocturnal animals on Earth are. Each of the four arms ends in a three-fingered, dexterous hand, with a long opposable thumb. The Little Guys have no trouble using each set of arms for a different activity. The stubby, powerful legs end in long-toed clawed feet.

The little guys have two sexes, and reproduce in a manner similar to Earth marsupials, though the young are hatched in an egg, and make their way to the mother's pouch.

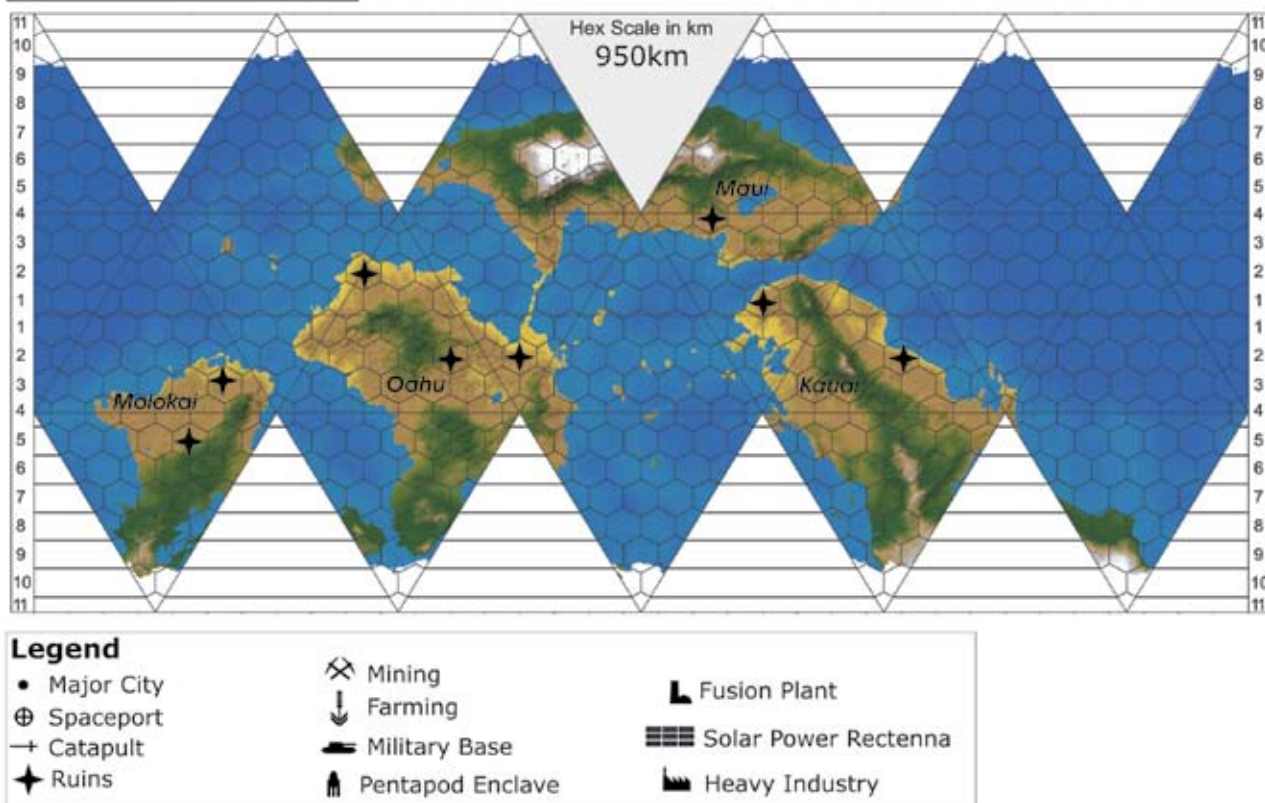
The lifespan of the Little Guys appears to be only about 40 years, but they are mature after only 6 years, and seem to require no sleep, only the occasional energy-saving period of meditation.

Psychology

The Little Guys appear to be similar to Humans in the



## Garm Yres



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patterns of their thought, to judge by the artifacts they left behind, along with other evidence. They had a strongly mechanistic culture, and relied heavily on their machines to the extent that they idealized technology, a trend which could still be seen in the refugees from the moon base, who, though forced to fight machines, did so with the greatest reluctance.

### Society

**Colony Population:** 250 million

**Nationality:** Little Guys

**Life Expectancy:** 45 years

**Literacy:** 12%

**College Education:** 0%

**Major City(s):** None

**Currency:** N/A

**Government Type:** None. Family and clan ties predominate (0)

**Law Level:** None. No restrictions (0)

**Tech Level:** Extremely Low (1)

**Trade Data:** Po

**Principal Trading Partners:** N/A

**Interface Capability:** None

**Resources:** Farming

**Military Presence:** None

**Services:** None

The Little Guys destroyed themselves over 120 years ago in a system-spanning war that lasted more than 5 years, and

killed billions. Little is known of the details of the war, and the survivors have little to share. The war ended 120 years ago, and there are none left alive who witnessed it, nor any who would have heard the story first hand from any survivors. Over 10 generations have passed since the war, relegating it to legends. The legends do speak of something, though, and that was that the "enemy" of the Little Guys wasn't themselves, but seemingly another race, much larger and stronger than the Little Guys, but not quite as intelligent. The Human researchers working with the Little Guys simply call this legendary race "The Big Guys." Another theory has been advanced that the mysterious "Big Guys" were actually from Beta Aquilae. Unfortunately, this theory was advanced by the same research team that identified the mystery ship the *Bayern* encountered as Aquilan, despite a lack of evidence. (See the *Alien Space* section on the Bayern Corridor).

### LITTLE GUY CHARACTER GENERATION

Little guys are smaller than Humans, and much less massive.

Roll stats normally, with the following modifiers: Str -2, Dex +1

Little Guys move at 9 meters

Little guys can use both sets of arms independently.

**Starting Feats:** Ambidexterity, Great Fortitude

Despite their shorter stature, Little Guys are still considered to be size Medium.

Little Guys can only choose from Low Tech (TL 0-3) classes. Most of the Little Guys on the homeworld will be Barbarians, while a few isolated settlements (including the moon

base survivors transported by the **Bayern** to the homeworld) are able to choose from any class available at Tech Level 3 or lower.

## Typical Little Guy NPCs

### Little Guy (Barbarian)

Little Guy Barbarian	Barbarian 6	TL	1	ST	52	LB	13								
Grav	N		Core/Frontier		Frontier										
Str	9	Dex	14	Con	13	Int	12	Wis	12	Cha	11	Edu	6	Soc	14
Init	+2	AC	13	AR	0	Spd	9m	Fort	+6	Ref	+7	Will	+3	SZ	S
Attacks	+5/+0 Shortsword (1d6-1), +8/+3 Short Bow (1d6, Rang 20m)														
Feats	Armor Proficiency (Light), Shield Proficiency, Weapon Proficiency (Archer), Weapon Proficiency (Swordsman), Dodge, Stealthy, Trapping, Ambidexterity, Great Fortitude, Technophobia														
Skills	Animal Empathy 2, Intuit Direction 5, Listen 7, Spot 7, Jump 4. Move Silently 4, Survival 5														
Equipment	Leather Armor (AR 0 (1)), Short Sword, Short Bow, Spear														

### Little Guy (Civilized)

Little Guy Colonist	Colonist 5	TL	2	ST	30	LB	12								
Grav	N		Core/Frontier		Frontier										
Str	8	Dex	12	Con	12	Int	14	Wis	14	Cha	12	Edu	10	Soc	12
Init	+1	AC	12	AR	0	Spd	6m	Fort	+5	Ref	+2	Will	+5	SZ	S
Attacks	+3 Rifle (1d8/x2, Range 36m #Shots 1), +0 Knife (1d6-1)														
Feats	Armor Proficiency (Light), Weapon Proficiency (Marksman), Weapon Proficiency (Swordsman), Point Blank Shot, Barter, First Aid, Ambidexterity, Great Fortitude, Self-Reliance, Carousing, Sixth Sense														
Skills	Survival +7, K/Farming +5, Spot +6, Listen +4, P/Prospecting +5, T/Mechanical +4, Handle Animal +5, Ride +6														
Equipment	Black Powder rifle, powder horn, 20 shots, water bottle, 2 hunting knives														

## THE PENTAPODS

Although truly more alien than any of the other races discovered to this point (with the possible exception of the Xiang), the Pentapods may turn out to be humanity's best friends. These amphibian bioengineers demonstrate a fascination with Humans and are constantly seeking ways to be of service, especially in trading bioengineered products for Human technology. There are those who suspect that they have a more sinister purpose, however, and point to the invasive nature of much of the Pentapod technology designed for Humans.

### FIRST ENCOUNTER

In 2251, the ARI sent a pair of survey vessels to DM+27 28217, a red dwarf just out from DM+36 2219 on the French Arm. Upon approaching the second of the system's three planets, the vessels encountered a very large (500 meters in diameter), organic-looking object in orbit there.

The ARI survey team included a xenobiologist, and after a careful sensor scan, the xenobiologist and an assistant were sent in a small ship's boat to view the object up close. Upon approaching the object, the xenobiologist theorized that it was a vessel, and when an opening appeared in its side, flew the ship's boat in.

The object did indeed prove to be a vessel, the starship of a previously unknown race, the Pentapods. Peaceful contact was established, and by 2261, the Pentapods had gone so far as to establish an enclave on Beta Canum Venaticorum-4, an important colony world further in on the French Arm. Later enclaves would include Nibelungen, Mars, and Gamma Serpentis III.

The Pentapods have demonstrated an eagerness for trade, and Humans were very willing to comply. The Pentapods provided bioengineered items such as living contact lenses and compasses, and the Humans repaid them with land, raw materials, and the services of a more mechanical technology. Soon, a fast friendship based upon mutually beneficial trade had developed. That friendship continues to this day.

### SYSTEM INFORMATION

#### STELLAR DATA

**Primary Name:** DM+43 1953

**Spectral Class:** K5 V

**Magnitude:** 7.31

**X, Y, Z Coordinates:** -28.4, 19.8, 32.1

**Number of Planets:** 2

**Number of Asteroid Belts:** 1

**Notable planets:** Neither the lifeless gas giant, nor its moons, nor the thin asteroid belt of this system were of any interest to the Pentapods. They did construct several observatories on the surface of some of these small rocks, though. From a Human standpoint, these observatories are very bizarre constructs, being, for all intents and purposes, a collection of giant eyes. These eyes are sensitive in a variety of wavelengths, from short-wave radio through to deep ultraviolet, and were the means the Pentapods used to map the skies before their first stutterwarp expeditions left their homeworld decades ago.

## Homeworld

The Pentapods hail from the first of two worlds in orbit around DM+43 1953, a small orange star.

## Planet Data

**Name:** Lifewater

**Distance from Primary:** 0.77 AU

**Year Length:** 262.58 days

**Size:** 8800 km in diameter

**Day Length:** 17.32 hours

**World Type:** Garden

**Surface Gravity:** 0.69 G

**Atmospheric Pressure:** 0.74 atm

**Climate:** Warm

**Water Presence:** 95%

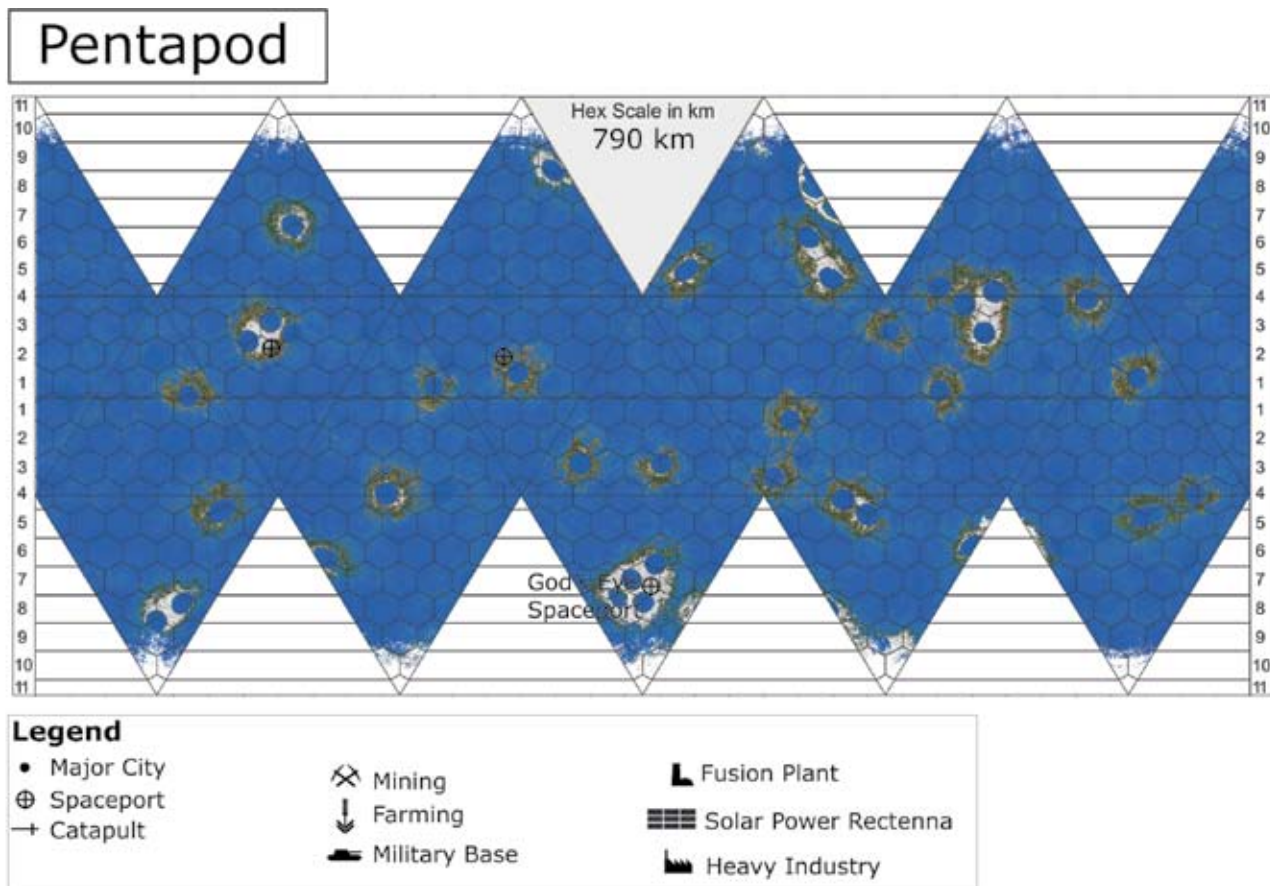
**Atmospheric Composition:** N<sub>2</sub> (74%), O<sub>2</sub> (21%), CO<sub>2</sub> (2%)

The Pentapod homeworld consists of several hundred small, but very deep, circular seas separated by thin bridges of marshy, boggy soil, with only a few mountains or rocky ground. The surface of the world is the result of thousands of years of manipulation and fine tuning by the world's dominant inhabitants, the Pentapod gods. Each circular sea is the home of a different god, carved out and reshaped by armies of servitors created by each massive being.

## Physical Description

The species humanity knows as the Pentapods are five-limbed amphibians standing about one meter tall. The Pentapod head is a bullet-shaped bony case housing the brain and the main sensory organs. Five eyes on stalks provide full circle vision and can be retracted into depressions in the skull. Five sensitive strips between the eyes respond to temperature and infrared light. The very tip of the head is pierced by a breathing hole leading through the skull to the body and lungs.

Attached to the skull with shoulder-like joints are the five legs; each is internally supported by three rigid bones and terminates in a fleshy pad (the pod or foot). Just above the pod are four fleshy tentacles or fingers which fill grasping or manipulative functions. Between each of the five legs is a web of leathery skin. In the Pentapods' ancestors, this web





connected all the legs down to the feet and was used when swimming. In contemporary Pentapods, the skin has receded to the first joint from the shoulder, allowing the limbs greater freedom of movement.

Directly below the skull is the central body containing the major organs. A single mouth at the base of the skull leads to the digestive system. The breathing tube through the skull leads to the lungs; a Pentapod exhales through five vents at the bottom of the body. The aquatic ancestors of the Pentapods vented water through gills for breathing and propulsion; modern Pentapods can hold their breath and bypass their lungs, to use water for propulsion while swimming.

The Pentapod body ends in a fleshy base; Pentapods rest their weight on this pad when still or standing. Pentapods walk somewhat like crabs, bringing each of the five pods forward in turn. When running, they draw up the trailing (fifth) leg, bunch their other legs together in pairs, and swing the body forward, alternating between the pairs of pods and the body itself. Of course, any sort of modification can be performed on them to change this, but most Pentapods encountered, no matter the caste, seem to fall into this basic form. Their constructs, however, many of which have Pentapods as their base stock, can be any shape or form, being shaped to fit their duties.

## Society

**World Population:** 500 million, +43 "gods"

**Date Founded:** unknown

**Nationality:** Pentapod

**Life Expectancy:** 80 years

**Literacy:** N/A%

**College Education:** N/A%

**Major City(s):** Each god has a city of roughly equal size (200,000) centered on them

**Currency:** N/A

**Government Type:** Balkanized. (7) Each nation is ruled by a "god" (E)

**Law Level:** Extreme. All aspects of life rigidly controlled (F)

**Tech Level:** High (12)

**Trade Data:** Ri, Hi

**Principal Trading Partners:** Pentapod colonies

**Interface Capability:** Ballute Shuttle (D)

**Resources:** Farming, Mining, Heavy Industry, Orbital Industry

**Military Presence:** Orbital Defense Installation, Military Base, Naval Base

**Services:** Link Network (100%), Airship Net, Weather Satellites, Communications Satellites, Orbital Terminal, Civilian Shipyard, Military Shipyard

Humans perceive Pentapods to be creatures who have so blurred the division between living being and machine that they have lost the distinction. It is obvious that while many Pentapods fit the physical description above, others have been genetically tailored to fit a particular occupation. These tailored Pentapods often have extremities shaped as tools for their work, or they might be small to fit into tight spots in machinery they tend, or large to carry heavy loads. Even the Pentapods assigned to Human relations show evidence of design: skin colors and textures pleasing to Humans. Each Pentapod is also mentally tailored to its occupation, demonstrating little interest in anything else but that job.

Humans realize that Pentapods view themselves as machines, each individual filling its niche in the overall Pentapod society. To Humans then, Pentapods seem to be members of a race that, in the pursuit of biotechnology, sadly lost its identity as a collection of individuals. The truth is actually far stranger than that.

## Pentapod Society

The Pentapods actually spring from a race of a few behemoth creatures that dwell deep in the seas of the watery Pentapod homeworld. These are the Pentapod "gods," vast, self-aware thinkers, nearly immortal, who each remain in a fixed location while exploring their environment, and interacting with one another, by means of "bullets" of genetic material that they secrete at will. The "bullets" are living beings in their own right, capable of everything usually associated with a living species except reproduction. There are only a few dozen of the massive god-creatures, and they have tailored and shaped their world to fit them. With so few of them spread across an entire planet, they have never had true conflict, though occasionally disputes would arise. These disputes never gave rise to actual combat, however.

Pentapods are also intimately involved in the life cycles of their "gods." Every so often, each god requires genetic infusions from another god. These infusions help the gods maintain genetic compatibility with their counterparts, and likewise serve in the gods own very infrequent reproductive cycles. These genetic infusions are of Pentapods, often up to a hundred at a time, who, for all intents and purposes, are eaten by the recipient god. Genetic transfers also seem to perform some role in communication between the gods, being necessary to transfer ideas or concepts of any sort of complexity. Information transfers don't require the same number of Pentapod bullets as the genetic infusions do, and often this seems to involve only one, or at most a few, bullets. While in orbit over the Pentapod home world, the crew of the **Bayern** observed several of these episodes, including a genetic infusion, and at first the crew thought there was some sort of war on. They later began to suspect the truth, but it wasn't until much later that a Pentapod named Kilp, formerly

of Star Gazer, informed Humanity of the reality of Pentapod society. This reality is still kept secret from all but a few, but the story is starting to leak out.

Over the course of ages, some of these “bullets” discovered dry land. The “god” who created them designed others to explore the land. Eventually others were made to explore the air. Finally, with the aid of mechanical technology developed on land, some were designed to explore space.

What Humans know as Pentapods are, therefore, genetic “bullets” sent by a Pentapod “god” to explore space. Along the way, they have discovered a new race among the stars—the Human race—and under the stimulus of this highly individualistic life form, some Pentapods are beginning to develop an individualism of their own.

## THE PENTAPOD “REVENGE”

“Revenge” is a Human term, chosen to describe what the Pentapods did, though the word itself is incorrect. Pentapods do not have a concept of vengeance. If a unit of their society goes rogue, it is simply killed. If the unit is one of the more valuable constructs, other measures are used to bring it under control. There is no attachment of morality to these deeds. It simply is the way things are done.

Pentapod contact with humanity has always been through the intermediary of the small “bullets,” what most people think are actually the Pentapods. Communication between the Pentapod home world and Beta Canum can take several weeks, however. Finally, one Pentapod god, named Star Gazer, decided it was time for a god to visit a Human world, and so shed much of its bulk and arranged to be carried off-world. Human-made boosters had to be used for this mammoth task, for, though having shed 85% of its bulk, Star Gazer still massed nearly 80 tons, and no Pentapod surface-to-orbit vessel could manage that. It ensconced itself aboard the transport **Pilk’pop’weaj** (translation “**Blue Skies**”) and, in 2307, set off for Beta Canum. Along the way, in the Ross 627 system, tragedy struck.

A Kafer deep-raider squadron, consisting of four small vessels, encountered the “**Blue Skies**” and its escort of six defensive Void Sharks. Despite the best efforts of the Sharks and their crews, **Blue Skies**, with its all-important passenger, was killed, along with all six defensives and most of their crews. Only a few survivors managed to return to Pentapod space, after the French patrol squadron centered on the cruiser **Colbert** found the battle scene several days after the attack.

Among the casualties of that day was Star Gazer, the first god to have died in over 600 years, and the first ever to have died by violence. The Pentapod race as a whole was plunged into shock. Different groups went in different directions, as dictated by the wishes of the gods themselves. Some returned to business-as-usual, though mourning the loss of

Star Gazer. Others mandated isolation for the race, and built ships to enforce it. Still others demanded that something be done, though there was a split over who should be the subject of that action; Humans or Kafers? Some blamed humanity for having brought the Kafers down on the Pentapod race, which others demanded that the “rogue” aliens, the killers of Star Gazer, be exterminated, like any other malfunctioning unit of society. However, the Pentapods decided that Kafers, being an alien intelligence, were too valuable to exterminate. Therefore, they needed to be brought under control, like a rogue construct. Those who pushed for action against humanity lost the discussion, though they still lurk in the darkness, perhaps hatching schemes against their race’s ally.

In 2309, the representatives of several Pentapod gods approached the French military government on Beta Canum with an offer: Give us test subjects, and we’ll give you a weapon to defeat the Kafers. With the prospect of having to invade Kafer space looming, the French agreed, and provided the Pentapods (and the Human scientists working with them), everything they needed up to and including live Kafers.

By 2311, it was ready, and so were the Human fleets. The Gamma Serpentis system had been conquered, though the planets themselves were not yet taken. The Pentapod Revenge was a virus, one that acted to block the production of the Kafer para-adrenal gland, which produced the chemical trigger needed by Kafers to stimulate their intelligence when threatened. The virus was designed to be virulent, and upon distribution, spread like wildfire through the cramped confines of the Kafer cities and Safe Places. The disease was largely kept secret from Earth and its populace, though some of the allied military intelligence agencies suspect the truth.

After the plague, the Kafers were just as violent, perhaps even more so, but simply weren’t competent in that violence. Technical skills were forgotten, tanks crews couldn’t fight their vehicles effectively, and starship crews were helpless. Human forces were able to land, and establish bases in abandoned Safe Places, while the hordes outside hurled themselves at the walls.

## PENTAPOD ADVENTURES

Humans are just as much a mystery to Pentapods as Pentapods are to Humans. Pentapods are fascinated by the individuality evidenced by each Human. To them, this individuality puts Humans on a par with the Pentapod “gods,” but Humans are small and short-lived, and they behave like “bullets” in that they join together into organizations in which directives from above are carried out by those below. To Pentapods, then, Humans fill an indefinable niche somewhere between “god” and “bullet.”

Regardless of the ostensible purpose of any particular adventure, whenever Pentapods and Humans interact with

each other, each race will be attempting to better understand the other. The referee should let the players slowly discover the mystery of the Pentapods' culture, letting comments and questions that a Pentapod makes during the course of an adventure serve as clues about its mysterious nature.

TECHNOLOGY

Pentapod technology is almost wholly biologically-based, though are elements of mechanical and electronic technology in their society as well. The most notable of these is the stutterwarp drive itself, the "mechanical displacement organ." Starship weapons are likewise mechanical in nature, though in this case purchased from Humanity. Other items incorporate only small pieces of non-organic material, like the antennas on radios.

CHARACTER GENERATION

Pentapods Rolls their stats normally, with the following modifications:  
-4 Str, +2 Dex, +2 Int  
Pentapods may only choose from Class skills. Cross-class skills are unavailable to all classes save the Traveller.  
All Pentapods are Medium-sized

Typical Pentapod NPCs

TECHNICIAN

Pentapod Technician		Professional 6				TL	12		ST	24	LB	11			
Grav	N	Core/Frontier				Core									
Str	8	Dex	14	Con	11	Int	15	Wis	10	Chr	10	Edu	12	Soc	-
Init	+2	AC	12	AR	0	Spd	9	Fort	+2	Ref	+4	Will	+6	SZ	S
Attacks	-3 (fist 1d3-1, unarmed)														
Feats	Professional Specialty (Biomechanics), Research, Trustworthy, First Aid, Credit Line, Barter, Gearhead (biotech only)														
Skills	Swim 8, T/Biomechanics 12, K/Genetics 10, Speak Language (French), Read/Write Language (French), Speak Language (English), Read Language (English), Survival 3, Liaison 5, Appraise 6, Drive 6, Leader 3, P/Administration 6, K/Biology 10, K/Genetics 10, K/Homeworld +6, K/Botany 9														
Equipment	Pentapod Biosampler, bioscanner, food maker														





## THE SUNG

The Sung were the first sapient alien race to be discovered by Humans, and in many ways they bear the most similarities to Humans in culture and thought processes.

### FIRST ENCOUNTER

Discovered by a Manchurian exploratory mission, the Sung were first encountered in 2247 in their home system. First contact occurred when the Manchurian expedition, investigating mysterious signals from the system's third planet, detected a Sung interplanetary craft. Assuming that the source of the signals, as well as the ship, was some unexpected Human expedition, the Manchurians attempted communication. The signals that returned were obviously non-Human, and the Manchurians panicked and fled from the system. They returned directly to Earth, with the news that there were technologically advanced aliens at the fringes of the Chinese Arm.

Another Manchurian expedition was quickly sent back out. This time, it consisted of a party of warships (in case the aliens proved hostile) carrying teams of exobiological, linguistic, and diplomatic experts. Remaining in the outer regions of the system (so as not to appear a threat to the Sung homeworld), the expedition was successful in initiating peaceful communications with the Sung. Progress continued until a Canadian group discovered the Xiang, another sapient race

native to the system, who appeared to be slaves of the Sung. When news of this reached Earth, an outcry was raised leading to the Slaver War.

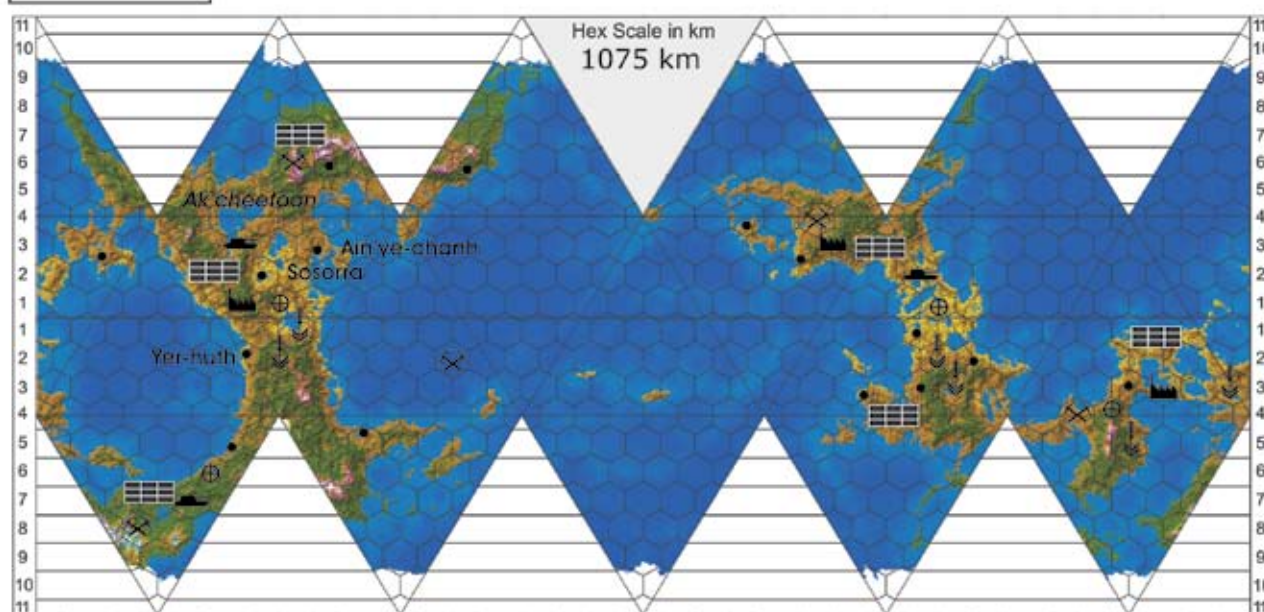
But Sung interplanetary vessels were no match for Human stutterwarp warships. With very little loss of Sung lives, Human dominance was accepted under the system of **Sos-Soon-Atkacharr**.

Sos-Soon-Atkacharr is one of the underlying principles of the Sung social order. Under this idea, more advanced societies are obligated to raise less-advanced cultures to their level. In return, however, the more-advanced society is entitled to payment for its efforts, in the form of labor, resources or both.

It was the system of Sos-Soon-Atkacharr that the Sung had used to justify their treatment of the Xiang. In Sung eyes, the Xiang were primitives, and they were expected to obey their Sung masters, in return for which they were given access to Sung knowledge. It did not matter to the Sung that the Xiang did not desire that knowledge, in fact, that was so much the better, as it meant that Sung business would continue into the distant future on Xiang labor. With the Human conquest, Humanity is now the dominant nation, and has a duty to raise the Sung nations up to its level. In Sung eyes, this largely means the secret of the stutterwarp.

Since the end of the Slaver War, relations between Sung and Humans have steadily improved into a system of fairly free cooperation. The only frictions still to be felt concern

## Stark



### Legend

- Major City
- ⊕ Spaceport
- Catapult
- ⛏ Mining
- ↓ Farming
- 🏰 Military Base
- ⚡ Fusion Plant
- ☄ Solar Power Rectenna
- 🏭 Heavy Industry

the reluctance on the part of Humans to share stutterwarp technology and other advanced information. To the Sung, this reluctance constitutes a violation of the system of Sos-Soon-Atkacharr, which states that the dominant state must share freely with its subordinates. And even though the Sung realize that Humans are alien, deeply ingrained cultural systems die very hard.

### ALIENS AS PCs:

Doubtless, some player will want to play an alien. The following aliens species are suitable for use as NPCs: Sung, Eber, Ylii Alpha. The rest are just too alien, or just too limited.

## THE SUNG HOME SYSTEM

### STELLAR DATA

**Primary Name:** DM +4 123

**Spectral Class:** K2 V

**Magnitude:** 6.55

**X, Y, Z Coordinates:** 22.0, 4.4, 1.9

**Number of Planets:** 5 (Nivix'dal, Kag'rok, Stark (Vasshon), Haz'rok, Jitok)

**Number of Asteroid Belts:** 0

**Notable Planets:** The gas giant, Jitok, is a super-Jovian world roughly four times more massive than Jupiter, and puts out a great deal of heat from its own internal processes. The largest of its moons, Home of the Mother, is the homeworld of the Xiang race. This is in addition to the 27 assorted chunks of rock and ice orbiting this massive planet.

### HOMEWORLD

**Name:** Vasshon (Stark)

**Distance from Primary:** 0.87 AU

**Year Length:** 251.5 days

**Size:** 10,990 km in diameter

**Day Length:** 27.61 hours

**World Type:** Garden

**Surface Gravity:** 0.93

**Atmospheric Pressure:** 1.01 atm

**Climate:** Temperate

**Water Presence:** 69%

**Atmospheric Composition:** N<sub>2</sub> ( 76%), O<sub>2</sub> (21 %), Trace (3%)

The Sung hail from Stark, the third world in orbit around DM+4 123. It is a world slightly smaller than Earth, and with a somewhat lighter gravity, though still in the range of "Normal."

## PHYSICAL DESCRIPTION

So far, the Sung are the only sapient race yet discovered by Humankind that is capable of natural flight. When stand-

ing as straight as possible, the typical Sung has a height of approximately 120 centimeters, but as Sung posture is slightly stooped, they appear to be even shorter. Sung wings, located midway between a pair of forelimbs and a pair of back limbs, have a span of about five meters and taper down to the tips. Sung forelimbs are small and delicate, while the back limbs are strongly muscled and sturdy. All four limbs terminate in "hands" of sorts, each with two fingers and two opposable thumbs (arranged thumb-finger-finger-thumb). The forelimb hands are very dexterous, but are smaller and weaker than the backlimb hands. The backlimb hands are large and strong, enabling the Sung to carry bulky items while in flight. However, they are limited by the carrying capacity of their wings as to what they can carry.

The Sung head and tail are designed to aid in flying. The well-muscled tail has a fan-like stabilizer at the tip which can be retracted when the Sung is on the ground. A rigid crest, located on the top of the Sung skull, functions as a small "rudder." The Sung head has four eyes, one pair above the other, with the lower pair being the larger and more widely spaced. Sung ears, placed on each side of the head, are hemispherical and can flatten against the skull for flight.

Sung bodies are hairless, and their skin is soft and supple. They are omnivores, and they reproduce by means of eggs. A Sung female lays a single, large egg; each parent then periodically covers it with a viscous fluid their bodies produce. This fluid slowly hardens to form a new outer shell, while the inner shell dissolves away, nourishing and warming the developing embryo. In this way, Sung eggs grow in diameter as the embryo grows. Eventually, when the parents' secretions cease, the egg dissolves through, birthing a new Sung.

### AKCHEEKTOON

Like Earth, Stark has dozens of nations, all of which are more or less equal in capabilities. The following data is for Akcheektoon, still the wealthiest of the nations, even after losing the war with the Humans.

**Nation:** Akcheektoon

**Population:** 784 million

**Language:** Chee'ton'ah

**Life Expectancy:** 98 years

**Major City(s):** Ain'ye-chanh (5.2 million), Sosorra (3.6 million), Yer-huth (2.6 million)

**Currency:** Gul

**Government Type:** Parliamentary Democracy, with Human oversight (5)

**Law Level:** Moderate. Personal concealable firearms prohibited (6)

**Tech Level:** High (12)

**Trade Data:** Ri, In

**Interface Capability:** Spaceplane, shuttle, catapult (B)

**Resources:** Farming, Mining, Heavy Industry, Orbital Industry

**Military Presence:** Orbital Defense Installation, Military Base, Naval Base

**Services:** Solar Power Satellite, University, Powernet, Road Net (100%), Rail Net (100%), Link Network (100%), Orbital Terminal, Civilian Shipyards, Military shipyards

Like any space-going society, the space around Stark is crowded with a wide variety of space stations, power satellites, workshacks and habitats. The largest of the habitats has a population of over 200000, and consists of the familiar gigantic, domed cylinder, though with six mirror panels instead of the Human norm of three.

## Society

The hierarchal system of **Sos-Soon-Atkacharr** plays a crucial role in the structure of Sung society, which is organized into a system of nation-states. A state with technological or cultural dominance fills a leadership role in which it demands obedience from lesser states in its sphere of influence. The superior state, however, has an obligation to raise its subordinates to its level through educational and financial assistance. The pattern of ascendance to superiority proves to be cyclic in nature, with the superior status leap-frogging from one state to another as advances are made.

Technologically, the Sung are roughly comparable to Hu-

## Typical Sung NPCs

### Sung Soldier

The Sung Soldier is typical of the troops encountered in the various Sung nations. They are just as competent and capable as their Human counterparts.

Sung Soldier		Sung 1/Army 5				TL	12	ST		22	LB	14			
Grav	N	Core/Frontier				Core									
Str	12	Dex	15	Con	14	Int	12	Wis	11	Chr	10	Edu	11	Soc	12
Init	+7	AC	15	AR	2	Spd	9/27	Fort	+3	Ref	+6	Will	+1	SZ	
Attacks	+3														
Feats	Carousing, Improved Initiative, Brawling, Armor Proficiency (Light), Weapon Proficiency (Marksman), Weapon Proficiency (Combat Rifleman), Weapon Proficiency (Heavy Weapons), Spring attack, Vessel (hover)														
Skills	Drive 10, Gather Information 3, Spot 8, Survival 7, Gambling 2, Listen 6														
Equipment	Gyro Rifle, 4 hand grenades, light armor, low-light headset w/HUD for rifle, 2 combat knives														

### Sung Ship Crew

The few Sung-crewed starships are always staffed by the most capable of their spacers, Many are ex-military, with all the skills that involves

Sung Ship Crew			Sung 1/Navy 2/ Merchant 4			TL	12	ST	17	LB	12				
Grav	N		Core/Frontier			Core									
Str	10	Dex	14	Con	12	Int	14	Wis	14	Chr	13	Edu	11	Soc	12
Init	+2	AC	12	AR	0	Spd	9/27	Fort		Ref	+6	Will		SZ	M
Attacks	+3 Spring Pistol (1d6/x2)(can be poisoned)														
Feats	Armor Proficiency (Light), Armor Proficiency (Vac Suit), Weapon Proficiency (Marksman), Barter, Calculating Eye, Connections (Merchants), Vessel (Starship), Carousing, Weapon Proficiency (Combat Rifleman), Connections (Sung space forces)														
Skills	Appraise 8, Gather Information 8, 6, Pilot 7, Bluff 6, Broker 9, K/Trade & Commerce Law 4, Trader 8, T/Mechanical 2, Gunnery 5														
Equipment	Portacomp, phone, subdermacalc, armored vest, Vaxar spring pistol														

mans. In some areas, such as medicine, they are more advanced; in others, such as star travel and power generation technology, they are at a lower level. At first contact, Sung had developed interplanetary ships equipped with both magnetic sails and ion drives.

Sung language has presented some problems to Human researchers, since Sung speech often extends into the ultrasonic ranges. As a result, the Sung usually resort to speaking Human languages (especially Mandarin Chinese and English). There are cybernetic implants available which will allow a person to imitate the speech range of the Sung.

## GENERATING SUNG CHARACTERS

Sung characters are the closest to Humans in terms of culture and sociology, and the easiest to fit into a game, even as player characters.

Sung generate their statistics normally, with the following modifiers:

STR: -4, DEX: +2

All other stats are generated unmodified.

Sung do not use Body Type modifications

Sung Move at 6 meters on the ground, and 18 meters in the air

Alien Levels: Sung start play with 1 Alien level

Starting Skills and Feats: All Sung automatically have the Natural Compass Feat, and receive 1 Bonus Feat at 1<sup>st</sup> Level in addition to home world Feats.



## THE XIANG

Of the known sapient races, the Xiang are the most technologically backward. But this masks the fact that a very high intelligence lurks within the Xiang's spidery form.

### FIRST ENCOUNTER

There were a few Xiang in evidence on the Sung homeworld when Humans first arrived, but the Sung did not mention their intelligence, and without the evidence of technology or the knowledge of their ability to speak, Humans assumed that they were beasts of burden. When a Human research team finally reached the Xiang homeworld, however, Xiang art convinced them that the race possessed at least nominal intelligence. A few experimental contacts soon proved that the Xiang were as intelligent as Human beings, but with no desire for advanced technology.

The fact that the Sung had great strip mines on this beautiful moon, where they worked the nature-loving Xiang, soon led to an outcry of "slavery" among Humans. The Sung justified themselves by the system of Sos-Soon-Atkacharr, saying that it was only natural that the technologically primitive should serve the advanced. In return, they offered the Xiang the fullness of Sung knowledge. They did not see it as their fault that the Xiang did not desire that knowledge.

Humans disagreed with this view and the Slaver War was born, ending in the breaking of Sung power over the Xiang and the establishment of Human power over the Sung.

### SYSTEM DATA

The Xiang inhabit the same system as the Sung, and further information on the system is provided in the Sung entry.

### Homeworld

The Xiang homeworld is a moon orbiting DM+4 123's fifth planet (a gas giant).

**Name:** Home of the Mother

**Distance from Primary:** 710,000 km

**Year Length:** N/A

**Size:** 9900 km in diameter

**Day Length:** 78 hours

**World Type:** Garden

**Surface Gravity:** 0.76 G

**Atmospheric Pressure:** 0.81 atm

**Climate:** Temperate

**Water Presence:** 71%

**Atmospheric Composition:** N<sub>2</sub> (79%), O<sub>2</sub> (19%), Ar (2%)

**Biodiversity:** Diverse

### Physical Description

In structure, the Xiang are similar to Terran arthropods, particularly the crustaceans, although they are more like arachnids in appearance. But their world's lighter gravity has allowed them to attain a much larger size than their Terran counterparts. The Xiang body is covered by a tough carapace and consists mainly of a horizontal main portion that contains the internal organs and is supported by eight of the Xiang's ten segmented legs. At the rear, a small, segmented tail curls under; at the front, a head holds the mouth and primary sensory apparatus. The average Xiang stands about one meter tall and is one meter in length.

The Xiang head is dominated by two large, bulging eyes, one to either side of the head. Between them runs a line of four vestigial eyespots, surmounted by another, slightly larger pair. Just below the row of eyespots is the creature's mouth, externally a strong beak for cutting, surrounded by four tiny arms, each with a pair of digits for holding food.

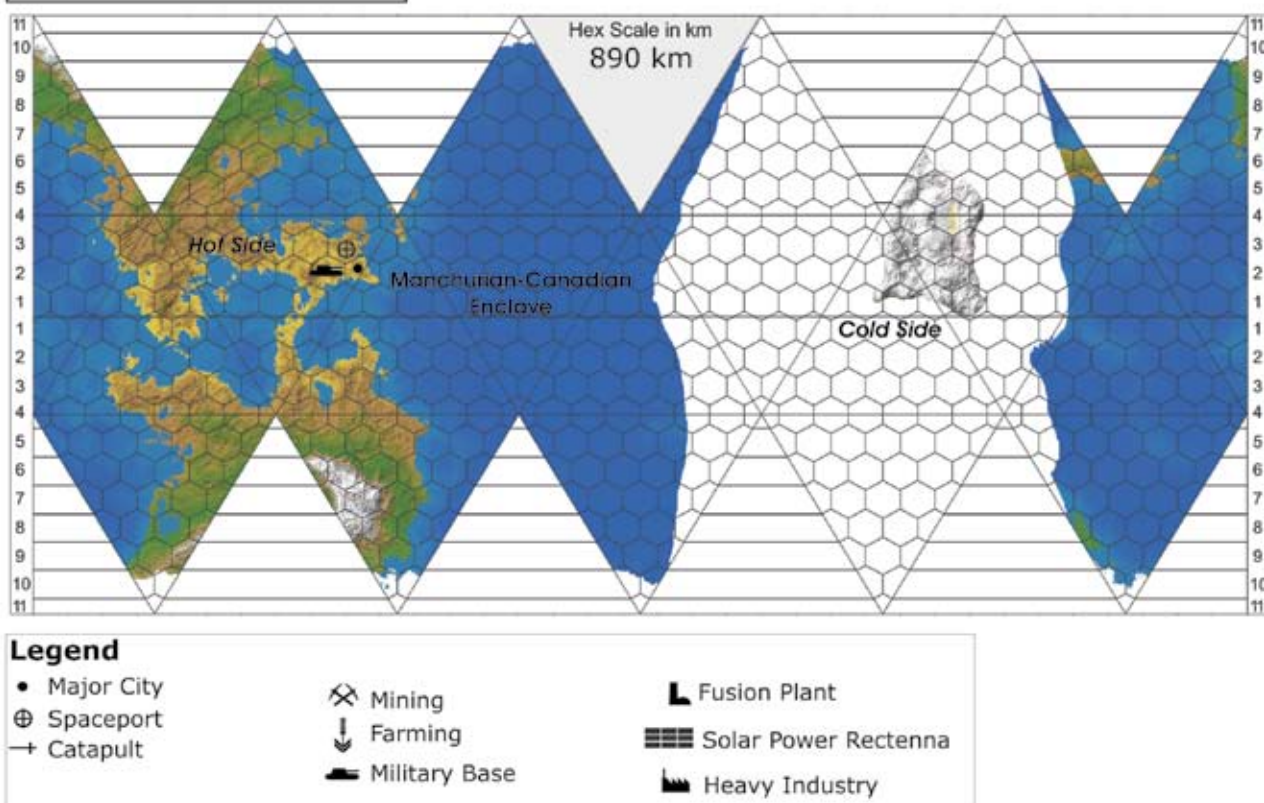
Xiang speech is produced in two ways. The primary means is by vocalization, but a pair of Xiang can also somehow transmit information privately by mouth-arm contact. Xiang hearing organs are four tympanic membranes located on the underside of the body, one pair just below the first, manipulative set of legs, and the second pair midway down the body.

The Xiang's 10 legs are divided into two parallel rows of five, one on each side of the body. All 10 legs have three joints each and four clawed digits. Between these digits is a leathery "palm," with which the Xiang can sense vibrations in the earth. The first pair of legs are more properly termed "arms," as they are used only for manipulation while the next four pairs are used for locomotion. The digits on the arms are more flexible than the others, with smaller claws and an opposable "thumb." As well, the palms are more sensitive.

The segmented tail on the Xiang serves for reproduction and for nurturing its symbiotic partner, the "dirt-mother." The dirt-mother is an immobile, disc-shaped plant about one and a half meters in diameter which serves as a nest-home through most of a Xiang's life. A tough, bark-like outer surface covers most of the dirt-mother, protecting it and the young Xiang it harbors from predators. Although the plant performs a type of photosynthesis, its thick covering prevents it from producing enough energy to sustain its vast bulk. It is, therefore, dependent upon nutritive secretions from its Xiang partner, who tends it as a gardener as well. The Xiang-dirt-mother partnership is the only one of its kind on the Xiang homeworld, and is the subject of intense study by many biologists.

Each Xiang goes through four basic stages of life in this order: (1) egg; (2) young; (3) adult female; and (4) adult male. During the first stage, the dirt-mother serves as a protective, insulating receptacle for the egg. Typically, a dirt-mother

## Motherhome



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holds three to six eggs, the clutch of the adult female that tends it. When the eggs hatch, the young Xiang work their way to the outer surface of the dirt-mother, but along the way, they swallow enough of the plant's fluids to develop a chemical dependency which lasts until the adult male stage of life.

While the Xiang are young, the dirt-mother provides a home for them, without which they would otherwise fall prey to larger animals. During this life-stage, the adult female is also present to care for and educate the young Xiang. During this time, the increased nutritive secretions produced by the combination of the adult female and the young Xiang's efforts stimulates the dirt-mother to bud-a long, slow process. By the end of this time, the adult female has metamorphosed into an adult male, the buds have consumed most of the dirt-mother, leaving only a hollow shell, and the young Xiang have reached adult female-stage, ready to take a bud, find a planting spot, and lay a clutch of their own eggs.

The adult male usually only fertilizes one clutch of eggs before becoming sterile, but it may fertilize as many as three or four. Free from the chemical dependency upon the dirt-mother, and no longer necessary for the care of the young, the Xiang finds itself free to wander and explore.

### Society

The symbiosis between Xiang and dirt-mother has led the Xiang to have consuming concern for the balance of na-

ture. Being the largest predators on their Eden-like planet, the Xiang have no need to construct weapons. Their stimulus to intelligence has been the need to find sufficient food while remaining in a fixed geographical location. The Xiang are not terribly fast creatures; instead, they have used their intelligence to become consummate trappers.

The Xiang also evidence a great love for artistic expression. This and their trap-building skills combine in the creation of beautiful sculptures with which they decorate their surroundings. Xiang also show a love for storytelling and music, the latter produced both by their bodies and by a few simple instruments they construct.

### Xiang Adventures

Humans are not sure as of yet just how to deal with the Xiang. Although Xiang do not use advanced technology themselves, they do seem to understand what Human and Sung sciences they are taught. Their sheer strangeness makes communication of more abstract thought very difficult, but their art and music hints at a sophistication in that area as well. Unfortunately, Xiang tend to provoke strong reactions in some Humans, due to their very alien and spider-like appearance.

The referee should play Xiang NPCs as great enigmas. The players might encounter them on Human vessels (very rarely), on the Sung homeworld (a bit more likely), or the players might travel to the Xiang homeworld for research.

Xiang they encounter will show great curiosity, but translation of speech between the races will tend to be garbled.

XIANG CHARACTER GENERATION

-4 Str +3 Dex, +2 Int

Xiang are Medium-sized

Xiang move at 12 meters

All Xiang begin with the Spring Attack Feat, the Stealthy Feat, and the Trapping Feat, which reflect the way they hunt their prey.

Xiang can see four times as far as a Human in dim or low-light condition, and can sense thermal emissions at Medium range.

All Xiang have the Low-Gravity Adaptation Feat

All Xiang gain a +2 to their rolls for climbing

All Xiang possess a powerful bite from their front pincers

(1d4/x2)

Xiang cannot swim

Xiang have a very low-technology society. The environment of their moon is clement enough that they felt no drive to invent tools more complicated than stone, though their work is beautiful. The Xiang are both intelligent and curious, however, and older, sterile males often travel off-planet with other races in order to learn more about the universe beyond their homeworld.

Education and Charisma present problems in rating a Xiang. For purposes of skill resolution generate these stats as normal. However, when it comes to interactions with other races, the Xiang cannot be rated. Their thought processes are so alien as to be almost incomprehensible. Despite advances in the computer translation software used, there are still wide gulfs in Human knowledge of the Xiang.

Typical Xiang NPCs

MALE (WANDERER)

Xiang Wanderer		Barbarian 6				TL	0		ST	42	LB	12			
Grav	L	Core/Frontier				Frontier									
Str	8	Dex	15	Con	12	Int	14	Wis	14	Cha	12	Edu	10	Soc	12
Init	+2	AC	12	AR	0	Spd	12m	Fort	8	Ref	4	Will	6	SZ	M
Attacks	+5/+0 (stone knife 1d6-1) +6/+1 Bite (1d4/x2)														
Feats	Low-Gravity Adaptation, Spring Attack, Stealthy, Trapping, Technophobia, Animal Whisperer, Dodge, Endurance														
Skills	Animal Empathy 3, Craft 11, Intuit Direction 10, Spot 8, Climb 4, Move Silently 4														
Equipment	A few extremely decorative stone knives, small wood statuette														

THE YLII

A potential ally in the conflict against the Kafers, the Ylii are one of the more unusual races encountered by Humanity. Rather than a single species, the Ylii are a grouping of several different, but related, intelligent species.

FIRST CONTACT

Humanity's first hint of the existence of the Ylii was the discovery of non-Kafer artifacts in the wreckage of a Kafer warship. These artifacts were obviously of a completely different design and configuration to Kafer equipment, and some of it were articles of clothing that were sized for a creature considerably smaller than a Kafer.

However, it wasn't until an American expedition involving both a brown dwarf and a stutterwarp tug route (see Chapter 7 Alien Space) that contact was made with the beleaguered Ylii worlds, beset by Kafers. Human intervention helped stem an invasion of the Ylii homeworld, and the two races have been talking, and then cooperating, ever since.

HOME SYSTEM

STELLAR DATA

Primary Name: SS -27 6854

Spectral Class: K6 V

Magnitude: 8.3

X, Y, Z Coordinates: 8.8, -47.7, -11.7

Number of Planets: 5

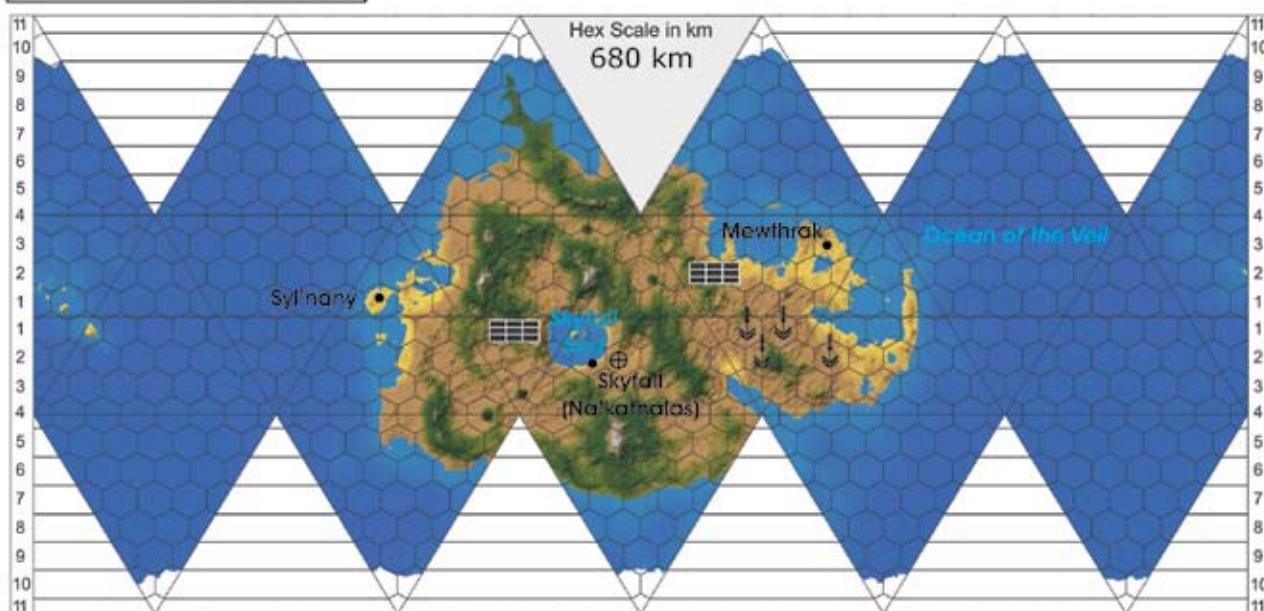
Number of Asteroid Belts: 0

The Ylii home system has an incredible amount of space-based infrastructure. Solar power stations, factories, observatories and habitats crowd orbital space, with mining and processing facilities scattered throughout the system.

Six massive habitats occupy the leading and trailing Lagrange points of the Ylii homeworld and its largest moon, while several cities dot the airless expanses of the three satellites. There is a great deal of development in the rest of the system as well.



## Ssuushni'a



## Legend

• Major City	⌘ Mining	⌚ Fusion Plant
⊕ Spaceport	↓ Farming	⌚ Solar Power Rectenna
→ Catapult	⌚ Military Base	⌚ Heavy Industry

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## HOMEWORLD

## PLANET DATA

**Name:** Ssuushni'a  
**Distance from Primary:** 0.256 AU  
**Year Length:** 455 days  
**Size:** 7,570 km in diameter  
**Day Length:** 29.1 hours  
**World Type:** Garden  
**Surface Gravity:** 0.58 G  
**Atmospheric Pressure:** 1.32 atm  
**Climate:** Temperate  
**Water Presence:** 74%  
**Atmospheric Composition:** N<sub>2</sub> (78%), O<sub>2</sub> (19%), Ar (2%)  
**Biodiversity:** Abundant  
**Natural Resources:** 6  
**Number of Satellites:** 3

The Y'lii prefer that their homeworld remain in an unspoiled state, and build their communities around and within terrain features, rather than over and through. Y'lii communities are difficult to spot from the air, and almost impossible from space.

## SOCIETY

**World Population:** 1.2 billion

**Date Founded:** unknown

**Nationality:** Y'lii

**Life Expectancy:** 86 years (Alphas)

**Literacy:** 100%

**College Education:** N/A%

**Major City(s):** Syl'nany (7.4 million), Na'kathalas (5.8 million)

**Currency:** N/A

**Government Type:** Charismatic Oligarchy (C)

**Law Level:** Low. All weapons prohibited, however.

**Tech Level:** High (12)

**Trade Data:** Ri, Hi

**Principal Trading Partners:** Colonies

**Interface Capability:** Beanstalk (A)

**Resources:** Farming, Mining, Heavy Industry, Orbital Industry

**Military Presence:** None Native

**Services:** Link Network (100%), Rectenna, Airship Net, Maglev Net (90%), Weather Satellites, Communications Satellites, Orbital Terminal, Civilian Shipyard, Military Shipyard

## Physical Description

The Y'lii are homeothermic, oxygen-breathing humanoids that evolved in an environment of diffuse, low-frequency light. They are polytaxic, which means that their "race" isn't a race at all, but rather an amalgamation of intelligent beings belonging the same family of creatures. To use a terrestrial

example, the Y'Lii "race" would be equivalent to the entire family of apes (including Humans) operating as a single, integrated society.

The Ylii are divided into 33 species spread across 7 genera. Despite this, they all display certain common characteristics.

They are all upright bipeds, although some can adopt a rolling four-limbed gait. They have four-fingered hands and feet, with two fingers of each appendage being opposable thumbs. Almost all species are equally dexterous with their feet as they are with their hands. Furthermore, they are polydexterous, meaning that they do not evince a right/left coordination bias in either their feet or hands.

The Ylii brain is located in the center of the upper torso, protected by a bony covering. Their somewhat small heads are primarily for housing for their two large, sensitive eyes. These eyes function best in lower-light condition, and can see into the middle infrared spectrum. Other sensory organs on the head include two small ears and two tufts of pressure-sensitive whiskers. These whiskers are instrumental in maintaining balance and assessing air pressure.

Sharing the torso with the brain are four-lobed lungs that overlay the brain case, along with a six-chambered heart located in the upper abdomen below the brain-case. The Ylii breathe through four slits on the upper torso, which also serve as their vocal apparatus. Their speech consists of wheezing/whistling phonemes with a muted nasal quality, which has often been likened to French. Without palate, dental structures, or larynx, the tonal variations of Ylii language are much subtler, since fewer phonetic options are available. Also in the abdomen is found their complex mouth structure, which inverts and folds out of the way when not in use. Humans tend to not react well to the sight of an Ylii eating.

All Ylii are covered with a smooth silky fur, although color, length, and texture vary according to genera. With the exception of only 1 of the 33 species, Ylii are herbivores. The diet of this last is rather specialized as it is a carrion eater, and responsible for taking care of the dead in Ylii society.

## THE GENERA AND SPECIES

The Ylii are divided into seven genera --Alphas, Betas, Gammas, Deltas, Epsilons, Iotas, and Zetas. Within these seven genera, there are 33 separate species. Each of the seven genera classifications is also the classification for the dominant (by percentage) species within that genus. Generally speaking, each genera is distinguished not just by physical characteristics, but also by the role they play in society. The various species perform more specialized variation of this role. It is important to keep in mind that the Ylii are a very alien race, and though some of their behavior may seem analogous to Human activities, all too often that is more of a coincidence than anything else.

**Alphas:** Ylii of the Alpha genus are the most 'adventurous' of the Ylii and are the most likely to be encountered off-world or as interspecies liaisons. They are curious, hardy, and have a strong, aggressive will to survive. Alphas have traditionally served as the Ylii's explorers and first-wave colonists. In prehistoric times, they had a role as defenders of the troop as well.

All species of the Alpha genus are fairly large (for Ylii), averaging 1.5 meters in height. With the exception of the palms of hands and feet, they are covered with glossy brown or brown-grey fur. Most Human-Ylii contact is with the Alphas.

**Betas:** The Beta genus might well be called the Ylii technicians. They tend to follow quickly in the wake of Alpha explorations, their inquisitive natures drawing them to the new and puzzling challenges presented by novel environments. While they are skillful technicians, they are also extremely placid and socially malleable. They quickly adapt to --and adopt-- any social order in which they find themselves. However, their fixation on technical issues appears to degrade their overall intelligence. In fact, they are not so much 'slower-witted' as they are just plain uninterested in (and therefore, ignorant of) other things. The artifacts recovered from Kafer vessels were built by and for Betas, many of whom serve on Kafer vessels as slave-technicians.

The Beta genus are small for Ylii, standing about a meter in height. They are covered with short brown fur that is quite sparse on their heads, hands, and feet. Exposed skin is red-brown to rust-colored and somewhat wrinkled.

**Gammas:** The Gamma genus might be called the workers of the Ylii culture. They provide the strong backs and hands that do whatever heavy labor remains to be done by Ylii. They are simple-minded and docile, and are less sensitive to environmental differences than other Ylii. Consequently, they are frequently found in the Ylii industrial sites that dot Ssuushni'a's deserts, moons, and orbital stations. In prehistoric times, they shared with Alphas the responsibility for the defense of the troop.

The Gamma genera are the largest of the Ylii, averaging 1.8 meters in height and 80 kilograms in weight. They are sturdily built and quite strong for their size. Their fur is short, thick, and either black or charcoal grey. Their hands and feet are hairless and black-skinned.

**Deltas:** The Delta genus are the most intelligent --and elusive-- of all the Ylii. The great majority of them are teachers, a term which includes authors, reporter/ observers, and any other task that focuses on the transmission of knowledge. Deltas are non-aggressive, but are highly individualistic. Humans would think of them as "sensitive, yet stubborn." A delta that is forced into an environment or role that it does not approve of will quickly weaken and die. This is their in-born way of "fighting back;" a physiologically-activated met-

abolic change that effectively let the Delta commit suicide.

The Deltas are the leaders of Ylii groups, though they are not hands-on types, and prefer to leave the implementation of their plans to others. Although the Deltas tend to make excellent and thoroughly-considered decisions, they do not do so rapidly. To a Delta, insistence upon a quick decision would be like telling a Human that fish should have legs; it is an oxymoron. The only important thing to a Delta is that their decision is (in all ways) responsible and ecologically holistic.

Delta's stand about 1.4 meters tall and are almost completely hairless, except for scattered tufts on their torsos, forearms, and a sparse covering across their backs. Their skin is dark grey to black and is quite wrinkled. They are extremely sensitive to light (even for Ylii) and still follow an almost completely nocturnal existence.

**Epsilons:** The Epsilon genus are the most gregarious of the Ylii genera, with the dominant species of this genus being akin to civil servants. The Ylii word for this group translates roughly as "communals" and certainly conveys more of the diffuse and broad nature of their role in this society. They are the noisiest of Ylii, tending towards hyperactivity when they are excited or upset. Some Human visitors have likened them to a troops of chimps when they get excited.

The Epsilons are to the Ylii community what the Gammas are to Ylii industry; they are the hands that get the work done. But beyond this, there is a predisposition in the Epsilons toward social amalgamation; in some strange way, they are the glue that holds the Ylii together as a unified society. There is no 'logic' behind this, nor is it simply explicable as an adaptation that ensures enhanced survival due to their specialized contribution to the welfare of the other genera. Rather, the activities and interaction of the Epsilons seem to be a behavioral cue to the rest of the Ylii to remain tightly integrated and socialized. They make the logical structure of the polytaxic society "feel right" to its various, diverse members.

The Epsilon genus averages 1.2 meters in height and frequently adopts a four-limbed lope when moving on the ground. Except for their hands and feet, they are covered with light grey to snow white fur. The fur around the eyes is jet black, giving them a 'masked' appearance. Their skin is also black. They are the most numerous of all Ylii genera.

**Iota:** The Iota genus are the Ylii answer to the professional builder. The dominant species of this genus has an innate fondness for structures, whether of stone, steel, or composite laminates. Like the Betas, they're a little bit detached from the rest of society. However, they are not as socially malleable as the Betas, and have a strong self-preservation instinct.

The Iota genus stands about 1.3 meters tall and (except for the hands and feet) is covered with an almost blue-grey fur. The skin of the Iota is tannish-grey.

**Zeta:** The Zeta genus are essentially the agrarian equivalent of the Gamma. These smallish Ylii are fairly docile and simple-minded, although the dominant species of this genus has a thorough understanding of farming and horticulture. This genus is interfertile with the Epsilon genus, but offspring are sterile Zetas. Of all the genera, the Zetas are probably the least curious, evincing a strong desire to live and die in the same vicinity where they are born.

Zetas range between 0.8-1.1 meters in height and are covered with tan-brown fur (except for their hands and feet). The arboreal gatherers have the largest ears of any of the Ylii, as well as the most developed balance sensors. However, their eyes are the smallest of any Ylii, giving them an almost tarsier-like appearance.

## Evolution and History

The Ylii evolved their unique polytaxic society as a response to changing environmental conditions on their homeworld. Their intelligence is largely a result of the stresses involved to making a polytaxic society work, and they were very slow in their technological advancement.

During their long climb up the technological ladder, the Ylii eventually made it out into space, and then to other solar systems. They first ventured out of their system in stutterwarp vessels nearly 100,000 years ago. They eventually encountered the Kafers, and this encounter engendered the biggest crisis the race had ever seen. The sheer violence and seemingly wanton destructiveness of the Kafers abrogated almost all conceptions the Ylii had of how organisms should behave with respect to their environment. The question of what to do about the Kafers tore Ylii society asunder.

The Alphas, once the defensive members of the troops, immediately saw the threat the Kafers would pose if they ever managed to leave their home world. As unlikely a possibility as that seemed, the Alphas maintained that the Ylii had to do something to contain the Kafers.

The Deltas, however, countered that the Kafers had a role to play in the universe as well. That it was not the place of the Ylii to decide that place, but for the Kafers to discover. The advocated leaving the Kafers alone, to develop as they should.

The resultant stresses on Ylii society, as individuals took up sides, came to head, and war soon broke out between the two factions. The Ylii had never experienced war, and had no concept of how to limit it. The war was fought with everything from police weapons to anti-matter bombs, and was over within a few weeks.

Ylii society was shattered by the war, but the faction headed by the Deltas managed a narrow victory. As their civilization crumbled, the Deltas took steps to edit out the aggressiveness from the Alpha and Gamma gene lines, and tried to hold society together. They failed, and society crashed



back to the Stone Age.

The Ylii eventually managed to rebuild their society, and to reclaim space, but the knowledge of what they gone through was lost. It was only about 500 years ago that the Ylii managed to regain space travel.

The "modern" Ylii resumed interstellar space travel only 900 years ago. 300 years ago, they encountered the Kafers, and since then the Ylii have been brutally swept aside or

#### **Ruins:**

The ruins of ancient Ylii colonies in Human space can be found in Ross 863 I, DM +5 3409 I, Ross 867, DM +3 3465, and DK +17 4521.

taken as slaves by these savage neighbors. Now, only three systems still remain under Ylii control; SS -27 6854 (site of the Ylii homeworld, Ssuushni'a), DK -33 1023, and DK +32 2390. The Human occupation of the Kafer home world bought the Ylii a little bit of time, for with the devastation of their most populous planet, and the loss of several Suzerains in the war with Humanity, Kafer space has been plunged into turmoil and internecine fighting.

### **PSYCHOLOGY, PHILOSOPHY, AND INTER-ACTION WITH HUMANS**

Ylii are very conservative by Human standards. Though they are quite advanced in many areas, it has taken them far longer to reach that level than Humans will. They are naturally cautious, with a mild temperament and have a tendency to embrace the logical and orthodox.

This conservative attitude is the basis of the Ylii approach to health and medicine, which seems to Humans to be rather cold and ruthlessly pragmatic. Ylii treat injuries and disease, but, despite having the capability, do nothing for congenital and genetic disorders, save make them comfortable. This attitude is rooted in Ylii orthodoxy, which stresses that all creatures have a role to play, and that all must act according to that role. If your role is to have cancer and die, then in Ylii society, you will fulfill that role.

This pragmatism carries over to the social sphere, where the Ylii make similar decisions regarding the role of individuals within society. Some species are, quite simply, more important, more valuable to the society as a whole, and if necessary the less important will be sacrificed for the more important.

This almost cold-blooded pragmatism strikes Humans as very odd, possibly even wrong. But to the Ylii this system is as natural as the instinct of self-preservation in Humans. No Ylii is forced to participate in this system. This is how their society works. Ylii revere each individual, much the same way we are grateful to each cell in our body, but this does not alter the social knowledge that certain Ylii are more expendable than others. Human society wages a tug of war between the ideal of 'perfect equality' and the logistical reality of differing

degrees of expendability (usually based on abilities and attributes). The Ylii feel no such dilemma; their polytaxic social order makes such considerations moot. Expendability alters as the environment changes; new challenges define new needs. And right now, the Kafer challenge means that the Ylii need Human allies.

The American-Australian Volunteer Force was organized to make available experienced Human combat veterans to the Ylii, without arousing the ire of the citizens of the Core, who may have despaired at the idea of entering into another war against the Kafers. Currently, however, the Ylii are concerned primarily with fending off the odd raider, as the remaining Kafer suzerains are too heavily involved in the Kafer Sphere's internal power struggle to worry about the Ylii for now.

Because of this, certain elements in the Alphas are pushing for Ylii-Human action to start retaking worlds lost to the Kafers. Most members of the AAVF view this as insanity, but the Alphas feel that they can establish space superiority against the Kafer forces, and use orbital bombardment to reduce the Kafer ground troops to a manageable level. AAVF officers are appalled at the casualties this plan would cause to Ylii civilian populations on these worlds, but to the Ylii planners this is irrelevant. They are much more interested in establishing a buffer against the inevitable Kafer push, which they feel will come as soon as the Kafers recover from the civil war they have been waging for the past 8 years.

### **CHARACTER GENERATION**

Of all the Ylii genera, only the Alphas are very suitable as an adventuring class. Some information is provided for the other genera, but only for the purpose of creating NPCs.

Classes for the Ylii are limited by their genera. Certain occupations are only available to certain genera, and not to others. Any occupation not listed is not available, including all military classes. The few military pilots the Ylii have are either Professionals, Law Enforcement, or Scouts.

Class	Alpha	Beta	Gamma	Delta	Epsilon	Iota	Zeta
Academic	y	n	n	y	y	y	n
Athlete	y	n	y	n	y	n	y
Belter	y	y	y	n	y	y	n
Diplomat	y	n	n	n	n	n	n
Engineer	n	y	n	y	n	y	n
Entertainer	y	n	n	n	y	n	n
Law Enforcement	y	n	n	y	y	n	n
Medic	y	n	n	y	y	n	n
Merchant	y	n	n	n	y	n	n
Professional	y	y	y	y	y	y	y
Scout	y	n	n	n	n	n	n
Traveller	Y	y	n	n	n	n	N

#### **Ylii Racial Traits**

Statistic	Alpha	Beta	Gamma	Delta	Epsilon	Iota	Zeta
Strength	-2	-8	+2	-4	-4	-5	-6

Dexterity	+2	+8	+2	+4	+4	+4	+8
Constitution	-	-4	+2	-6	-2	-1	-6
Intelligence	-	-	-4	+2	-1	-2	-2
Wisdom	-	-2	-4	+2	-3	-	-2
Charisma	-	-4	-6	+4	-	-1	-1
Education	+2	+4	-2	+2	-	+2	-2
Social Standing	-2	-2	-4	+4	+2	-2	-4

As can be seen from the above chart, none of the other Genera are particularly well-suited to PC use.  
 Ylii base speed is 12 meters  
 Medium-sized: Ylii receive no special bonuses or pen-

## Typical Ylii NPCs

### Alpha Scout

The Alpha genus of the Ylii is the one most likely to interact with Humans on a constant basis. Indeed, in terms of personality, many Alphas have more in common with Humans than with members of the other Ylii genera, and often come to identify with them.

Ylii Alpha			Ylii 1/Scout 9			TL	12		ST	56	LB	12			
Grav	N		Core/Frontier				Core			Body	N				
Str	9	Dex	15	Con	12	Int	14	Wis	14	Chr	12	Edu	14	Soc	9
Init	+2	AC	12	AR	0	Spd	12m	Fort	+7	Ref	+2	Will	+4	SZ	M
Attacks	+5/0 fist (1d3-1/x2), +8/+3 neural disrupter (special)														
Feats	Lightning Reflexes, Armor Proficiency (Vac Suit), Weapon Proficiency (Marksman), Armor Proficiency (Light), Jack-of-All-Trades, Obscure Knowledge, Vessel (Aircraft), Vessel (Ground), Contact Specialist, Negotiator														
Skills	Gather Information 13, Pilot 10, Leader 5, Survival 8, Driving 8, Liaison 9, T/Electronics 8, Spot 10, P/Administration 10, Listen 6, Navigation 6														
Equipment	Ylii portacomp with translation software. Neural disruptor pistol														

### Beta Technician

Betas are natural technicians, and care for little else save their machines. They are very good at what they do because of that obsessive single-mindedness.

Beta Technician		Ylii 3/ Professional	7	TL	12	ST	35	LB	7						
Grav	N			Core/Frontier	Core		Body	N							
Str	4	Dex	19	Con	7	Int	14	Wis	9	Cha	7	Edu	15	Soc	9
Init	+4	AC	14	AR	0	Spd	12m	Fort	+1	Ref	+7	Will	+6	SZ	M
Attacks	-1 Fist (1d3-3/x2)														
Feats	Miracle Worker, Gearhead, Professional Specialty (T/Electronics), Trustworthy, Hacker, Research, EW Specialist														
Skills	T/Electronics 14, T/Computer 14, T/Mechanical 14, Craft 11 (Sculpture) ,T/Sensors 14, T/Communications 14, Drive 10, Listen 6, Spot 6														
Equipment	Ylii toolkits (mechanical, electronic), Ylii portacomp														

alties due to their size.  
 Ylii receive 1 extra Feat at first level  
 All Ylii Alphas have the Feat of Lightning Reflexes  
 Alien Level: All Alphas start with 1 Alien Level  
 Alien Level: All Betas start with 3 Alien Levels  
 Low-light vision: Ylii Alphas and Betas can see twice as far as Humans in starlight, moonlight or other low-light conditions.  
 Ylii can multiclass freely into any allowed class.

## OTHER ALIENS

There are four other alien races that require comment.

### THE AQUILANS

A technologically advanced race, the Aquilans vanished only recently from the interstellar scene. Examination of their artifacts and space stations reveals that they disappeared about 350 years ago.

#### FIRST CONTACT

No one has made contact with a live Aquilan, but their machines, artifacts and traps have been encountered by many Humans as they explore the Beta Aquilae cluster. The first AECA vessel to enter Aquilan space came across a large space station, almost the size of an orbital habitat, and sent in a small crew in to explore. Only one made it out alive, and her description of the vast, empty station, still operating, with small worker robots skittering about made headlines all over Human space. As did her continued story of the sudden, violent robotic ambush. Four of the seven in the party were killed instantly, and another two died in the journey back to their shuttle.

#### HOME WORLD

The Aquilans seem to be from the Delta Aquilae A+B system, deep in the Beta Aquilae cluster.

#### STELLAR DATA

**Primary Name:** Delta Aquilae A

**Spectral Class:** F0 IV

**Magnitude:** 2.6

**X, Y, Z Coordinates:** 16.4, -43.5, 2.4

**Number of Planets:** 8

**Number of Asteroid Belts:** 2

Delta Aquilae A is a sub-giant star about two-and-a-half times as massive as Sol. Within its extensive system of planets is the Aquilan homeworld, along with five gas giants and an assortment of rock balls. The companion star, Delta Aquilae B, orbits at an extreme distance, and is little more than a bright star in the skies of the Aquilan homeworld. As a sub-giant, Delta Aquilae A has already started to cool and expand, endangering the nearer worlds.

#### PLANET DATA

**Name:** Delta Aquilae A IV

**Distance from Primary:** 1.7 AU

**Year Length:** 712.38 days

**Size:** 15,692 km in diameter

**Day Length:** 28.6 standard hours

**World Type:** Garden

**Surface Gravity:** 0.99 G

**Atmospheric Pressure:** 1.01 atm

**Average Temperature:** 25° C

**Water Presence:** 79%

**Atmospheric Composition:** N<sub>2</sub> (72%), O<sub>2</sub> (19%), Trace (7%)

**Biodiversity:** Active (no animal life)

**Natural Resources:** 5

The planet is very close to Earth in many respects. However, there appears to be no animal life on any of its 6 continents and various small islands. There are hundreds of cities and many examples of massive architecture, including 6 surface-to-orbit towers and an artificial ring at geosynchronous orbit. The world is very warm, and will get warmer as the primary expands. Some have advanced the instability of the star as the reason for the Aquilan's disappearance, but that doesn't explain the abandoned facilities on and over other worlds, nor the multitude of traps and lethal surprises scattered about their facilities.

### PHYSICAL DESCRIPTION

The Aquilans didn't leave behind any images or descriptions of themselves, but from examining their equipment, ships and tools, a few facts can be deduced:

They were taller, and longer, than Humans, about 2 meters tall and 2-3 long

They had hands with 4 fingers and 2 thumbs

Their heads were elongated, with a pointed snout.

#### SOCIAL STRUCTURE

The social structure of Aquilan society is unknown, but a few generalizations can be made.

They seemed to be very paranoid. All of their structures have multiple levels of security with thick walls and armored doors. There are traps everywhere, from simple mechanical traps to sophisticated robotic ambushes using high-technology weapons. The space around their worlds is likewise littered with traps, alien versions of the Sentinel mine, automated laser batteries, and other assorted tricks.

For some reason, 350 years ago they all either died or moved away. Reconnaissance of their home system has revealed no sign that they are still around, but the mechanized traps and automated defense systems still abound.

## BETA AQUILA SPACE

The Beta Aquilae Cluster is described in its own section under Alien Space.

### THE MEDUSAE AND THE ENEMY

Very little is known about these two races, save that they were involved a wide-ranging war that happened many millennia in the past. A few scattered relics of both cultures have



been found in Human space, but there is very little to go on. The basis of the Medusa's technology appears to have been advanced biological engineering, similar to the Pentapods, but more sophisticated, while the Enemy appeared to use more conventional, though again very advanced, technology.

## FIRST CONTACT

There have been no recorded cases of contact between either of these races and Humanity. The closest to an actual encounter occurred in the Nyotekundu system in the early 2300s. A Human crew-member of a mining vessel was somehow the subject of a memory transfer from a Medusa biological artifact. He attempted to steal the mining station and modify it into a slower-than-light interstellar vessel, using the station's magnetic accelerator as a Bussard ram-scoop. The plan was unsuccessful, and French authorities were able to take the man into custody and treat the psychosis that resulted from his interaction with the Medusan artifact.

## Homeworld

The homeworlds of both of these races are unknown, but are thought to be closer in towards the Galactic core.

## PHYSICAL DESCRIPTION

From the mummified remains of the one Medusa corpse recovered, they were small creatures resembling an extremely large flea, and were well-adapted for low-gee/zero-gee life. Their limbs were small and fragile, but very flexible and dexterous. Almost nothing is known about the Enemy's physical structure, however. From the few artifacts found, they were about the same size as Humans, but bulkier, and with more limbs. There is some speculation that they were carnivores, from the nature of some of the artifacts found.

## MEDUSA AND ENEMY ARTIFACTS

Throughout Human space, there have been only five medusa artifacts uncovered, and only three of the Enemy. The Medusan artifacts included the aforementioned personality recorder/transfer device, some sort of weapon, luckily non-functional, a couple of unidentified objects, and an ancient, and very dead, starship. The starship used a stutter-warp, but of a markedly different design. Unfortunately, it appears the that drive section was completely destroyed in some long-ago battle. The Enemy artifacts were uncovered from a pyramid in the oceans of Aurore, and consisted solely of a long sword-like knife made of a deep, blue-gray metal with some unusual properties, a helmet decorated to resemble some fantastic beast, and a withered slab of preserved organic material, later identified as resembling the tissue sample from the Nyotekundu Medusan. The pyramid itself was constructed of heavily-pitted native stone over some sort

of ceramic material. Investigation of the pyramid has given Humanity all the information it possesses about the race the Medusa called the enemy.

## THE AGRA INTELLIGENCE

What little is known about the AGRA intelligence gives most scientists, not to mention politicians, nightmares.

## FIRST ENCOUNTER

The AGRA intelligence was first contacted by the Bayern in 2307 on its historic visit to the Pleiades. At the time of contact, AGRA was in the process of reordering the stars of the Pleiades cluster, and linking them in some sort of unfathomable construction project.

The AGRA entity, or entities (numbers are unknown) appears to be a higher-order life form, existing across 5 or more dimensions, in contrast to the three experienced by Humanity. Close encounters with the intelligence did not provide much more information, and one of the pilots involved in the contact attempt was driven mad by the experience. There were other side-effects of the encounter, from sudden philosophical insights to one unfortunate individual being "mirrored," with everything in his body being reversed left for right, including the handedness of the molecules in his body. He is unable to make use of normal foods and vitamins, and must rely on expensive, synthesized substitutes.

## Homeworld

The homeworld of the AGRA intelligence is unknown, and is likely not even in this dimension. Some scientists have theorized that AGRA was a conventional three-dimensional intelligence until it somehow managed to transcend to a different mode of being.

## PHYSICAL DESCRIPTION

The one close encounter with the AGRA entity resulted in a bizarre description. From what the viewer could determine, the AGRA entity manifests itself in our three-dimensional universe as a shifting collection of multi-sided geometric shapes. This amorphous collection of shapes gave no real clue into the true nature of the creature (or creatures).

## AGRA ADVENTURES

Several Human militaries have established pickets in the Little Guy system and just beyond, in order to prevent Human vessels from approaching the Pleiades and the AGRA entity. The governments involved do not wish to attract the attention of AGRA, lest it start interfering with humanity. Players could be crew on a vessel trying to run the blockade, or perhaps a group of scientists or even TransHumanists wishing to contact AGRA.

# TECHNOLOGY

One of the things most noticeable about the technology of 2320AD is that, in comparison to some of the wild-eyed predictions of futurists before the Twilight War, technology isn't really that advanced in comparison. Space flight is the most notable exception, but beyond that the technology is perhaps 50-80 years more advanced than it was at the time of the Twilight War, 320 years ago. Several factors contributed to this lack of advancement, the most important of which was the time required to rebuild after the devastation of the Twilight War. Much of the technical innovation of the past 300 years went into space travel, in particular the Jerome-effect stutterwarp, along with the challenges involved in exploiting and colonizing alien worlds.

In many fields, however, technology has reached a plateau in the years since the Twilight War, having attained their theoretical limits. Computers in particular have largely reached their technological limits, at least in terms of hardware. The diamond-film computers of 2320 aren't unimaginable to by the standards used before the Twilight War.

The breakthrough technologies that were allegedly going to change everything, nanotechnology and artificial intelligence, are largely dead-ends. Nanotechnology is useful in some industrial processes, especially in materials production, but hasn't proven as useful in other fields. True nano-scale robots never came to pass, though nano-scale components are used in some micro-robots, which are mostly used in medical applications. Artificial intelligence was a field that once held promise, but any successful designs degenerated into psychosis within a couple of months of "waking up". The problem appears to be related to the complexity required for AI software, and the field has largely been abandoned. Recent contact with the Ylii does show some promise of reviving the field with their fresh perspective on the problem.

## THE BIOLOGICAL SCIENCES

Modern biological science has made great advances in genetic engineering, medical treatment, and life prolongation. The main limitation has been ethics rather than capability.

**Genetic Engineering:** The basic genetic structure of many organisms has been tailored to produce specific results. The major emphasis has been in crop management; modern crops are true-breeding, self-fertilizing (nitrogen-fixing),

high-yield plants, well adapted to specific climates and soils. Special use plants are employed for environmental cleanup because they thrive on specific pollutants or contaminants. Modern waste-recycling depends largely on these genetically-engineered plants and microbes. Animals have also undergone some genetic engineering for colonial use, but most colonies elect to make use of local animals rather than bring Terran ones along with them.

Genetic engineering companies enjoyed a period of tremendous growth on Earth between 2050 and 2200, but recent growth has been extra-solar: each of the new colony worlds needs a wide variety of crop types adapted to specific world conditions, not to mention the colonists. Mankind evolved under a very specific set of environmental conditions, and to remain healthy on the diverse worlds settled required some intervention.

The most severe of these DNA modifications (DNAMs) was to the colonists of King. So serious are these modifications that many in the Core no longer consider the residents of that heavy gravity world to be human any more. People living in very low and zero-gravity conditions have also received DNA modification treatments to slow muscle and bone loss. Due to a swing in public opinion, there has been a moratorium on further development of DNA modifications for Humans, though research continues into animal modification. Neo-dogs are one of the fruits of these projects.

Medicine has used genetic engineering to eliminate most inherited diseases and to allow parental selection of characteristics such as gender, eye color and hair color. There are strict controls on this sort of selection, however, especially gender selection. Selection for aptitudes and intelligence has been less successful, and often results in subjects with behavioral disorders. Current research has focused on remedies for genetic disorders and long-term environmental diseases. The patient is infected with tailored viruses which then replace his inferior or radiation damaged genetic patterns with new ones. Genetic engineering also allows replacement organs to be force-grown from a patient's own tissues, through cellular reversion and stem cell programming. This same technology is used in so-called "carniculture," where meat can be grown in culture. This is an energy-intensive process, however, and really only suitable for small outposts and large ships.

Pentapod skill in genetic engineering is unparalleled, yet they seem to lack a certain creativity with their constructs. This may be simply a perception of the human observer, as



the Pentapods are unfathomable as to their reactions and motivations. Pentapod constructs enjoy a great deal of success in the markets of the French Arm, less so on the other Arms. They have become a new craze on Tirane, where they enjoy very good sales. Earth, however, continues to ban any object of Pentapod manufacture, fearing biological contamination. The introduction of the Pentapod exo-wombs has resulted in difficult pregnancies being able to be brought to term in an external host. The long-term psychological impacts of this technology are unknown, and Human medical authorities are proceeding slowly.

**Medicine:** The major diseases of Earth are environmentally induced: UV damage, radiation, and tumors/cancer. Bodies deteriorate from aging beyond their basic life span. On colony worlds, diseases are caused by local bacterial/viral infections, variants of known diseases, and unexpected environmental effects. In space there is heart and muscle degeneration and bone decalcification, along with increased radiation exposure.

Along with genetic screening and genetic engineering, the greatest advance in emergency medicine has been the autodoc-computerized automated medical treatment. Automated tests determine precise results to a battery of standardized tests, while expert systems analyze the results and produce high reliability diagnoses. Chemical and pharmaceutical treatment can be administered automatically and without attendance, supplemented by injected microbots. Life support is also an automatic function. The autodoc can handle almost all non-surgical treatments and most surgical ones (including setting broken bones, removing dead tissue and most types of internal repair). A skilled operator can manage resuscitation and almost all major treatments with an autodoc. Many colonial hospitals consist of only a couple of doctors, nurses and attendants for a small army of autodocs. Along with the new generation of metabolic drugs, the autodoc can speed

of healing rates by a factor of ten or more. The universe of 2320AD is considered to be TL 14 for the medical procedures outlined on page 218 of the **T20 Handbook**.

A recent advance in medicine has been the anagathic regimen—a series of treatments which effectively ward off aging. Announced and approved in 2264 after decades of testing, the anagathic regimen remains an expensive but effective treatment available only to the rich. Without the anagathic regimen, normal life span (excluding violent or accidental death) is about 100 years. The anagathic regimen is expected to more than double that, along with extending one's youthful years by nearly triple the normal time. However, it has not been in use long enough to determine the complete extent of its life-prolongation abilities, though 56 years worth of sales have yielded promising results. There are even occasional rumors of a DNAM-based anagathic treatment, longevity for the masses. These rumors are persistently denied by the pharmaceutical companies and the various national governments.

## COMPUTERS AND INFORMATION SECURITY

Computers are a critical component of the lives of most people in the world of 2320AD. This is particularly true in the worlds of the Core, but computers are commonplace in most colonies, save the most primitive.

Computing equipment is so commonplace as to be hardly noticeable throughout the developed nations of the Core and beyond. In most nations, the information processing bill comes monthly, just like the power and 3V bills. Computers are extremely easy to use, sporting voice recognition, plain language instructions, or taking keyboard input. Computers normally present information using flat screens, but they can create voice or holographic presentations if so equipped. Computer hardware is a mature technology, and



there have been few breakthroughs in size or performance in the past 50 years. Most advancements in capabilities now come in terms of software development. Direct neural input, the so-called man-machine interface, is a new technology, which holds some promise at extending human capabilities, but few possess the mental discipline necessary to make effective use of this technology.

## COMPUTER PROGRAMMING

Low-level computer programming is an automated process; most programs can be produced just by describing the input, the processing, and the results, and then checking the computer's sample outputs. Programs created this way are somewhat slower, and consume much more in the way of system resources, than professionally-designed programs. Computers are extremely fast and accurate. Expert systems are extensively used, and computers have replaced humans in many roles, for example, in sales or reservation clerk situations.

### Artificial Intelligence:

True artificial intelligence has eluded the computer makers despite three hundred years worth of predictions. Seemingly successful systems self-destruct within a few months of activation; the cause is usually diagnosed as a psychosis. There have been some promising breakthroughs in the last ten years, but most of the experiments result in AI systems only slightly smarter, and vastly more unstable, than previous efforts.

## THE LINK NETWORK

The Twilight War exposed weaknesses in the design of the Internet. Though created to be self-repairing and redundant, the loss of all primary domain name controllers virtually crippled the network. Along with that, the localization of critical data meant that the loss of a physical location meant the loss of that data.

When the data and voice networks started to rebuild in the 2020's, they were piggy-backed on the same lengths of fiber-optic cable to save expense. As the network improved, wireless communications for voice and data became the norm, with local repeaters tapping into the fiber-optic backbone. Network addressing, which used to be done by remote servers, is now accomplished by individual machines themselves. In effect, the network is massively decentralized.

The Link network makes use of the massive storage potential of every computer to ensure redundancy. All data for a system is stored locally, but a backup exists on the network across multiple machines. Each backup machine only has a portion of this data, which is useless without the rest of the data, and each portion is tagged with a unique code for the owner of the data. In addition, this data is highly encrypted,

### Computer Viruses:

The massively-connected nature of the Link network does mean that it is more vulnerable to certain types of malicious programming, including viruses. However, most computers are designed in such a way that they are not nearly as vulnerable as the computers of the Twilight Era. Viri and hacking still do occur, however.

making it virtually impossible for anyone but the government to crack. All computers connected to the Link Network sacrifice about 10% of their internal storage capacity to the network, and in return have their data backed-up on a constant basis.

## USER INTERFACES

The interface is how a person interacts with a computer. This covers hardware, how they interact, and software, how data is displayed and organized. Most computers accept both voice and touch-screen input, along with a variety of keyboards and pointing devices, from the humble mouse to full 3D virtual systems. Some go to the trouble of having a virtual keyboard implanted, with a transmitter designed to allow them to connect to a computer. This can be coupled with an implanted display, giving the user completely private access to their system.

The software side of the user interface is based on the standard developed by France's École Polytechnique back in the 2250's, which mandates that as much information as possible, and practical, be expressed in graphical, and preferably, ideographical, format. Programs thus have stylized representations on the computer, with different programs having different representations depending on the whim of both the programmer and the user.

### Designing Computers For 2320AD:

The T20 design system can be used as-is for designing computers, save that 2320AD computers are designed as if 2 Tech Levels higher. In addition, all costs for computers, including software, are divided by 10. So a New Military (TL 12) computer, would be designed as TL 14.

## ROBOTS AND DRONES

Robots are very common in the society of 2320AD. Robotic systems can be found almost anywhere, from the automated surveillance drones that wander the streets of the Core cities, to the mining equipment used on remote colonies. Robots in 2320AD are defined as machines that can follow a set of guidelines without human supervision or intervention. These machines have a limited learning capacity as well, allowing them to remember solutions and implement

them in similar situations. They are not capable of thinking, however.

Drones are simply remote-controlled vehicles, requiring almost constant operation and supervision. Many robots also have a remote-control facility, however, blurring the lines. Typically, a robot can be remote-operated, but a drone has no self-guiding capability, and is thus considerably cheaper than robots.

Swarms are small robots, about bee-sized, operating in large groups. The most common use is in surveillance, where a swarm can fly or crawl in and present a high-resolution composite image very quickly.

### Microbots:

Microbots are a different class of robot, or more properly, drone. Microbots range in size from just a little larger than red blood cells up to the size of a dust mite. They are operated and powered remotely, and can venture no further than 2 meters from the controller/power broadcaster. Most microbots are used in medical applications, stitching someone up from the inside, cleaning arteries or scrubbing poisons out of a system. Others are used in security and surveillance, but the range restriction really hampers them. They are sometimes used to thoroughly search rooms, and see work in police crime-scene investigation.

## MATERIALS SCIENCE

Twenty-third century materials science has been extremely successful at producing sophisticated synthetic materials for fabrication and construction. These synthetic materials are largely ceramic-metal, or ceramic-polymer composites, with high strength and low weight. The production of these exotic materials is made practical with nanotech fabricating, though these techniques can only churn out large sheets of the material from their cooling baths. New techniques have also been developed for refining metals purer and cheaper than ever before. Recent breakthroughs in electrically and magnetically stabilized metals have produced metal-fiber/carbon buckytube synthetic matrices that allow beanstalk cables which can connect a world surface to orbit. Beanstalks have been built on three worlds: Beta Canum Venaticorum (at Premiere), Tirane (at Neumunchen, Freihafen) and Earth (at Libreville in Africa, Tanjung Balai in Indonesia, and another under construction at Quito in the Inca Republic). While metals are still used for fabrications in space and on Frontier worlds (where metal ores are plentiful and cheap), synthetics can now do most jobs more efficiently, and are used almost exclusively in vehicle construction, power plant components, and all machinery requiring high strength and low weight. On Earth, metal is seldom used except in a few electrical com-

ponents, and where its high density is an asset, such as radiation shielding.

## TRANSPORTATION

The near exhaustion of fossil fuels prompted the development of alternatives. Fusion power is efficient and cheap, but practical only in large installations. On Earth, it has been replaced by solar power satellites which beam their energy down to the ground.

Vehicles require a portable energy system because they cannot hook into the electric power grid. After experimentation with alcohol fuels, Earth made the transition to hydrogen in the 22nd century, and hydrogen fuel stations are as common as gasoline stations were in the 20th century. Most hydrogen-powered vehicles utilize hydrogen fuel cells, though a few actually burn it to provide mechanical power. Large vehicles, or those requiring very high energy levels, can benefit from the scale efficiencies of magnetohydrodynamic (MHD) turbines. Battery technology has improved to the point that electric cars are common and cost-effective. Approximately 60 percent of the wheeled and tracked ground vehicles on Earth and Tirane are battery-powered. The vast majority of major roads and highways on Earth are designed for automated vehicles only, with the cars being controlled by a combination of on-board and remote computers and sensors called TrafCon. Tirane uses the system only for major thoroughfares, while beyond the Core, these automated roadway systems are extremely rare.

Cars and the attendant TrafCon system are effective for relatively short-range travel, but for longer distances most people and cargo are moved by high-speed maglev trains operating in partial-vacuum underground tunnels. These tunnels are largely constructed by robotic systems, with little in the way of human oversight. Major tube lines travel between large terminals centered in metropolitan areas. Smaller feeder and commuter lines radiate from these central terminals. Generally well suited to meeting peak commuter loads (there are always exceptions), the "tube" systems allow metropolitan areas to be very dispersed, and it is not uncommon for workers to commute 200 kilometers to and from work. These local trains can travel at speeds up to 500 km/h, but are usually much slower due to frequent starts and stops.

The first trans-oceanic tube went into operation in 2312, and consisted of an evacuated tube 300 meters underwater, tethered to the ocean floor. It operates between New York and London (by way of Ireland and Nova Scotia), and plans are underway for another tube line to connect Tokyo to San Francisco. Speeds in these transcontinental tube systems is in excess of 2000 km/h.

In the colonies, hydrogen-burning fuel cells predominate as the power plant for most vehicles. Away from the main settlements, transport is typically via hovercraft or ATV. In

less-developed colonies, horses and other riding animals are still a key mode of transportation. Most air travel is by tilt-rotor aircraft, or the versatile little Magnus-effect airship. Large, expensive jet aircraft are rare on the frontier worlds.

Travel across oceans tends to be by ship, airship, or aircraft. Short-range oceanic voyages are often by hovercraft, especially in ferry services. Most passenger and cargo ships are of the SWATH-type: a completely submerged streamlined flotation hull containing the vessel's power plant and fuel bunkers linked by pylons to the upper passenger and cargo decks, which ride considerably above the waterline. This design makes for an extremely efficient and stable ship as there is virtually no surface contact, and thus drag is much reduced. The tremendous power needed to lift a large ship onto hydrofoils is also unnecessary. Unlike hydrofoils (which are still used for a variety of high speed naval and pleasure craft), this is a deep-water vessel only.

Airships are somewhat more expensive than surface vessels and largely make up for this by their greater flexibility. Large-capacity airships carry both cargo and passengers across the oceans of the Earth and can land them at a variety of inland destinations. Large airships can carry upwards of 500 tons at high speeds, using hybrid semi-rigid lifting body hulls. Other airships are used for mobile cranes for construction projects, especially in remote areas, while nimble little Magnus blimps carry passengers and cargo, even in urban areas. For passengers and cargo which need to travel quickly, there is always SOT (Sub-Orbital Transport) service, which can move a passenger from one side of the world to the other in a couple of hours via scramjet.

## Technology Milestones:

- 2051 First man to space post-Twilight (France)
- 2073 First operational orbital solar power satellite
- 2086 Dr. Jerome performs first controlled microscopic stutterwarp hop
- 2103 First viable human clone
- 2116 Carniculture (vat-grown meat) developed for use in space
- 2142 DNA modification first used in therapeutic trials
- 2136 First manned faster-than-light travel, to Alpha Centauri system
- 2145 First large habitat at Earth L5 position becomes operational. Population soon reaches 10,000.
- 2156 Man-portable gauss weapons introduced
- 2167 Second-generation (TL11) Stutterwarp drives available
- 2178 Zero-gee DNA modification developed
- 2190 King DNA modification developed
- 2198 Thin Air DNAM developed
- 2206 Gene Protests lead to a moratorium on further development of Human DNAMs beyond therapeutic purposes
- 2217 Nanotech assemblers used in materials fabrication
- 2223 90% of all meat consumed on Earth comes from a carniculture vat.
- 2238 First artificial intelligence goes on-line at France' École Polytechnique. It goes off-line 7 days later.
- 2275 Man-portable plasma weapons introduced
- 2284 Third-Generation (TL12) Stutterwarp drives available
- 2291 First beanstalk goes operational on Beta Canum Venaticorum IV
- 2298 Second-generation stutterwarp tuner becomes available, makes deep-space stutterwarp tug operations possible
- 2299 Beanstalk goes into operation at Libreville, Gabon, Earth
- 2307 Prototype fourth-generation stutterwarp drives become available
- 2312 Pentapod exo-wombs become available for life-threatening pregnancies



## EQUIPMENT

The following equipment is generally available on most human worlds (at the gamemaster's discretion). Tech level is not really a factor for much of this gear, as it all usually available on any colony world. Typically, costs for these items will be doubled on frontier worlds.

## WILDERNESS SURVIVAL GEAR

Wilderness survival gear includes equipment which is usually used by exploratory teams, but this equipment might be stored in a starship's escape pod or used by a military team as well.

**Compact Rations:** Each ration pack is a complete, prepackaged, fortified meal in its own serving tray. The meal is self-heating (or self-chilling) as required. The chemical heating/cooling process is activated by breaking the seals, and takes about 30 seconds. In military parlance, these are known as SSMs (Single-Serving Meals) and are the bane of any soldier's existence (military rations are universally despised).

**TL:** 8

**Weight:** 1 kg

**Price:** Lv5

**Cold Climate Clothing, Advanced:** A lightweight, adjustable body suit with hood, goggles and lower face cover. The suit contains a battery pack and internal heating elements with the ability to maintain a stable temperature down to temperatures of -30 degrees centigrade. Battery life is about eight hours under the coldest conditions, but closer to 36 hours under more typical cool weather conditions. Characters wearing Advanced Cold Weather Gear need only check for cold and exposure damage once every 4 hours, at least until the power supply fails. Then it's back to once every hour.

**TL:** 9

**Weight:** 2 kg

**Price:** Lv100 (More expensive versions are available for the fashion-conscious.)



**P-Suit:** A close-fitting flexible pressure suit with bubble helmet and battery-powered, heating and air recycling, life support system. Life support unit duration is eight hours, but bottled oxygen can extend this up to 20 hours (maximum battery life). The helmet includes a short-ranged (5km) radio

and beacon. Use of the P-suit requires the Armor Proficiency (Vac Suit) Feat.

**TL:** 10

**Weight:** 15 kg

**Armor Rating:** 2 All Locations

**Max Dex Bonus:** +4

**Armor Check Penalty:** - 1

**Price:** Lv1000

## ARMOR RATING VS. ARMOR CLASS:

Armor Rating (AR) is the stopping power of the armor. AC is determined separately, and is based on 10 +Torso AR + Dex Mod +Size Mod.

**Hostile Environment Suit:** A heavy-duty pressure suit designed for use in particularly hostile environments (such as corrosive atmospheres, or radiological and toxic environments). The helmet is solid, with audio and visual sensors linked to in-helmet monitors.

The hostile environment suit reduces all radiation damage levels by three, so Severe has no effect, while Lethal is reduced to merely Moderate Damage. It is good for up to 25 hours in a Corrosive atmosphere, and up to 8 hours in an Insidious atmosphere. After that it will begin to break down as noted on page 00 of the *Traveller's Guidebook*. Use of the P-suit requires the Armor Proficiency (Vac Suit) Feat.

The suit contains a short-ranged (5 km) radio in addition to the built-in sensors.

**TL:** 11

**Weight:** 20 kg

**Armor Rating:** 4 All locations

**Max Dex Bonus:** +3

**Armor Check Penalty:** - 3

**Price:** Lv2000

**Personal Life Support System:** The PLSS extends the capabilities of a pressure suit, adding additional power and life support capabilities. A PLSS is good for 24 hours of use, and can be extended up to 48 hours by adding additional bottled oxygen. A PLSS can also be equipped with a radiation shield generator, which lowers its endurance to 8 hours.

**TL:** 9

**Weight:** 12 kg

**Price:** Lv400

**Air/Oxygen Tank:** Self explanatory.

**Weight:** 1 kg

**Endurance:** +6 hours per tank

**Price:** Lv10

**Radiation shield generator** Self explanatory.

**TL:** 11

**Weight:** +4 kg

**Protection:** 120 rads/hour

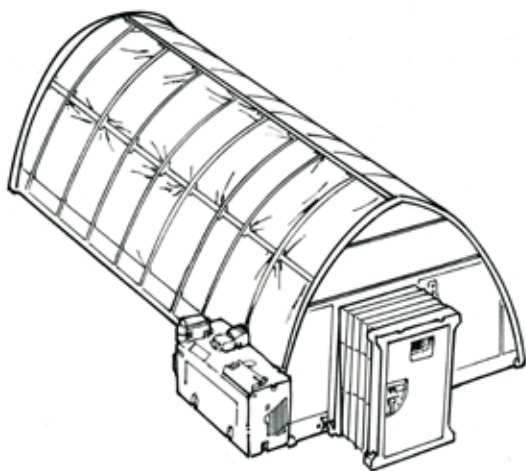
**Price:** +Lv500

**Pressure Tent, Small:** An inflatable hemispherical tent with a radius of two meters. The tent includes a small airlock along with a life support system good for 12 man-days (i.e. 12 men for 1 day or 1 man for 12 days). The airlock can be detached for use on worlds with breathable atmospheres. It is powered by a solar panel built in to the roof, but if that is obscured it only has power for 12 hours.

**TL:** 9

**Weight:** 2 kg

**Price:** Lv1000



**Pressure Tent, Large:** An inflatable half-cylinder with a width of four meters and a length of 10 meters, the large tent is suitable as an exploration base. The tent includes a small airlock, and the life support system is good for 120 man-days. The interior can be sub-divided many different ways. Again, the large tent is powered by roof-top solar cells, but it can also be run off a power station or fuel cell, in which case it draws 0.1 EP.

**TL:** 9

**Weight:** 30 kg

**Size:** 2 vol compressed

**Price:** Lv4500

### Vols:

A vol is an abstracted measure of mass and volume. For purposes of conversion, 1 vol = 5 liters.

**Biomonitor:** The biomonitor is a broad-purpose monitor about six centimeters square and usually worn on the wrist. It can give body function readouts for medical diagnosis, will monitor breathability of atmospheres (noting presence of various gasses, harmful pollens, and other toxins), and can give a good analysis of edibility of local plant and animal tissue. The biomonitor grants a +2 circumstance bonus to all Fortitude saves involving atmospheric conditions or toxins.

**TL:** 10

**Weight:** 0.5 kg

**Price:** Lv500

**Goggles:** Goggles come in two different types: the first being nothing more than an inexpensive piece of protective eyewear, and the second being a photosensitive, auto-darkening piece of equipment to protect against steady bright light or sudden flares. The auto-darkening models provide a +4 circumstance bonus for saves vs. blinding attacks or flares



**TL:** 2 (normal goggles) or 8 (photosensitive goggles)

**Weight:** Insignificant

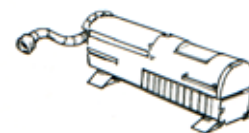
**Price:** Lv1 (normal goggles) or Lv65 (photosensitive)

**Water Purifier:** A battery-operated micro-filter and chemical treatment machine for purifying natural water sources. It can also be used to recycle biological waste water.

**TL:** 10

**Weight:** 5 kg

**Price:** Lv750

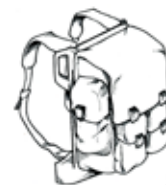


**Backpack:** A backpack is used to carry equipment (as well as protect it) while keeping hands free. Small items can also be suspended from its frame.

**TL:** 2

**Weight:** 1 kg

**Price:** Lv20

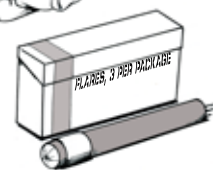


**Flares:** Flares are used to signal at a distance, such as in the marking of temporary landing areas. They typically come six to a set. Use of flares adds +10 to all Spot rolls made by onlookers.

**TL:** 6

**Weight:** 2 kg

**Price:** Lv3



**Respirator:** Often an entire protective suit is unnecessary and unwieldy. In such situations, people commonly use a simple respirator mask to filter the air they breathe. Typically, the filters in such a mask must be changed every 6 to 12 hours, depending upon the amount of pollutants in the air. A filter mask grants a +5 bonus to Fortitude saves involving atmospheric taints.



**TL:** 6

**Weight:** 1 kg

**Price:** Lv120

**Replacement Filter:** Self explanatory.

**Weight:** Insignificant

**Price:** Lv15

**Diving Gear:** The term diving gear is used here to describe a flexible, warm, wetsuit with swim fins, goggles, and an air tank. It requires the Swim skill to use effectively, and negates the Swim check penalty for consecutive rounds spent underwater. The gear also adds 25% to a character's underwater speed.

**TL:** 4

**Weight:** 10 kg

**Price:** Lv700

**Diving Gear, Advanced:** Advanced Diving gear dispenses with the tank in favor of a gill unit, and makes use of more sophisticated materials for the wetsuit and fins as well. The gill has enough power for 12 hours of operation, while the wetsuit and fins allow swimming at up to 50% faster than normal. It requires the Swim skill to use effectively, and negates the Swim check penalty for consecutive rounds spent underwater.

**TL:** 10

**Weight:** 6 kg

**Price:** Lv1200

## TOOLS

The listing which follows includes the tools which are commonly available for use in the 24th century.

**Basic Tool Kit:** Small hand tools suitable for a variety of purposes, including wrenches, pliers, screwdrivers, etc. This allows a character to perform Mechanical skill checks with no penalty.

**TL:** 4

**Weight:** 5 kg

**Price:** Lv75

**Power Hand Tools:** A selection of power tools, in-

cluding a chainsaw, rotary saw, and drill, as well as other electrical tools. There must be an electrical power source, such as a generator or battery pack, to operate these tools.

**TL:** 7

**Weight:** 35 kg

**Price:** Lv150

**Vehicle Maintenance Tools:** Specialized tools for repair and maintenance of vehicles. Includes torque wrenches, grease guns, engine calibration tools, and other specialized tools. Use of these tools gives a +1 circumstance modifier to all T/Mechanical Skill Checks on vehicles and aircraft, but not spacecraft.

**TL:** Special (must be no more than 1 TL below the vehicle being serviced)

**Weight:** 10 kg

**Price:** Lv150

**Excavating Tools:** Picks, shovels, mattocks, and other such tools.

**TL:** 1

**Weight:** 20 kg

**Price:** Lv100

**Construction Tools:** Hammers, saws, squares, hatchets, chisels, and other woodworking tools.

**TL:** 2

**Weight:** 30 kg

**Price:** Lv100

**Electronic Repair Tools:** Specialized tools for work on electronic and photonic equipment. Use of this tool kit allows the T/Electronic Skill to be used with no equipment penalty.

**TL:** Special (must be the same TL or no more than 2 TL higher than the equipment being worked on)

**Weight:** 3 kg

**Price:** Lv300

**Climbing Kit:** A climbing kit includes such tools as pitons, 100 meters of fine rope, small hammers, and carabiners. Use of the climbing kit confers a +5 bonus to all Climbing Skill Checks.

**TL:** 3

**Weight:** 12 kg

**Price:** Lv150

**Autograpnel:** The autograpnel consists of a handheld battery-powered compressor unit which can fire a small grapnel as much as 20 meters in the air, then pull as much as 100 kilograms up the trailing rope. The battery is rechargeable, and is good for 20 uses. The Autograpnel allows a character to Take 10 on a Climbing Skill Check.



**TL:** 9**Weight:** 7 kg**Price:** Lv220

**Locksmith Kit:** A locksmith kit contains tools for opening mechanical locks. On most worlds it is illegal for an individual to possess a locksmith kit without a local license. The locksmith kit allows a character to use T/Mechanical to pick mechanical locks. All locks are rated by the DC of picking them. (Easy=DC10, Average=DC15, Secure=DC20). If the locksmith kit is no available, add +10 to the DC of the lock.

**TL:** Special (Must be within 2 TL of the lock being worked on.)

**Weight:** 2 kg**Price:** Lv450 (Lv1000 or more on the black market)**License:** Lv500

**Electronic Security System Kit:** An electronic security system kit is not intended to provide electronic security, but to circumvent it. It is usually even more illegal to own than a locksmith kit. The electronic security systems kit allows the use of the T/Electronics Skill to crack electronic locks. Electronic locks are rated by the DC of circumventing them, and are typically more secure than mechanical locks. (Easy=DC15, Average=DC20, Secure=DC30). If no electronic security systems kit is available, add +10 to the DC of the lock.

**TL:** 9 (Suffer a -2 penalty for each TL the security system kit is below the lock)

**Weight:** 3 kg

**Price:** Lv1000 minimum (Lv4000 or more on the black market)

**License:** Lv2500

## SPECIAL EQUIPMENT

Major expeditions and military teams are often able to acquire equipment that is state-of-the-art equipment unavailable to the general populace of most worlds. Often, however, this specialized equipment can be found for sale on the Core worlds, at least to those who are able to pay the price.

**Mul-T-Tool:** Many tools throughout history have been designed for one purpose – to fasten things together. Recently, builders of new vehicles have agreed to begin using a uniform set of fasteners in their construction processes. For work on these vehicles, a mechanic need not have several different types of wrenches and screwdrivers; he just needs a Mul-T-Tool. This is a self-powered unit with a flexible head that automatically adjusts to fit the fastener size. Mul-T-Tools come in three gauges for three ranges of fastener sizes. All vehicles constructed at TL 11 or higher are designed for use with the Mul-T-Tool. Vehicles up to Size Huge require only the smallest size, while larger vehicles require all three sizes. Multi-tools grant a +1 circumstance bonus to all T/Mechanical Skill Checks made while using the tool.

**TL:** 10**Weight:** 0.5 kg, 1 kg, and 2 kg sizes**Price:** Lv300 each

**Spinner:** Utilizing some of the same technologies used in construction of the beanstalk, the spinner is capable of creating exceptionally strong carbon monofilament line. The 0.2mm line is capable of supporting up to 1000 kg in a normal gravity. Care has to be taken with the line when it is under tension, as the extremely thin cable can easily slice off fingers, or even limbs. The spinner contains material and catalysts in sufficient quantity to produce 2 kilometers of line, and comes equipped with a catalyst capable of cutting the material (which cannot be cut with a steel blade), along with a supply of 20 special pads (which can be fastened to a glove if needed) to handle the cable. If stretched taut, the cable can inflict up to 3d8(18) in Slashing damage, and ignores non-rigid and inertial armors.

**TL:** 12**Weight:** 1 kg**Price:** Lv1200

**Stik-kit:** A Stik-kit is an adhesive patch which is about the size of a normal human hand. One side of the Stik-kit patch (black with color-coding) is a ridged, flexible plastic sheet; the other side of the patch is smooth and white. Between these two sides is a chemical interior. By grasping the ridged side of the Stik-kit, the user can flex the patch, which releases the inner chemical onto the white side. The white side then becomes very sticky. Stik-kits will adhere to almost anything except Teflon in almost any environment, including vacuum and underwater. Application of a small electric charge inactivates the adhesive—a small battery is included in the Stik-kit for this purpose and the user may then discard the patch. A Stik-kit is not reusable.

Stik-kits can be used for anything from patching hulls to mounting wall fixtures, creating ladders, joining items, or suffocating creatures. Each Stik-kit patch has a color-coded band that indicates its holding strength: red 10 gm, orange 100 gm, yellow 1 kg, green 10 kg, blue 100 kg, violet 1 ton, ultraviolet 10 tons.

**TL:** 11**Weight:** 0.25 kg per patch

**Price:** Red, Lv20; orange, Lv40; yellow, Lv80; green, Lv160; blue, Lv320; violet, Lv640; ultraviolet strength patches are not normally available

**Thermal-visual (TV) Camouflage.** TV camouflage consists of two parts: the camouflage smock or blanket itself, and a thermal regulation system that can adjust the heat output to match the surroundings. Typically, it does this by redistributing heat patterns around the material to break up

the thermal signature, and also by dumping excess heat into the regulator. The chill can of the regulator is good for up to 8 hours before it needs to be replaced.

The camouflage smock or blanket is essentially a tough, flexible sheet of electronic paper, which can change its colors and patterns to match the surrounding terrain without light emissions. This system is only effective at medium to long ranges, and only if the user keeps still. It doesn't work well at all on the move. It adds a +6 circumstance bonus to all Hide Skill Checks if the user keeps still; otherwise it only adds a +1 circumstance bonus.

**TL:** 12

**Weight:** 2 kg (+8 kg for the thermal regulator)

**Price:** Lv4500

## SENSORS

Sensors are available for a wide-range of purposes, from simple binoculars to computer-controlled perimeter surveillance systems.

**Binoculars:** Visual binoculars which incorporate thermal imaging for night visibility and limited visibility in fog, gyro-stabilization for high magnification steadiness, and adjustable magnification from 1x through 20x. The binoculars modify a character's Spot Skill Check by changing the range increment for the Spot penalty. Multiply the current magnification by three to determine the range increment. (i.e. at x10 the new range increment is 30m, so the character suffers a -1 Spot Skill Check penalty for every 30m).

**Weight:** 1 kg

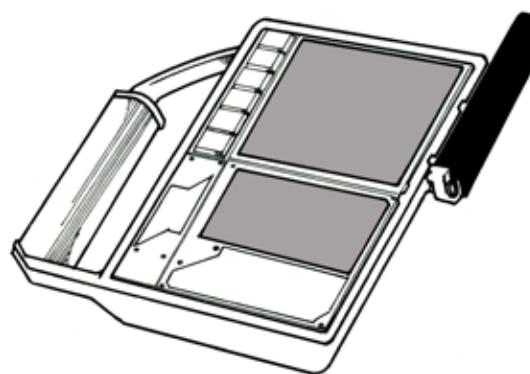
**Price:** Lv200

**FarSeer:** This binocular-like product magnifies objects and/or allows night vision by internally enhancing the light received. The main lens is composed of oil, electrostatically-held and manipulated for focus. The unit is stabilized for low-range viewing, or can be mounted on a tripod. The charge used to focus the lens can also give an approximate range value. A backup system, consisting of a pulse laser, gives more accurate readings of any object lined up with cross hairs in front of the lens. The only problems with the system are that the laser is visible to instruments watching for it, and the electrostatic lens will not hold focus in a strong outside electrical field, such as a nearby lightning storm. The FarSeer magnifies from 1x to 120x. A FarSeer modify a character's Spot Skill Check by changing the range increment for the Spot penalty. Multiply the current magnification by three to determine the range increment. (ie at x100 the new range increment is 300m, so the character suffers a -1 Spot Skill Check penalty for every 300m).

**TL:** 11

**Weight:** 1 kg

**Price:** Lv350



**Large Life Form Detector:** This is an IR sensor which works as well on vehicles as life forms. Its short range makes it largely ineffective for military purposes, however. It is designed to be cheap and portable for zoological field teams. It adds a +2 circumstance bonus to all Spot rolls made against any object warmer than the background temperature.

**TL:** 10

**Weight:** 2 kg

**Range Increment:** 20 m

**Price:** Lv100

**Basecamp Security Sensor:** This is a multipurpose active/passive sensor suite designed to provide warning against intruders at remote sites. It must be attached to a vehicle powerplant or other power source in order to function.

**TL:** 11

**Weight:** 50 kg

**Power Required:** 0.5 EP

**Range Increment:** 500m (ground targets), 5 km (aircraft)

**Price:** Lv20, 000

## SCIENTIFIC EQUIPMENT

A variety of equipment is generally available to aid scientific teams in their work. The most common pieces are listed here.

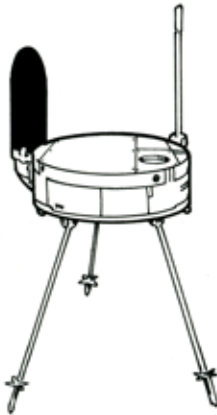
**Imagers:** A wide variety of still and video imagers are available to record observations. Imagers in the 24th century produce two types of images: a nearly grainless BIT (Binary Image Trace) image (which is a totally faithful picture of the object or scene, but requires extensive memory), or an EFR (Encoded Formula Reduced) image which uses algorithms and templates to analyze the image and translate it into a set of formulae. Images from these cameras have long surpassed film in quality of image, being able to capture more information than the finest films. Images are stored on a small memory chip and can be displayed on virtually any display system or computer. A single chip holds approximately 3000 EFR images (each BIT image counts as 100 EFR images).

**TL:** 10**Weight:** 1 kg**Price:** Lv300 (extra video chip costs Lv20)

**Sampling Kit:** A small kit carried by means of a shoulder strap used to take field samples and conduct quick analysis of any of a variety of substances. Sampling kits are available for soil, minerals, plants, and gas (atmosphere). Sampling kits allow the use of the appropriate skill (K/Geology, K/Biology, K/Mining, P/Prospecting, P/Survey) without incurring an equipment penalty.

**TL:** 10**Weight:** 4 kg**Price:** Lv400

**Remote Meteorological Station:** A small data collection station for monitoring rainfall, humidity, atmospheric pressure, wind speed and direction, and other meteorological and climatological data. These are generally cheap, unmanned sensors which record their data on a memory chip. Each chip can record three year's worth of data, although the station is usually visited more often than that. These are very useful in the early stages of a survey of a habitable world. A radio communicator may be added for remote monitoring if desired at additional cost (see below). For every 10 remote met stations deployed on a planet, add a +1 circumstance bonus to P/Survey rolls to determine planetary climate (maximum bonus of +4).

**TL:** 9**Weight:** 5 kg**Price:** Lv200

**Autoinjector Gun:** Sometimes called a tranq gun, this is a compressed air rifle which fires an autoinjector or radio microtransponder. It is used to subdue or tag animals. The radio microtransponder has a range of five kilometers and can be monitored from a radio direction finder. It broadcasts a simple electronic noise signal useful for determining direction and range. The associated direction finder weighs 3 kilograms and costs Lv50.

**TL:** 7

**Weight:** 2 kg Length: 75 cm (Size=Medium) Range: 80 m

**RoF:** 1 Damage: 2d12 (stamina damage only)**Price:** Lv200

## MEDICAL EQUIPMENT

In high-risk employment, violence and injury are a part of life, if not commonplace. In the 24th century, high quality medical aid is generally very close at hand.

**Medkit:** A portable first aid kit containing spray-on bandages and autoinjectors of antishock, antitoxin, antibiotic, stimulant, and anesthetic. Given medical skill, the Medkit contains everything needed to treat minor injuries and stabilize serious conditions. Use of a medkit boosts Stamina healing rates by 3 times, and Lifeblood by 2.

**TL:** 10**Weight:** 1 kg**Price:** Lv500

**Lightweight Autodoc:** Portable and inexpensive, this unit is popular with emergency teams and is often used in large numbers for disaster relief. Use of a portable autodoc boosts all healing rates by 4 times normal, and adds a +3 circumstance bonus to all T/Medical Skill Checks. In the absence of a qualified human operator, the autodoc can use its stats below.

**TL:** 11**Weight:** 300 kg**Med Skill:** 5 Int: 10**Price:** Lv2000

**Static Autodoc:** This static autodoc is designed for permanent emplacement in a hospital ward or on a starship. Use of a static autodoc boosts all healing rates by 6 times normal, and adds a +3 circumstance bonus to all T/Medical Skill Checks. In the absence of a qualified human operator, the autodoc can use its stats below.

**TL:** 12**Weight:** 1000 kg**Med Skill:** 12 Int: 12**Price:** Lv8000

## COMMUNICATORS

Communicators allow the transmittal of information over long distances. Civilian ones tend to be lower powered and broadcast in a wider arc than do their military counterparts.

**Link Phone:** A link phone connects to the planetary networks and data services available on the Core worlds and many colony worlds. Link phones sold on Core Worlds include a Panic Button feature, which will summon authorities to the location of the phone. Of course, this requires that the



phone be tracked, but most people value the added security. This feature is not available on the frontier, where authorities do not go to any lengths to track their citizens.

**TL:** 9

**Weight:** 0.2 kg

**Range:** 2 km

**Price:** Lv10, plus Lv3/month voice/video access, and Lv4/month for data access.

**Hand Communicator:** A battery-powered, handheld radio which broadcasts voice signals at relatively low power.

**TL:** 8

**Weight:** 0.25 kg

**Range:** 20 km

**Price:** Lv50



**Backpack or Vehicle Communicator:** A heavier version of the hand communicator. In a vehicle it is generally linked to a vehicle's power plant.

**TL:** 9

**Weight:** 3 kg + 2 kg battery if not connected to a vehicle

**Range:** 200 km

**Price:** Lv100

**Tight Beam Up-Link Communicator:** A tight beam communicator designed to provide secure communication between a ship in orbit and a ground party. The communicator's microprocessor is programmed with the ship's orbit prior to landing, and its inertial locator will constantly update its position relative to the ship's position. When activated, it will point its dish antenna toward the location of the ship and establish a tight beam communication link, provided the ship is above the horizon and in effective communication range. (In most orbits the ship will be in an acceptable commlink position roughly 20 percent of the time. The higher the orbit of the satellite is, the longer the period of possible commlink access, but the greater the time between commlink periods.) Two up-link communicators can be used for secure ground communication if a communication satellite is overhead and if both communicators are linked to the satellite at the same time.

**TL:** 10

**Weight:** 10 kg

**Range:** Orbital

**Price:** Lv500

## SATELLITES

Satellites are generally placed in orbit by ships already in orbit around a world. Survey and exploratory ships routinely use satellites to augment information gained by ground parties.

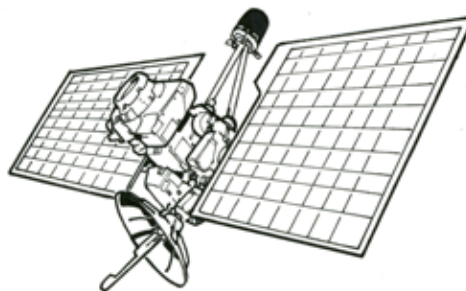
**Communication Satellite:** A solar-powered orbital receiver and retransmitter of tight beam or broadcast communication. Each provides 20 percent coverage (see discussion of up-link communicators) while five satellites evenly spaced in the same orbit will provide 100 percent coverage.

**TL:** 8

**Weight:** 20 kg

**Size:** 10 vol

**Price:** Lv50,000



**Navigation Satellite:** A solar-powered orbital broadcast transmitter. Five satellites are required to provide good coverage of a planetary surface. Each satellite continuously broadcasts its identification and current position. A down-link receiver and microprocessor in a vehicle or carried by a person can, by triangulation with the satellites currently transmitting, establish its correct surface location to within 1 meter. Access to a navigation satellite networks grants a +3 circumstance bonus to all Navigation Skill Checks.

**TL:** 9

**Weight:** 100 kg

**Size:** 50 vol

**Price:** Lv100,000 (each)

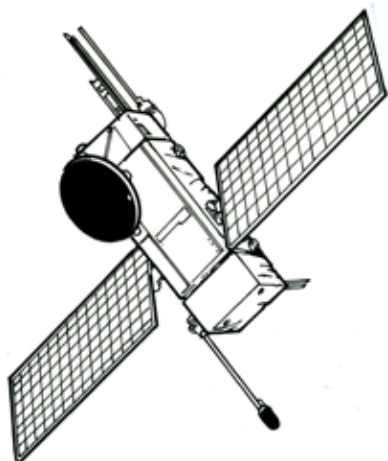
**Down-Link Navigation Receiver:** This is a small hand-held unit that indicates the user's position on a digital map. It uses the navigation satellites to calculate its position, and can download map information from available survey satellites or the link network on more settled worlds. Accurate to within 1 meter.

**TL:** 9

**Weight:** 2 kg

**Price:** Lv200

**Surveillance Satellite:** A solar-powered, low-orbit satellite designed to movement or basketball-sized or larger targets on the surface or in the atmosphere of a world. Each satellite will orbit an earth-sized planet roughly three times a day and will scan the area directly below and 50 kilometers either side of its orbit. (This amounts to scanning each 100-kilometer hex along its orbit three times a day.) Military versions are rumored to be able to read the fine print on a legal contract.



**TL:** 12

**Weight:** 150 kg

**Size:** 75 vol

**Sensor Range:** Orbital (surface targets count as regular range; airborne targets count as half range)

**Price:** Lv500,000

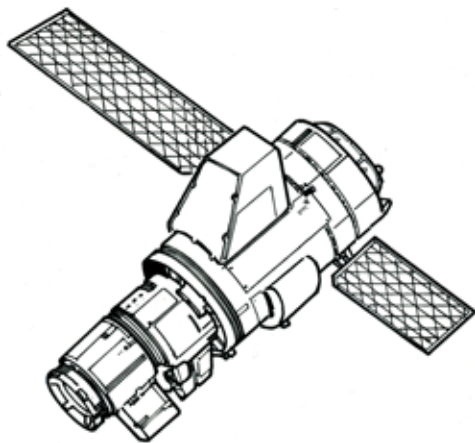
**Survey Satellite:** A solar-powered photographic satellite for mapping and collecting meteorological data. It is placed in low orbit to provide surface mapping and data on atmospheric weather conditions. The survey satellite confers a +2 circumstance bonus to all P/Survey Skill Checks.

**TL:** 10

**Weight:** 50 kg

**Size:** 25 vol

**Price:** Lv250,000



**Weather Satellite:** A solar-powered satellite intended to provide detailed meteorological information for the world below it. Purpose-built for weather monitoring, it isn't suitable for surface mapping, though these satellites have been

jury-rigged for such duties on occasion.. It usually inhabits a lower, polar orbit, passing over the entire globe in the course of many orbits.

**TL:** 9

**Weight:** 20 kg

**Size:** 10 vol

**Price:** Lv115,000

## COMPUTERS

Computers make up a part of daily life for citizens of the Core worlds in the 24th century, and they are an essential part of nearly any mission group as well. The two most common encountered configurations are detailed here.

**Portacomp:** The portacomp is a small handheld programmable computer, usually carried in a plastic case on the belt or on a shoulder strap. A wide variety of makes and models are available, of which the following is a representative model. The keyboard is a one-handed five-key hemisphere roughly 10 centimeters in diameter, designed to be held in one hand. The monitor is on the back of the hemisphere and is touch-sensitive, allowing an expanded range of inputs while programs are running. Voice input and output are also used, but the keyboard and monitor are useful for a variety of precision inputs and graphic outputs. A flexible 30cm x 20cm monitor expansion (also touch-sensitive) can be carried rolled in a tube in a carrying case. The machine has 128 gigabytes of internal memory and is designed to run off of up to five 4 gigabyte memory/program chips. Other styles include tablet with stylus-only input, and wearable computers accessed via voice commands.

**TL:** 14

**CPU:** 100

**Model:** B9

**Int:** 1

**PP:** 10/5

**Weight:** 0.5 kg

**Price:** Lv300

**Flexible Monitor:**

**Weight:** 0.2 kg

**Price:** Lv50

### Military Artillery Computer/Communicator:

The artillery computer is a specialized portacomp that is tied into local navigation satellites for precise positioning. It can be used to call down precise artillery strikes at areas designated on its map board. Use of this function of the computer requires the Forward Observer skill, and can be tied into any modern (TL11+) artillery. This computer otherwise has the same stats and capabilities as a conventional portacomp.

**TL:** 14

**Weight:** 1.5 kg

**Price:** Lv12,000

**Portacomp Program/Memory Chips:** A 4 gigabyte chip contains a greater volume of data than the finest general encyclopedia set. This is sufficient to provide an excellent working linguistic translation program or a comprehensive reference guide for a single area of scientific specialization. A scientific reference chip does not make the user an expert in a field; however, any more than a pile of chemistry reference books makes the owner an expert chemist. A blank chip costs Lv1

**Translation Chip:** The chip will translate spoken or written known languages. It is purchased with two complete languages on the chip (English-German, or Tajik-Farsi, for example) and will translate from one to the other at command. This program can also provide real-time (or near-real-time) translation of voice input.

**PP Capacity:** 4

**Requirements:** None

**Price:** Lv100

**Reference Guide:** A comprehensive reference guide on any one subject is available on chip for a modest price. Possible subjects include (but are not limited to): biochemistry, physic chemistry, geology of the Earth (or any other well-explored world), political history of the Earth (or any other inhabited world), etc. The skill level of these guides is equal to their PP, and they available for any Knowledge or Technical skill. Using these guides doubles any time required, but allows the user to add half the Guide's level to their own skill check. Use a reference guide also allows an unskilled user to attempt a skill with only a penalty of -2, not -4. Time for the skill attempt is tripled.

**PP Capacity:** 1 per level

**Requirements:** None

**Price:** Lv40 per PP

**Language Cracker:** A program which will analyze a spoken or written language and attempt to discover contextual similarities between it and the native language of the program. This is generally a slow and painstaking process with considerable trial and error involved. The language cracker chips confers a +2 circumstance bonus to K/Linguistics Skill Checks. The language cracker chip also allows a character to learn a language without a native speaker, but the language must be purchased as if it were a cross-class skill.

**PP Capacity:** 8

**Requirements:** None

**Price:** Lv120

## COMPUTER STATIONS

Fixed computer stations such as these can be found on board starships, in businesses, in hospital and even in some ground vehicles. Anywhere that complex or delicate machin-

ery must be operated, or bulk information must be processed, a typical computer station can be found. The units can easily interact with any others on the same network, allowing information to be free accessed from one unit by any other.

These machines have considerably more power at their disposal than a portacomp, though the demands on these resources typically run much higher as well. Most homes do not have these full-size workstations, instead using a network of machines similar in power to a portacomp.

### Static Workstation

**TL:** 14

**Internal Storage:** 2+ Exabytes

**CPU:** 1000

**Model:** M1

**INT:** 4

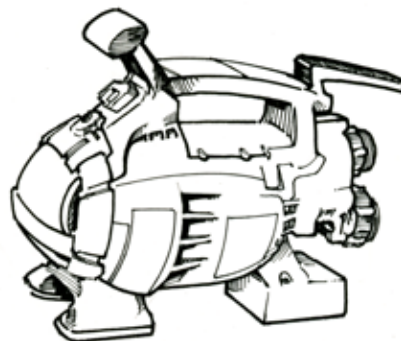
**PP:** 28/11

**Weight:** 10 kg

**Price:** Lv3000

## PERSONAL POWER

The most common portable power generators are described here.



**Fuel Station:** A solar-powered processor that produces electricity from sunlight and then uses it to crack water into hydrogen for vehicle fuel.

The complete station consists of a central unit and 10 solar panels. A tank in the unit can hold 10 vol of liquid hydrogen. The oxygen vent can be connected to a separate oxygen storage tank, if desired.

Each solar panel unfolds into a flat square 10 meters x 10 meters. In sunlight (average intensity in the life zone), each panel generates 0.1 EP which is used to produce 0.1 vol of liquid hydrogen per hour (about 0.7 vol of oxygen are also produced and normally vented). The station only works during daylight hours.

The station can also be used to produce direct electrical power (at 0.1 EP per panel deployed).

**TL:** 10



**Weight:** 20 kg (with tank empty)

**Price:** Lv1200

**Fuel Cell:** The portable fuel cell is used to provide power in many wilderness situations, and is often used in concert with the fuel station described above. The fuel cell generates 1.0 EP (vehicle scale) of power, and runs for 10 hours on a full load (10 vol) of fuel.

**TL:** 10

**Size:** 11 vol (1 + fuel tank)

**Weight:** 25 kg

**Price:** Lv750

## INDUSTRIAL EQUIPMENT

### FABRICATORS

Fabricators use powdered metals and ceramics to rapidly "print" out parts and models. The metals and ceramics are subjected to a chemical/heat curing process, and are then ready to use. Though the parts aren't quite as strong as the original, the ability to produce any spare part while in the field makes them incredibly useful. Most vehicles sold on the Frontier come with a chip containing a complete set of specifications allow practically any spare part to be created. Note that fabricators do not make complete devices, but only individual parts, or non-functional 3-D models. It is possible to create all the parts of a more complicated device on the fabricator, and then assemble it by hand. However, most fabricators have controls built-in to their firmware to prevent them from being used to make parts for weapons. Of course, military fabricators don't have these constraints, and fetch very high prices on the black market. All starship workshops contain the equivalent of a portable fabricator.

**Small Fabricator:** Suitable for making a small parts and models. Can create objects up to 15cm x 15cm x 15cm. It takes approximately 2-3 minutes to print out an average size part on this size of device. Each use requires a new refill of powdered ceramic and the catalyst.

**TL:** 9

**Weight:** 12 kg

**Power Input:** 0.1 EP

**Price:** Lv120

**Refill Weight:** 0.75 kg

**Refill Price:** Lv5

**Portable Fabricator:** Possibly the most common type of fabricator, found throughout human space in the hands of colonists and technicians everywhere. The software and firmware controls on these models are the most restrictive, as they are large enough to turn out the parts for assault weapons. Military fabricators are the same size, but lack the firmware controls. This model can create objects up 100cm x

100cm x30cm, sufficient for most replacement parts. It takes approximately 10-15 minutes to print out an average size part on this size of device. Each use requires a new refill of powdered ceramic or metal and the catalyst.

**TL:** 10

**Weight:** 220 kg

**Power Input:** 1 EP

**Price:** Lv2500

**Refill Weight:** 20 kg

**Refill Price:** Lv120

## EXPLOSIVES

The most prevalent non-combat explosives in the 24th century are industrially-produced blocks of plastic explosive. These plastic explosive blocks are all of a uniform weight-one kilogram, but their explosive power depends upon the rating they hold. The most commonly used rating for plastic explosive blocks is Plastique-9. Multiple blocks of this explosive can be used together to create larger explosions, or a single block can be broken down to a fragment of its size for smaller blasts. On less-advanced worlds old-fashioned dynamite, which is relatively easy to manufacture, is produced for local use.

It should be noted that possession of explosives requires a local license on most worlds, and the penalties for noncompliance are severe.

### Plastique-9

**TL:** 9

**Weight:** 1 kg

**Damage:** 2d12 radius 10

**Price:** Lv15

### Dynamite

**TL:** 4

**Weight:** 10

**Damage:** 1d12 radius 5

**Price:** Lv5

## MISCELLANEOUS

Other common equipment in the 24th century includes the following.

**Makeup Kit:** The term makeup kit actually can be applied to two very similar items with different purposes. Most makeup kits are used by people in the public eye (actors and the like) to augment their appearance. But makeup kits are also very handy in undercover or criminal endeavors as well to create disguises.

These kits typically include (but are not limited to) hair-coloring dye, modeling putty for altering facial features, colored contact lenses, false eyelashes and artificial facial hair, necessary adhesives and solvents, colored facial powder and pencils for toning and highlighting, setting powder, neces-

sary applicators and brushes, and a variety of basic skin tone foundation makeup.

Use of the Makeup Kit to create an effective disguise requires the Entertain (Dramatic Acting) skill. The total Entertain Skill Check roll is used as the DC for Spot Skill Checks to see if the disguise is penetrated. Computer-controlled security systems suffer a -2 circumstance penalty when attempting to penetrate a disguise.

**TL:** 8

**Weight:** 5 kg

**Price:** Lv250

**SofStuf:** SofStuf was originally the brand name for a particular brand of foam tissue, but the product became so popular that, as often happens, the brand name became the common public term. SofStuf is a soft, absorbent substance which foams up and cures to a fluffy consistency upon contact with atmospheric nitrogen. It is widely used as a facial tissue; as the foamy part is torn from the top of the box which it is packaged in, the substance below comes in contact with the atmosphere and foams up to replace it. It takes less than two seconds for curing to finish.

SofStuf is also used as bandages, rags, wash cloths, and towels. It comes in a variety of decorative colors.

**TL:** 8

**Weight:** 0.25 kg/package

**Price:** Lv1

## ROBOTS AND DRONES

Robots are very common in the society of 2320AD. Robotic systems can be found almost anywhere, from the automated surveillance drones that wander the streets of the Core cities, to the mining equipment used on remote colonies, to cleaning and service 'bots found in many homes. Robots in 2320AD are defined as machines that can follow a set of guidelines without human supervision or intervention. These machines have a limited learning capacity as well, allowing them to remember solutions and implement them in similar situations. They are not capable of thinking, but can simulate intelligence if skillfully programmed.

Drones are simply remote-controlled vehicles, requiring almost constant operation and supervision. Many robots also have a remote-control facility, however, blurring the lines between the two. Typically, a robot can be remote-operated, but a drone has no self-guiding capability, and is thus considerably cheaper than a robot.

### SIGNATURE:

Signature is means of determining how easy something is to spot or target for smart missiles compared to other objects/vehicles of the same size. Signatures do not compare across vehicle size classes.

**Hund Whisperdrone (Tiny Rotorcraft):** The Whisperdrone is powered by a thin high-pressure airline from the controlling vehicle, and can only move to the 100 meter limit of the line. However, it contains laser-rangefinding and designation equipment, along with a suite of visual sensors, which allow the carrying vehicle to act as an artillery spotter without exposing itself to hostile fire. The drone can also be used to generate a firing solution for onboard weapons, like missiles and rockets.

#### WHISPERDRONE

Class:	RPV	EP Output:	1.00	(0.88 excess)
Price:	Lv1000	Agility:	2	
Tech Level:	11	Initiative:	1	
Size:	Tiny			
Streamlined?:	Standard	AC:	12	
Pressurized?	No	(Size Tiny)	2	
Climate Control?	No			
Drive Train:	Rotary Wing	AR:	0	
Crew:	1	SI:	4	
Fuel:	N/A	Signature:	-2	
Range:	0			
Speeds:				
Std. Acceleration=	1kph	Max. Acceleration=	1kph	
Very Slow (Stall)=	1kph (0 kph)	Slow=	3kph	
Cruising=	5kph	Fast=	8kph	
Max Speed=	10kph	Off-road=	N/A	
Visual:	1 video camera with Low-light, Infrared,			
Sensors:	Laser Designator: Range Increment 100 meters			
Comm:	Link Cable			

**Sistemas Domesticas Home Companion (Medium Walker):** The Home Companion is an all-purpose bipedal robot, designed to handle any routine domestic duty. While they can't really cook, they can microwave prepared food, and can follow directions to cook simple meals. They are intended to provide cleaning services and upkeep services. The small (1.1 meter tall) robots have a limited vocabulary, and are quite capable of holding a conversation, or even playing some games (chess, backgammon, and others). They are somewhat slow, however. They come with all cleaning attachments built-in, and simply need to recharge from a wall socket every so often. They are very popular with spacecraft crews and other shut-ins.

#### HOME COMPANION

Class:	Domestic Robot	EP Output:	5 EP Battery	(0.97 excess)
Price:	Lv21,000	Agility:	1	
Tech Level:	11	Initiative:	1	
Size:	Medium			
Streamlined?:	Humanoid	AC:	11	
Pressurized?	No	(Size Medium)	0	



Climate Control?	No		
Drive Train:	2 Legs	AR:	0
Computer Core:	PP Available: 8 Wis: 0 plnt:8 pCha: 8 Edu: 2	SI:	14
Fuel:	0	Signature:	-5
Range:	0		
Speeds:			
Std. Acceleration=	1kph	Max. Acceleration=	1kph
Very Slow=	1kph	Slow=	3kph
Cruising=	5kph	Fast=	8kph
Max Speed=	10kph	Off-road=	5kph
Visual:	1 headlight		1 video camera
Sensors:	Auditory	Olfactory	Tactile
Comm:	Voder	2-Way Radio	
Manipulators:	2 Arms, Str 12 Dex 10	Built-In Cleaning Equipment	

Installed Software	PP	Cost	Notes
Personality Interface	4	Lv1300	Cha 8
Valet	2	Lv95	
Cooking	2	Lv95	P/Cooking +2
Cleaning	2	Lv95	P/Janitorial +2

Full Verbal Command with High Autonomous Logic.

**Sortech FE-909 Security Robot (Medium Wheeled Vehicle):** The FE-909 is a small wheeled unit designed to provide perimeter patrol for a large compound. Equally suitable for indoor or outdoor work, the FE-909 comes equipped with low-light and infrared vision, along with a powerful spotlight and a set of rotating red flashers and a siren. By law, these robots can't be armed, but many facilities on the Frontier arm them with sonic weapons, or even lasers.

### Sortech FE-909

Class:	Security Robot	EP Output:	8.00	(1.43 excess)
Price:	Lv17500		Agility:	+1
Tech Level:	12		Initiative:	+2
Size:	Medium (105 vl)			
Streamlined?:	Standard	AC:	11	
Pressurized?	No	(Size Medium)	0	
Climate Control?	No			
Drive Train:	Wheeled	6 wheels	AR:	6
Computer Core:	PP Available: 8 Wis: 0 plnt:8 pCha: 8 Edu: 2	SI:	16	
Passengers:	0	Signature:	-2	
Cargo Space:	0			
Fuel:	2.4			
Range:	240			
Speeds:				
Std. Acceleration=	8kph	Max. Acceleration=	16kph	
Very Slow=	8kph	Slow=	20kph	
Cruising=	40kph	Fast=	60kph	
Max Speed=	80kph	Off-road=	8kph	
Visual:	4 headlights	Spotlight	Brake light	
	Light bar (red flashers)	2 video cameras with low-light, infrared		
Sensors:	Auditory			
Comm:	2-Way Radio	Radio Receiver	Voder	
Manipulators:	2 Arms Str: 20 Dex: 10			
Weaponry:	Sonic Stunner Pistol 10 shots			

Installed Software	PP	Cost	Notes
Personality Interface	4	Lv1300	Cha 8
Drive	2	Lv700	Driving-2
Combat	2	Lv1300	BAB=PP

Basic Verbal Command with Low Autonomous Logic

**Darlan UVR-3 Surveillance Drone (Small Airfoil Airship):** The UVR-3 is a small airship-style vehicle typical of the drones used for inner-city surveillance. They are controlled by remote expert systems, and are programmed to drift about on random courses. All audio and video captured by the small drone feeds to the expert system, which monitors the video signal for anything suspicious. If it finds something, it alerts a human operator, who can use his controls to operate the drone and

investigate more closely.

### Darlan UVR-3

Class:	Surveillance Drone	EP Output:	0.30EP Battery	(0.09 excess)
Price:	Lv1500	Agility:	1	
Tech Level:	12	Initiative:	+1	
Size:	Small (5.5 vl)			
Streamlined?:	Standard	AC:	12	
Pressurized?	No	(Size Small)	1	
Climate Control?	No			
Drive Train:	Airfoil Dirigible	AR:	0	
Crew:	1	SI:	5	
Battery	5 hours	Signature:	-5	
Range:	150 km			
Speeds:				
Std. Acceleration=	6kph	Max. Acceleration=	12 kph	
Very Slow (Stall)=	6kph (0kph)	Slow=	15kph	
Cruising=	30kph	Fast=	45kph	
Max Speed=	60kph	Off-road=	N/A	
Visual:	1 video camera with Low-light and Infrared, 1 Spotlight			
Comm:	Loudspeaker	2-Way Radio		

**Pinchot Industries AR-201 Construction Robot (Huge Tracked Vehicle):** A common sight throughout the Core and the more-advanced worlds of the Frontier, construction robots like the AR-201 perform a myriad of tasks, from excavation and road-building to building construction and renovation. These modular robots can be equipped with several attachments, and larger models are used for truly massive engineering tasks.

### AR-201

Class:	Construction Robot	EP Output:	20.00	(3.11 excess)
Cost:	220,458.40	Agility:	3	
Tech Level:	12	Initiative:	+3	
Size:	Large			
Streamlined?:	Standard	AC:	15	
Pressurized?	No	(Size Large)	-1	
Climate Control?	No			
Drive Train:	Tracked	AR:	3	
Crew:	1	SI:	27	
Passengers:	0	Signature:	+2	
Cargo Space:	0			
Fuel:	36			
Range:	240			
Speeds:				
Std. Acceleration=	2kph	Max. Acceleration=	6kph	
Very Slow (Stall)=	2kph	Slow=	5kph	
Cruising=	10kph	Fast=	15kph	
Max Speed=	20kph	Off-road=	10kph	
Visual:	2 headlights	1 Spotlight	1 brake light	2 video cameras
Sensors:	Auditory	Tactile		
Comm:	Voder	2-Way Radio		
Other Equipment:	Tool Arm Str 200 Dex 8			

Installed Software	PP	Cost	Notes
Personality Interface	4	Lv1300	Cha 8
Drive	2	Lv700	Driving-2
Basic Verbal Command with Low Autonomous Logic			

## PENTAPOD EQUIPMENT

Pentapod analogs exist for much of the equipment listed in this chapter, but they aren't widespread. If an analog is available (up to the GM), it costs at least twice as much as normal equipment but will last nearly forever—as a living creature, it self-repairs. Rough treatment will kill a Pentapod analog but would as easily break Human equipment. All Pentapod equipment listed here has a Lifeblood, Stamina and AC rating, just like any other organism.

**Biosampler:** The biosampler is among the first Pentapod mass-produced, bioengineered products for human consumption, and the most successful. It is an animal biochemically similar to a human being. It is programmed to determine edibility of plant and animal tissue, and communicate that information to its owner. Communication is simple: If it eats the material, it is safe; if it refuses it, it is toxic.

Although its appearance is unimportant to its function, the Pentapods have, in one of their few marketing successes, made it soft and furry and programmed a limited pattern of semi-random behavior to make it more appealing. This pattern becomes predictable after long viewing, but the creatures have become popular as children's pets on many Frontier worlds. The Pentapods release a new version every few years, differing only cosmetically from previous versions.

**Lifeblood:** 2

**Stamina:** 1d4

**AC:** 10

**AR:** 0

**Weight:** 0.5 kg

**Price:** Lv20

**Water Breather:** In the early 2300's the Pentapods released a new product on the market, the water breather. It is a shelled creature that fits tightly to the human face, with a clear section over the eyes, a tube that projects into the mouth, and an expandable sac at the chin. The sac expands as the wearer exhales and contracts as the wearer inhales. Meanwhile, the creature filters oxygen out of the surrounding water and exudes it into the sac, while filtering carbon dioxide out of the exhaled air.

It is very popular for casual diving, but some fear the results of tearing the sac while working at deep levels. Others feel suffocated to have a living creature covering their faces. Still others are convinced that the water breathers are part of some sort of Pentapod plot (see the Stabilizer, below).

The water breather does not require the Swim skill to use effectively, and negates the Swim check penalty for consecutive rounds spent underwater.

**Lifeblood:** 3

**Stamina:** 1d6

**AC:** 10

**AR:** 0

**Weight:** 0.5 kg

**Price:** Lv75

**Food Converter:** The food converter was a later product for the human market, which failed spectacularly. It resembles a short, fat snake, and was capable of converting levo-amino acid proteins and complex carbohydrates to dextro-amino acid proteins and carbohydrates, suitable for Human consumption. It was even capable of synthesizing some vitamins, including the B-complex series but not vitamin D. Unfortunately, the Pentapods only accounted for function, not aesthetics. And in this case, the aesthetics were disastrous. Not for the creature itself, which was merely vaguely unpleasant, but for the results. Essentially, it was fed the food to be converted, and in the digestion process, it converted the amino acids and complex carbohydrates, taking what it needed and excreting the rest. No one would eat the products, and the converter languished until the Kafer War, when the Pentapod factor on Beta Canum gave away over a thousand of them to French resistance fighters, allowing them to live off the land. Many almost died anyway before they would eat the product of the converter. However, some afterwards commented that the product tasted somewhat like pie.

The converter can alter 1 kilogram of food per hour.

**Lifeblood:** 5

**Stamina:** 1d8

**AC:** 11

**AR:** 0

**Weight:** 4.3 kg

**Price:** Free (Lv210 after-market)

**Biocontacts:** These are among the first Pentapod mass-produced bioengineered products for human consumption, and were widely distributed at fairly low prices, both as a marketing experiment and as a means of developing a distribution system for additional products. Biocontacts are transparent lenses worn in the eye. When purchased they are dormant and opaque. The purchaser must insert them, keep his eyes closed, and remain at rest for eight hours to activate the contacts and allow them to adapt to his body chemistry. (This is normally done during a sleep period.) Once activated, the biocontacts are specific to the owner and will not function for anyone else. They can be removed and stored or kept in the eyes indefinitely (they allow oxygen to pass freely to the cornea). They draw nourishment from the owner's tears, and so must be stored in a special nutrient solution if they are not kept in the eyes.

Biocontacts give the wearer enhanced infrared vision (for night vision) and squinting will give up to a 5x magnification. This changes to increment for Spot Skill Checks from 3m to



15m.

**Weight:** Insignificant

**Price:** Lv500

**Stabilizer:** The stabilizer is an organic cocoon nearly two meters long and a meter in diameter. Its tough opaque outer shell protects delicate organs inside that can function in place of those of a comatose human being for an indefinite period of time-as long as it takes to get the patient to a medical facility able to treat him.

The stabilizer splits along one side to open, and the patient is placed naked inside, upon which, the stabilizer closes once again. Tiny projections pierce the patient's circulatory and nervous systems, providing nutrients, removing wastes, and controlling pain. A chemical released into the blood halts the patient's respirations while he is inside the stabilizer.

As long as the construct has oxygenated air to breathe, water to drink, and food to consume (about twice that required by a single human), it will remain in operation; patients left inside for more than a month begin to rapidly lose muscle tone, body weight, and joint flexibility due to lack of active or passive exercise. Of course, this is a small price to pay for remaining alive while critically wounded. This current version is much improved from the original, which only provided a week of full support.

The stabilizer is the subject of a number of rumors and horror stories associated with a fear and distrust of Pentapod technology and the Pentapods themselves.

**Lifeblood:** 12

**Stamina:** 4d8

**AC:** 15

**AR:** 5

**Weight:** 400 kg

**Price:** Lv5000

**Pentapod Biosuit:** The biosuit is a new product from the Pentapods, and is essentially a living protective suit. It has limited effectiveness against weapons, but does protect against any encountered toxin or biological agent. The suit is capable of ingesting just about any biological matter and converting it into usable food. It even recycles the user's own wastes, extracting water and any other nutrients. With a small supply of water and biomass, the suit can keep its wearer alive indefinitely in almost any terrestrial environment (provided the user doesn't think too much about where the food and water are coming from). It is not suitable as a hostile environment suit, however, nor as a pressure suit. The biosuit has gone a long way to fueling many a paranoid's darkest nightmare, though.

**Lifeblood:** 12

**Stamina:** 2d8

**AC:** 12

**AR:** 2

**Weight:** 10 kg

**Price:** Lv900

**Pentapod Earplugs:** In a wide variety of environments, hearing protection is desirable. Heavy equipment and weaponry often create intense noise. One of the problems with most hearing protectors is that some necessary sounds are dulled or lost. This problem can range from a minor irritation, such as a conversation being difficult to hear, to a real danger, such as an enemy being undetected when close by.

Advanced electronics have made possible the creation of hearing protectors that work only in the presence of intense noise, going inactive when levels return to normal. But these products are very expensive to purchase and maintain. An alternative is a living earplug produced by Pentapod bio-engineers. This creature is largely a tube of muscle the approximate diameter of the human ear canal and possesses its own sense of hearing. When noise reaches a dangerous level, the creature clenches shut, preventing the excess sound from reaching delicate Human hearing mechanisms. When the noise level drops, the creature relaxes, allowing normal hearing once again.

The Pentapod earplug cannot be worn for more than six hours at a time, or it perishes from lack of nutrients. When not being worn, it is to be stored inside in opaque vial of nutrient fluid. The creature can survive on a minimum of sugar water, but it loses its ability to clench but until normal nutrients are provided once again.

The earplug is yet another piece of Pentapod technology that provides considerable ammunition for the paranoid. Their thoughts run to: "What else won't it let you hear?"

**Weight:** Insignificant

**Price:** Lv300, plus Lv10 for one month of nutrient solution

**Pod Plants:** Pod plants are a Pentapod creation that has become a very common crop on colony worlds, particularly along the French Arm. In form, it is a hardy, dark green vine that produces pods similar to Terran gourds, but have much stronger shells (stronger than Terran ironwood) after aging. Pods are harvestable when they reach a size of one quarter of a liter interior volume, but if left to grow, can attain volumes of up to 500 liters. While growing, they are very sensitive to long-term outside pressure, and as a consequence, if a wire-mesh form is built around a developing pod, the pod will grow to fill the space the form marks out. Pods can be grown to nearly any shape and size before harvesting, making them of great use as crates, barrels, furniture, canteens, or many other commonly needed items (pod plants are sometimes grown as sculptures).

Once the pod is harvested, it is opened and the pulp

inside is scooped out (a small hole is enough). The shell is allowed to air cure for several hours. Fittings such as resealable necks, hinges, latches, or handles are then affixed if the pod is to become a reusable container. If the pod is to be used as a shipping crate, the item to be packed is placed inside, and packing material is inserted. Two common packing materials are a substance similar to "SofStuf" and a Pentapod product known as "Packing Seed" (see below). The opening is then reclosed by gluing the piece removed back into place, making an airtight seal.

**Weight:** Variable

**Price:** Up to Lv60 for a large crate, more if made into furniture, etc.

**Packing Seed:** "Packing seed" is an agricultural product created by the Pentapods and commonly used with pod plants. Packing seed plants are small, hardy bushes that produce a fruit with a tough skin that shrinks when dried, placing the fibrous meat inside under considerable pressure. When using packing seed as a packing material, an item is placed inside a container, packing seed is dumped in around it, and a sharpened stick is run forcefully down through the fruit, rupturing the skin and allowing the meat inside to expand and fill the container. Packing seed can be a little difficult to remove, but it absorbs shock well, making it an excellent packing material for items shipped by orbital catapult.

**Weight (Ruptured):** 3 kg per m3

**Price:** Lv1 per m3

## WEAPONS

The universe of 2320AD can often be a dangerous and violent place. Adventuring characters will often need the ability to defend themselves. This section describes both personal and man-portable heavy weapons found in Human space.

### MELEE WEAPONS

Though not used very often in combat, melee weapons are very common in criminal circles, or when nothing else is available.

**Knife:** A basic hunting or utility knife. Not balanced for throwing.

**Hatchet:** A small, short-handled axe used for camping. Can be thrown.

**Axe:** A longer-handled tool used for chopping and splitting wood.

**Club:** Any sort of heavy, blunt object used as an improvised weapon.

**Shortsword:** A short-bladed weapon, like a machete.

**Longsword** Typical of long-bladed slashing weapons, such as the Cold Mountain sword

**Wakizashi** This Japanese-style shortsword is almost always made as a pair with the longer katana, below.

**Katana** This Japanese-style longsword is renowned both for its quality and its connection to the ideal of the samurai.

**Ceramic Knife** The ceramic knife is a tanto-style long knife made out of high-density ceramic. It is as strong as steel, but as sharp as glass and remains sharp longer than a steel weapon.

**Wire Knife** The wire knife was originally designed as a cutting tool for the beanstalk projects. The blade consists of an elliptical loop of single-fiber nanotube, doped with superconducting ceramic. When an electrical charge is passed through the blade, the superconductor holds it rigid. With power turned off, the loop of wire can be retracted into the handle. Though nanotube is very strong, the single-fiber strand, when held rigid by the charge, is relatively fragile, and can be snapped off by high-density objects.

**Puke Stick** The puke stick is a prisoner/riot control device. When it hits, or even touches, a target, a specially modulated pulse of electricity is sent into the victim, generally making him nauseated and often violently ill. Most people aren't capable of putting up a great deal of resistance if they're puking their guts out. Any unarmored target must make a Fort Save vs. DC 15 or be violently ill (-4 to all actions, 1/3 normal Move Rate). The effect lasts for 20-Con minutes. Even passing the Fort save means that the target will be badly nauseated, and at -2 to all actions. This likewise lasts for 20-Con minutes.

**Shock Baton** Designed for police and prison work, short versions of these weapons are much favored by muggers and thieves. A touch is enough to send a debilitating charge through the target, often making them pass out or go into convulsions. Target must make a Fortitude Save vs. DC 15 or be at -6 to all actions for 1d6 minutes. Even making the save results in -2 to all actions for 1d4 minutes.

**Shock Glove** Shock gloves have much the same effect as the baton, above, but are more likely to be used by security guards and the military, not to mention the underworld. Target must make a Fortitude Save VS DC 14 or be at -5 to all actions for 1d6 minutes. Even making the save results in -1 to all actions for 1d4 minutes.

## FIREARMS

There are three general types of projectile weapons in general use by humanity in the 24th century: conventional rifles, binary propellant rifles, and gauss rifles.

**Conventional Rifles:** Conventional rifles fire a fixed caseless round, with the bullet embedded in a solid rectangular block of propellant. The round itself consists of a dense metallic core surrounded by a low-friction sabot, which abrades in the barrel and falls away after the bullet leaves. This gives the round a longer range and flatter trajectory, which improves accuracy. Virtually all civilian rifles are con-

Weapon	Price	TL	Weight	Range	DMG (crit)	Type
Knife	Lv20	1	1kg	1.5 meters	1d4 (19)	Medium Piercing/Slashing
Hatchet	Lv10	1	1kg	1.5/3 meters	1d6 (19)	Medium Slashing
Axe	Lv25	1	2kg	1.5 meters	1d8 (18)	Medium Slashing
Club	–	1	1kg	1.5 meters	1d6 (x2)	Medium Bludgeoning
Short Sword	Lv20	1	1kg	1.5 meters	1d6 (19)	Medium Piercing/Slashing
Long Sword	Lv120	1	1kg	1.5 meters	1d8 (x2)	Medium Piercing/Slashing
Sword	Cr800	1	1kg	1.5 meters	1d8 (x2)	Medium Piercing/Slashing
Katana	Lv1200	1	1kg	1.5 meters	1d10 (x2)	Medium Piercing/Slashing
Ceramic Knife	Cr150	9	1kg	1.5 meters	1d6 (x2)	Medium Piercing
Wire Knife	Lv200	11	0.3kg	1.5 meters	1d10 (x2)	Medium Piercing/Slashing
Puke Stick	Lv550	10	1kg	1.5 meters	1d4 (x2)	Medium Bludgeoning
Shock Baton	Lv320	?	1kg	1.5 meters	1d8 (x2)	Medium Electric (stamina damage only)
Shock Glove	Lv250	?	0.4kg	Touch	1d8 (x2)	Medium Electric (stamina damage only)

ventional rifles, but they have mostly been replaced in military service by gauss and binary propellant rifles.

**Binary Propellant Rifles:** Binary propellant ammunition consists of the bullet itself, and a separate set of gas propellants. The propellant mixes are separately inert, but when combined become explosive. In operation, the two gases are injected into the firing chamber behind with the bullet, and combine explosively to propel the round. The main advantage is the compressed gases are much less bulky than conventional rounds, and an individual soldier can carry more ammunition. When used with a rangefinder the amount of propellant can be adjusted to fit the range, and the round follows a flatter trajectory than other weapons.

**Gauss Rifles:** Gauss rifles are linear magnetic accelerators which fire fin-stabilized flechettes (the weapons can be adjusted to give the rounds a spin if fired in vacuum). Usually the magazine for the gauss rifle also contains a battery pack which powers the gun.

Virtually all rifles incorporate optic sights. Also, as damage potentials have increased, weapons have incorporated more elaborate recoil-absorbing features. Most long-range rifles also have a gunner-activated laser range finder, which can be used in conjunction with computer-controlled fuses on some propelled grenades to improve accuracy and hitting power.

## CURRENT SERVICE RIFLES

The following rifles are currently being used by major military forces in the 24th century. All of these weapons are considered Piercing type. In addition, weapons using APHE ammo, as well as all Gauss weapons, are automatically considered to be using AP ammo, with the bonuses as listed. All firearms do Piercing damage. All slug-throwing weapons have Recoil, even Gauss weapons.

**Segetov AS-99 (Avtomat Segetov 2299):** The standard Russian and Ukrainian service weapon, the AS-99

incorporates a reliable optical sight and an integral 30mm G-2 grenade launcher. As a progressive upgrade of the older AS-89, the AS-99 incorporates new materials and advances in gauss weapon technology. The AS-99 is aggressively exported, and finds its way into the armies of many poorer nations, along with mercenaries, criminals and terrorists. This gun cannot make use of computer-controlled fused grenades without replacing the grenade launcher and sight.

**Type:** 4.54mm gauss rifle with integral 30 mm grenade launcher  
Country: Russia Length: 73 cm (Size = Medium) Action: Single shot or burst Ammunition: 4.54x21 mm flechette Muzzle Velocity: 1530 mps Magazine: 60-round box magazine with integral power cell RoF: 1/4/10 Range: 200m Damage: 2d12 (x2) AP Bonus: +1

For grenade launcher stats, see Combat Rifle Integral Grenade Launcher, below (p. 237).

**TL:** 11

**Weight (Empty):** 4 kg

**Magazine Weight:** 0.3 kg

**Price:** Lv450 (Lv2 for 60-round disposable magazine with power cell)

## FIREARMS LAWS:

Each nation and colony has a stated law level, which describes, among other things, the legality of certain classes of weapons. It is possible to own weapons that would be otherwise banned at a certain law level, but one must show a justified need, and purchase the required permits. Permits are Lv100 per law level (so Law Level 8 requires a Lv800 permit), are good for one year, and allow the holder to own weapons 1 law level below that which is normally permitted).

**Traylor Arms M5A3:** The M5A3 is a progressive development of the M5 assault rifle, which is itself a development of the old M2. The M5A3 is a binary-propellant design, incorporating a 3-round 30mm grenade launcher, along with



hardened sights equipped with an red-dot, low-light and telescopic options, along with an active/passive rangefinder. The rangefinder is used to feed fusing information to the grenades, enabling them to explode at set distances for enhanced effectiveness against dug-in troops.

The M5A3 is derived from lessons learned in the Kafer War, where first-shot lethality was of more use than range or penetration. The M5A3 is optimized for close quarters combat at ranges of under 200 meters, and often down to 50 meters or even closer, and has been a favorite of Marine raiders for almost a quarter century.

**Type:** 9mm binary propellant assault rifle  
Country: USA  
Length: 75 cm (Size=Medium)  
Action: Single shot or bursts  
Ammunition: 9x40mm APHE  
Muzzle Velocity: 1200 mps  
Magazine: 40 rounds (separate propellant bottles for 120 shots)  
RoF: 1/4/10  
Range: 96m  
Damage: 2d12 (x2)  
AP Bonus: +1

For grenade launcher stats, see Combat Rifle Integral Grenade Launcher, below (p. 237).

**TL:** 12

**Weight (Empty):** 3 kg

**Magazine Weight:** 0.3 kg

**Price:** Lv580 (Lv10 for box of 40 rounds, Lv20 for set of propellant and oxidizer)

### Guiscard FAM-90bis (Fusil Automatique Mag-

**netique-2290):** The standard infantry weapon of first-line French infantry, the FAM-90bis gauss rifle fires single shots at high velocity, giving good accuracy. It is designed to fire 4-round bursts so rapidly that the fourth has fired before the first leaves the barrel, giving it improved controllability on automatic fire. It does not have a full-auto function. The optic sights incorporate a red-dot option, along with a low-power laser range finder. The range-finder is used to feed information to the grenade launcher. An HR-17 30mm grenade launcher is mounted below the barrel, and is designed to fire fused grenades. A tight four-round burst "to damage" gives +1 to attack rolls in addition to the normal +2 dice of damage. All other burst attacks work as normal.

**Type:** 4.5mm Gauss rifle with integral 30mm grenade launcher  
Country: France  
Length: 76 cm (Size=Medium)  
Action: Single shot or bursts  
Ammunition: 4.5x20mm flechette  
Muzzle Velocity: 1600 mps  
Magazine: 60-round box magazine with integral power cell magazine.  
RoF: 1/4/10  
Range: 112m  
Damage: 2d12 (x2)  
AP Bonus: +1

For grenade launcher stats, see Combat Rifle Integral Grenade Launcher, below (p. 237).

**TL:** 12

**Weight:** 4.5kg (empty)

**Magazine Weight:** 0.3 kg

**Price:** Lv700 (Lv20 for 60-round disposable magazine).

## WEAPON OFFENSES:

Possession of an illegal weapon holds a variety of penalties, based on the law level of a given nation or world. For Low Law regions, the penalty will be little more than confiscation of the weapon and a fine (Law Level x Lv500). For Moderate Law Areas, the penalties include confiscation, a fine (Law Level x Lv1000) and possible jail time (Will Save vs. DC (Law Level x 2)). Jail time is equal to the law level, in months. For high law worlds, the same applies, though the fine is Law Level x Lv2000, and there is no save to avoid jail time. In Extreme Law areas, a character is more likely to get shot out of hand than arrested. Use of a weapon in the commission of a crime will result in automatic jail time, no matter the Law Level.

### Darlan Fabrique FTE-22 (Fusil de Tireur d'Élite-

**22):** Generally, each French squad contains one FTE-22 (or similar) sniper rifle to use for long-range. The Fusil de Tireur d'Élite-22 is a very low-signature weapon, which makes it excellent for harassment fire from concealment. The round will have hits its target well before the shockwave of its passage will have reached any observers. The FTE-22 can also penetrate light vehicle armor at reasonable ranges.

Due to its great physical length, the FTE-22 has carried over the nickname "Kentucky long rifle" (from the older FTE-10) among American soldiers. Though long and bulky, the accurate, long-range fire-power saw a great deal of use in the Kafer War, used to target officers and command vehicles. The FTE-22 comes equipped with an electronic sight with red-dot, imaging, telescopic, low-light, and thermal imaging options.

**Type:** 10mm Gauss sniper rifle  
Country: France  
Length: 192 cm (Size=Large)  
Action: Single shot  
Ammunition: 10x37mm flechette  
Muzzle Velocity: 1670 mps  
Magazine: 10-round box magazine. Separately loaded 30-round power cell.  
RoF: 1  
Range: 192m  
Damage: 3d10 (x3)  
AP Bonus: +2.

**TL:** 12

**Weight (Empty):** 12.5 kg

**Magazine Weight:** 0.2 kg (power cell 0.2 kg)

**Price:** Lv450 (Lv20 for box of 100 flechettes; Lv10 for disposable power cell)

**Price with Scope:** Lv1085

### Yen Shan State Armory Type-81 Storm Gun:

Shortly before the Central Asian War, there was a flurry of interest in man-carried heavy caliber "storm guns," mostly brought on by Manchuria's adoption of the Type-81. The storm gun was intended to provide light anti-vehicle and anti-bunker fire, and the exploding round was expected to give a good area fire capability. In service, however, the

weapon proved disappointing. Though out of service with most Core nations, the Type-81 has received a great deal of interest from colonial militias, especially those unable to afford more expensive support weapons like plasma guns. It includes a basic optical scope with a red dot sight, but with no other options.

**Type:** 20mm binary propellant storm gun Country: Manchuria Length: 163 cm (Size=Large) Action: Single shot Ammunition: 20x31 mm APHE Muzzle Velocity: 840 mps Magazine: 10-round box magazine; separately loaded internal gas bottles with charge for 100 rounds RoF: 1 Range: 60m Damage: 4d10 (x3) AP Bonus: +2

**TL:** 10

**Weight (Empty):** 12 kg

**Magazine Weight:** 2 kg (recharge bottle 2 kg)

**Price:** Lv580 (Lv20 for box of 20 rounds; Lv20 for recharge bottle)

## Surplus Service Rifles

The surplus service rifles described below are no longer the primary small arms of their countries' military forces. Nonetheless, the weapons are still in widespread use by a number of smaller forces.

**Ströhl SG-77 (Sturmgewehr-2277):** The Sturmgewehr-2277 has long been replaced by more modern types of weapons in Germany's arsenal; however, the weapon was once widely exported, and it can still be found in private hands, as well as in the armories of many smaller armed forces and militias. It is not fitted standard with a scope

**Type:** 5.5mm conventional assault rifle Country: Germany Length: 75 cm (Size=Medium) Action: Single shot or bursts Ammunition: 5.5X40mm fixed cartridge ball Muzzle Velocity: 1200 mps Magazine: 40 rounds RoF: 1/3/10 Range: 45m Damage: 1d12 (x2)

**TL:** 9

**Weight (Empty):** 3 kg

**Magazine Weight:** 0.3 kg

**Price:** Lv280 (Lv2 for box of 100 rounds)

**Wu-Beijing Type-94 Assault Rifle:** The Wu-Beijing Type-94 Assault Rifle is unique among modern military arms, its uniqueness stemming from a return to an older design which uses a trigger-magazine-barrel design layout rather than the more efficient "bullpup" layout (a magazine-trigger-barrel design).

The Type 94 was developed from the older Type -49, the main difference being a more ergonomic design which allows controlled fire without a stock. Both types are found throughout Human space. It comes equipped with a pistol scope with the red-dot option.

**Type:** 7.5mm conventional assault rifle Country: Manchuria Length: 58 cm (Size=Medium) Action: Single shot or bursts Ammunition: 7.5 x 32mm fixed cartridge ball Muzzle

Velocity: 880 mps Magazine: 25 rounds RoF: 1/4 Range: 60m, 45m with stock folded Damage: 1d12 (x2)

**TL:** 10

**Weight (Empty):** 3 kg

**Magazine Weight:** 0.4 kg

**Price:** Lv230 (Lv20 for box of 100 rounds)

## Civilian Weapons

These are the most common civilian rifles in the 24th century.

**Stracher SS-7 (Scharfshutzen Model 7):** The Stracher SS-7 is the only mass-produced air rifle currently in use as a hunting weapon (although a variety of low-power air rifles are used for recreation target shooting). The weapon is powered by compressed air from a central reservoir, which holds sufficient pressure for 20 shots at high pressure and 30 more at low pressure. The weapon can be recharged by hand, but only to the low pressure level. A small, solar-powered compressor is available to accompany the weapon, which sees good sales along the French and Manchurian Arms.

**Type:** 4mm sporting rifle Country: Austrovenia Length: 72 cm (Size=Medium) Action: Single shot Ammunition: 4mm flechette Muzzle Velocity: 480 mps Magazine: 20-round box Air Recharge Bottle: 0.5 kg RoF: 1/3 Range: 60m high pressure, 30m low pressure Damage: 1d8 high pressure, 1d6 low pressure

**TL:** 8

**Weight (Empty):** 1 kg

**Magazine Weight:** 0.1 kg

**Price:** Lv140 (Lv10 for box of 1000 rounds; Lv10 for recharge bottle)

**Stracher Luftscheibengewehr A5:** The Luftscheibengewehr Ausf 5 (Air disk gun, model 5) is best described as an air-powered shotgun, and was developed for use on Cold Mountain. It fires a spread of 22mm disks trailing monofilament fiber. When it hits a target like a Flying Blind, the disks tumble and whip the line around. The disks are largely ineffective against most creatures, but against the extremely thin animals of Cold Mountain, it can do considerable damage. The disks are even marginally effective against razor-flies. This weapon has a variety of nicknames, including Ripper and Weedeater.

**Type:** 22mm air shotgun Country: Austrovenia Length: 56 cm (Size=Medium) Action: Single shot Ammunition: 22 x 30 mm airshell (20 22mm disks stacked inside) Muzzle Velocity: 200 mps Magazine: 8 round box RoF: 1 Range: 10m Damage: 1d4 (2d6 vs. Cold Mountain animals) (x2)

**TL:** 8

**Weight (Empty):** 4.1 kg

**Magazine Weight:** 2.1kg

**Price:** Lv350 (Lv8 for box of 40 rounds)

**Guiscard FC-68 (Fusil Chasseur 2268):** The FC-68 was designed with the Frontier colonist in mind, and is widely used by French civilians on a variety of worlds. It combines a bullpup configuration (giving it a distinctly military look-one of its strongest selling features) with full-automatic fire. It does not come with a scope, but one may be purchased.

**Type:** 5mm sporting rifle Country: France Length: 75 cm (Size=Medium) Action: Single shot or bursts Ammunition: 5 x 15mm fixed cartridge ball Muzzle Velocity: 630 mps Magazine: 70-round box RoF: 1/3/10 Range: 45m Damage: 1d8 (x2)

**TL:** 9

**Weight (Empty):** 1 kg

**Magazine Weight:** 0.3 kg

**Price:** Lv240 (Lv2 for box of 300 rounds)

**Guiscard FC-70 (Fusil Chasseur 2270):** The FC-70 was designed to make use of the large quantities of 7.5mm surplus ammunition available on the open market, and low firing cost has made it (and other similar rifles) popular. It is widely used both as a target rifle and for medium-sized game hunting. Even as the military inventories of the round are drying up, civilian manufacturers have stepped up to provide ammo for the huge installed base of users. It does not come with a scope, but one may be purchased.

**Type:** 7.5mm hunting rifle Country: France Length: 102 cm (Size=Medium) Action: Single shot Ammunition: 7.5 x 40mm fixed cartridge ball Muzzle Velocity: 910 mps Magazine: 5-round box RoF: 1 Range: 72m Damage: 1d12 (x2)

**TL:** 8

**Weight (Empty):** 3kg

**Magazine Weight:** 0.2kg

**Price:** Lv220 (Lv5 for box of 100 rounds)

**Rockwell 12-81 Magnum:** Deservedly enjoying a reputation as the most powerful sporting rifle in known space, the 12-81 can only be fired from a rest with the integral bipod extended, and even then the provision of an in-stock shock absorber is necessary to avoid injury to the firer. The rifle was originally designed to provide a weapon with a high first-round killing capability against many varieties of large animals on the frontier, but has since enjoyed wide use in the armed forces of several nations as a long-range sniper rifle. The French FTE-22 gauss rifle is in many ways a more modern version of the Rockwell 12-81 Magnum. It does not come with a scope, but one may be purchased.

**Type:** 12mm big game and sniper rifle Country: United Kingdom Length: 144 cm (Size=Large) Action: Single shot Ammunition: 12 x 81 mm fixed cartridge ball Muzzle Velocity: 1100 mps Magazine: 6 rounds RoF: 1 Range: 96m Damage: 3d12 (x2)

**TL:** 10

**Weight (Empty):** 14 kg

**Magazine Weight:** 0.5 kg

**Price:** Lv400 (Lv50 for box of 100 rounds)

## SHOTGUNS

Two sample shotguns, one pump, one automatic.

**Traylor Model 10 Riot Gun:** This short-barreled weapon comes with a folding stock, and variants of this design are a favorite with colonists on the Frontier.

**Type:** 18mm pump shotgun Country: USA Length: 96 cm (Size=Medium) Action: Single shot Ammunition: 18 x 60mm fixed cartridge buckshot (10 6mm slugs) Muzzle Velocity: 428 mps Magazine: 9-round tube RoF: 1 Range: 3m Damage: 3d6 (x2)

**TL:** 9

**Weight (Empty):** 3kg

**Magazine Weight:** 0.5kg

**Price:** Lv300 (Lv2 for box of 100 rounds)

**DunArmCo Close Assault Gun:** The devastating firepower of this automatic shotgun made it very popular throughout the Kafer War. Tens of thousands of these guns were made under license and distributed all over the French Arm, where they have now become a massive headache to law-enforcement officials.

**Type:** 18mm automatic shotgun Country: Australia Length: 68 cm (Size=Medium) Action: Single shot or bursts Ammunition: 18 x 60mm fixed cartridge buckshot (10 6mm slugs) Muzzle Velocity: 410 mps Magazine: 10-round box RoF: 1/3 Range: 6m Damage: 3d6 (x2)

**TL:** 9

**Weight (Empty):** 4 kg

**Magazine Weight:** 0.5 kg

**Price:** Lv330 (Lv2 for box of 100 rounds)

## Specialty Shotgun Rounds

Shotguns are often characterized as "the poor man's grenade launcher" due to the wide variety of loads available for them. Note that fully automatic shotguns cannot use the grenade or Stingball rounds, as the propellant in these rounds is insufficient to work the action of the gun. It is possible to fire the rounds by manually working the weapon's action, but this takes an extra round.

Round	Effect	Price
Slug	2d12 damage	Lv4 per 25 rounds
AP Slug	2d12 damage, +2 AP	Lv10 per 25 rounds
Flechette	3d6 damage, +1 AP	Lv2 per 25 rounds
Grenade	2d6 damage, 3m radius	Lv50 per 25 rounds
Sting Ball	3d6 Stamina Damage	Lv12 per 25 rounds

Slug is a solid, rifled slug used for big-game hunting.



The AP slug is a solid slug wrapped around a tungsten penetrator core.

Flechette ammo is an alternative to conventional shot, and consists of dozens of 3mm fin-stabilized darts. (Note that flechette rounds are -2 to hit and -2 on damage in a vacuum) These rounds are considered to be Piercing/Slashing vs. personal armors.

Grenade rounds are just small, high-explosive grenades

Sting Ball rounds are similar to normal buckshot, but instead of being packed with 9mm lead balls, the rounds are packed with 9mm hard rubber balls.

## HANDGUNS

As with civilian rifles, a wide variety of handgun types can be found in the 24th century. The weapons which are listed below represent some of the range of capabilities in 24th-century handguns.

The principal types of handguns are revolvers and automatics. Revolvers are fed from a revolving cylinder, while automatics are fed from removable magazines. Automatics are more efficient, but revolvers are more reliable. (A revolver is carried with the firing pin resting on an empty chamber, which is not possible for an automatic unless the pistol is carried without a round in the chamber, in which case, it must have the slide worked to chamber a round from the magazine before firing.)

Because of their short range and limited stopping power, pistols are not generally issued to combat troops. Officers often carry a pistol as a badge of rank more than an actual weapon; a combat rifle is generally carried as well. Some troops buy heavy pistols and value them for their handiness at close range, their low bulk often enabling the firer to get off the critical first shot.

Gauss and binary propellant pistols are very rare and very expensive, as the extra complexity involved in their design more than offsets the increase in firepower. All pistols do Piercing Damage

**Hancock Nine-Twenty-Three Enforcer:** A common American police and personal defense weapon. A plastic reloader allows all six rounds to be inserted with a single Move Action.

**Type:** 9mm police revolver Country: USA Length: 21 cm (Size=Tiny) Action: Single shot Ammunition: 9x23mm fixed cartridge ball Muzzle Velocity: 390 mps Magazine: 6-round cylinder RoF: 1 Range: 30m Damage: 1d8 (x2)

**TL:** 10

**Weight (Empty):** 0.5 kg

**Weight of 6 rounds in Reloader:** 0.1 kg

**Price:** Lv170 (Lv20 for box of 100 rounds)

**Stracher Model 6:** This compact pistol uses the same

high-velocity ammunition as the MP-67 series.

**Type:** 6 mm automatic Country: Austrovenia Length: 32 cm (Size=Small) Action: Single shot Ammunition: 6 x 27mm fixed cartridge ball Muzzle Velocity: 860 mps Magazine: 22-round box RoF: 1 Range: 24m Damage: 1d10 (x2)

**TL:** 9

**Weight (Empty):** 1.2 kg

**Magazine Weight:** 0.5 kg

**Price:** Lv570 (Lv24 for box of 100 rounds)

**Traylor Model 57A1 (Chip Traylor Special):** A common American police and personal defense weapon.

**Type:** 9mm automatic Country: USA Length: 20 cm (Size=Tiny) Action: Single shot Ammunition: 9 x 24mm fixed cartridge ball Muzzle Velocity: 460 mps Magazine: 20-round box RoF: 1 Range: 45m Damage: 1d10 (x2)

**TL:** 9

**Weight (Empty):** 0.6 kg

**Magazine Weight:** 0.13 kg

**Price:** Lv150 (Lv20 for box of 100 rounds)

**Stracher P-11 mm (Pistole 11 mm Magnum):** A conventional 11mm automatic pistol.

**Type:** 11 mm automatic Country: Austrovenia Length: 35 cm (Size=Small) Action: Single shot Ammunition: 11 x 35mm fixed cartridge ball Muzzle Velocity: 580 mps Magazine: 7-round box RoF: 1 Range: 45m Damage: 1d12 (x2)

**TL:** 9

**Weight (Empty):** 1.5 kg

**Magazine Weight:** 0.2 kg

**Price:** Lv350 (Lv20 for box of 100 rounds)

**Traylor MX-99 Gauss Pistol:** More of a target pistol than a combat weapon, the MX-99 does see some military sales, but mostly in personal purchases by officers. It is practically a symbol of office for mercenary officers along the Chinese Arm.

**Type:** 3 mm gauss Country: USA Length: 41 cm (Size=Small) Action: Single shot Ammunition: 3 x 22mm flechette Muzzle Velocity: 1540 mps Magazine: 12-round box RoF: 1 Range: 60m Damage: 1d12 (x3)

**TL:** 12

**Weight (Empty):** 2.1 kg

**Magazine Weight:** 0.4 kg

**Price:** Lv1450 (Lv12 for box of 20 rounds)

**Stracher HD-120 Binary Propellant Battle Pistol:** Designed as an experimental sidearm for soldiers in battlesuits, it also seems some use as a sidearm for combat walkers, albeit in a modified format.

**Type:** 12 mm automatic Country: Austrovenia Length: 37 cm (Size=Small) Action: Single shot Ammunition:

12 x 20mm fixed cartridge APHE Muzzle Velocity: 610 mps  
Magazine: 12-round box RoF: 1 Range: 45m Damage: 1d12 (x2)

**TL:** 12

**Weight (Empty):** 2.3 kg

**Magazine Weight:** 0.3 kg

**Price:** Lv850 (Lv80 for box of 100 rounds)

## SUBMACHINGUNS AND ASSAULT PISTOLS

**Traylor T-50 Assault Pistol:** A small, selective fire weapon, favored by criminals and police alike.

**Type:** 9mm submachine gun Country: America Length: 40 cm (Size=Small) Action: Single shot or bursts Ammunition: 9 x 20 mm fixed cartridge ball Muzzle Velocity: 750 mps Magazine: 40-round box RoF: 1/3/10 Range: 45m Damage: 1d10 (x2)

**TL:** 11

**Weight (Empty):** 2.2 kg

**Magazine Weight:** 1.2 kg

**Price:** Lv700 (Lv12 for box of 100 rounds)

### Stracher MP-67K Compact Submachinegun:

The smaller cousin of the MP-67, the MP-67K (K for Kurz, or short) is little bigger than a large pistol, with almost the same firepower as its bigger relative.

**Type:** 6mm submachine gun Country: Austrovenia Length: 40 cm (Size=Small) Action: Single shot or bursts Ammunition: 6 x 27mm fixed cartridge ball Muzzle Velocity: 830 mps Magazine: 25-round box RoF: 1/4 Range: 45m Damage: 1d10 (x2)

**TL:** 10

**Weight (Empty):** 2.2 kg

**Magazine Weight:** 0.7 kg

**Price:** Lv900 (Lv12 for box of 100 rounds)

**Stracher MP-67 PDW (Personal Defense Weapon):** Using a high-powered 6mm round that is more like a cut-down rifle round than a conventional pistol round, the MP-67 is designed to provide compact and controllable firepower for rear-echelon troops and vehicle crews. It has also found in use with police SWAT teams and military special forces.

**Type:** 6mm submachine gun Country: Austrovenia Length: 60 cm (Size=Small) Action: Single shot or bursts Ammunition: 6 x 27mm fixed cartridge ball Muzzle Velocity: 910 mps Magazine: 50-round box RoF: 1/4 Range: 45m Damage: 1d10 (x2)

**TL:** 10

**Weight (Empty):** 2.4 kg

**Magazine Weight:** 1.5 kg

**Price:** Lv1100 (Lv24 for box of 100 rounds)

## AUTOGUNS

Autoguns are a category of crew-served light automatic weapons fed from large capacity drums or flexible cassettes, and are typically fired from mounts. They are similar to rifles but their heavier construction enables them to sustain a higher rate of fire over time. Rotary guns are Gatling-style weapons that use multiple rotating barrels to achieve extremely high rates of fire. Rotary guns saw a great deal of use in fixed mounts and on vehicles during the initial landings on Kafer worlds.

**Kasakaia M-97** This relatively new weapon uses the same ammunition as the M5A3 assault rifle to simplify support requirements.

**Type:** 9mm binary machine gun Country: America Length: 97 cm (Size=Medium) Action: Single shot or bursts Ammunition: 9x20mm binary APHE Muzzle Velocity: 1200 mps Magazine: 200-round drum or 600-round cassette (includes gas bottles) RoF: 0/4/10 Range: 72 m (144m on mount) Damage: 2d12 (x2) AP Bonus: +1

**TL:** 12

**Weight (Empty):** 4.7 kg

**Magazine Weight:** 1.5 kg (drum), 5 kg (cassette)

**Price:** Lv1450 (Lv20 for box of 100 rounds; Lv50 for empty drum or cassette)

**Wu-Beijing Type 381 Machinegun:** The Type 381 is typical of many medium machineguns found in arsenals all over Earth and charted space.

**Type:** 7.5mm conventional machine gun Country: Manchuria Length: 122 cm (Size=Large) Action: Single shot or bursts Ammunition: 7.5 x 32mm fixed cartridge ball Muzzle Velocity: 940 mps Magazine: 150-round cassette RoF: 1/3/10 Range: 96m (180m on mount) Damage: 1d12 (x2)

**TL:** 10

**Weight (Empty):** 7 kg

**Magazine Weight:** 2 kg

**Price:** Lv870 (Lv20 for box of 100 rounds; Lv50 for empty cassette)

**DunArmCo Mini-12:** Virtually a small cannon, the Mini-12 is found in licensed-built and copied forms in just about all militaries as a heavy infantry support weapon.

**Type:** 12mm conventional heavy machine gun Country: Australia Length: 144 cm (Size=Large) Action: Single shot or bursts Ammunition: 12 x 95mm fixed cartridge ball Muzzle Velocity: 940 mps Magazine: 100-round cassette RoF: 0/4/10 Range: 120 m (250m on mount) Damage: 3d12 (x2)

**TL:** 10

**Weight (Empty):** 24 kg

**Magazine Weight:** 7 kg

**Price:** Lv910 (Lv30 for box of 100 rounds; Lv50 for empty cassette)

**Guiscard F-44 Gauss Gun:** One of the few gauss machineguns in service, the F-44 was developed to ease logistical support for French units carrying the FAM-99 gauss rifle by providing ammunition commonality.

**Type:** 4.5 mm crew-served gauss support weapon  
**Country:** France **Length:** 130 cm (Size=Large) **Action:** Single shot or bursts **Ammunition:** 5.5 x 25 mm flechette **Muzzle Velocity:** 1100 mps **Magazine:** 5000-round cassettes **RoF:** 1/10/20 **Range:** 96 m **Damage:** 2d12 (18)

**TL:** 12

**Weight (Empty):** 40 kg on field mount

**Magazine Weight:** 15 kg

**Price:** Lv2500 (Lv2 for box of 50 rounds; Lv5 for empty drum)

**DunArmCo M-600 Rotary Gun:** Sometimes sheer volume of fire is required, and when it is the M-600 is the premier light support weapon. It consumes ammunition at a prodigious rate, however.

**Type:** 9mm rotary machinegun **Country:** Australia **Length:** 97 cm (Size=Large) **Action:** Bursts Only **Ammunition:** 9x44 mm fixed cartridge APHE **Muzzle Velocity:** 1100 mps **Magazine:** 1500-round cassettes **RoF:** 0/20/100 **Range:** 96 m **Damage:** 2d12 (x2) **AP Bonus:** +1

**TL:** 12

**Weight (Empty):** 25 kg (empty)

**Magazine Weight:** 35 kg

**Price:** Lv1400 (Lv2 for box of 50 rounds; Lv50 for empty cassette)

**Toho Type 12 Autocannon:** The Type 12 is typical of most light auto-cannons, and variations on this weapons can be found everywhere from IFVs to aircraft to anti-missile systems.

**Type:** 25mm conventional autocannon **Country:** Japan **Length:** 190 cm (Size=Huge) **Action:** Single shot or bursts **Ammunition:** 25x 161 mm fixed cartridge APHE **Muzzle Velocity:** 1100 mps **Magazine:** 50-round drums **RoF:** 1/3/10 **Range:** 250m **Damage:** 6d10 (x3)

**TL:** 11

**Weight (Empty):** 600 kg on field mount

**Magazine Weight:** 15 kg

**Price:** Lv1000 (Lv2 for box of 50 rounds; Lv5 for empty drum)

## LASERS

Lasers emit beams of coherent light which can cause damage to a target. The short-duration, high-energy beam produces such a rapid temperature change in a target's surface that it explosively vaporizes, causing shock damage to the target. Due to this factor, laser weapons cannot be used as laser designators for missiles or artillery.

Lasers are typically powered by high-efficiency liquid metallic suspension (LMS) battery packs. Since a battery's discharge rate is insufficient to directly power a strong beam, the battery "pumps" a fast-discharge homopolar generator, which comprises most of the laser mechanism. The generator stores energy in a rapidly spinning flywheel (about 50,000 rpm) until it has enough for a pulse. LMS batteries are not rechargeable in the field. Rechargeable cells are available, for twice the Price and half the number of shots.

Lasers are generally referred to by their output power (in megawatts) and their pulse duration (in hundredths of a second). Thus a 40-01 laser would have an output of 40 megawatts for one one-hundredth of a second. Actual beam energy is a function of the power output multiplied by the pulse duration. Since one watt for one second produces one joule, a 40-megawatt pulse for one one-hundredth of a second would produce four-tenths of a megajoule.

A number of laser weapons are available in the 24th century. Several are listed here.

**Mueller-Rivera P-3 (Pistole-3):** The P-3 is a very handy lightweight laser. The combination of a low power output and the high discharge rate of the Quinn seven-megajoule FDLMS power cell makes for a high cyclic rate of fire and a reasonable area fire capability. The pistol's power cell is worn on the belt and connected to the pistol by means of a 50-gauge power cable.

**Type:** 20-01 laser pistol **Country:** Argentina **Length:** 27 cm (Size=Small) **Action:** Single shot **Pulse Energy:** 0.2 megajoules **Muzzle Velocity:** C **Magazine:** 7mj FDLMS cell (35 pulses) **RoF:** 1/3 **Range:** 45m **Damage:** 1d10 (x3)

**TL:** 12

**Weight:** 1 kg

**Magazine Weight:** 1 kg

**Price:** Lv750 (Lv5 for disposable power cell)

**Rorttmann LK-1a4 (Laserkarabiner-1 ausf 4):** A very modern and deadly assault weapon, the LK-1a4 builds on the powerful and popular LK-1 of 20 years ago. It is more robust than its predecessor, and advances in FDLMS battery technology give it a greater number of shots. It uses the now-popular combination of a 30mm grenade launcher for area fire and a precision weapon for. Most of these weapons mount an integrated sight that allows programming of the grenades.

**Type:** 35-01 laser rifle **Country:** Germany **Length:** 65 cm (Size=Medium) **Action:** Single shot **Pulse Energy:** 0.35 megajoules **Muzzle Velocity:** C **Magazine:** 12 mj FDLMS cell (30 pulses) **RoF:** 1 **Range:** 72m **Damage:** 2d12 (x2)

For grenade launcher stats, see Combat Rifle Integral Grenade Launcher, below (p. 237).

**TL:** 12

**Weight (Empty):** 2.5 kg



**Magazine Weight:** 1 kg

**Price:** Lv850 (Lv5 for disposable cell)

**Quinn Optronics M-22:** The M-22 is the standard American service weapon for use by zero-gravity troops. Incorporating a powerful laser coupled to a low-velocity shotgun/launcher combination, the M-22 can deal with most ship-board threats.

**Type:** 50-01 laser rifle Country: USA Length: 82 cm (Size=Medium) Action: Single shot Pulse Energy: 0.5 megajoules Muzzle Velocity: C Magazine: 15mj LMS cell (15 pulses) RoF: 1 Range: 96 m Damage: 2d12 (x2)

Shotgun: Use stats for Traylor Arms M-10 (p.00).

**TL:** 12

**Weight:** 2 kg

**Magazine Weight:** 1.2 kg

**Price:** Lv660 (Lv5 for disposable power cell)

**Mueller-Rivera F-19b (Fusile-19b):** The Mueller-Rivera F-19b is the current service laser with Argentine troops and is widely exported as well. Still the most effective man-portable laser weapon in use. The "b" version mounts a grenade launcher, like most modern weapons.

**Type:** 70-01 laser rifle Country: Argentina Length: 69 cm (Size= Medium) Action: Single shot Pulse Energy: 0.7 megajoules Muzzle Velocity: C Magazine: 12 mj FDLMS cell (15 pulses) RoF: 1 Range: 96m Damage: 3d12 (x2)

For grenade launcher stats, see Combat Rifle Integral Grenade Launcher, below (p. 237).

**TL:** 12

**Weight:** 1.5 kg

**Magazine Weight:** 1 kg

**Price:** Lv730 (Lv5 for disposable power cell)

## PLASMA GUNS, MAN-PORTABLE (PGMPs)

### PLASMA GUN NOTES

The plasma gun contains a laser ignition system in the weapon which super-heats a hydrogen-telluride fuel pellet to a plasma state. The plasma is contained in the ignition chamber briefly and then allowed to escape through a magnetically focused field along the weapon's barrel. The high velocity plasma bolt is initially about two millimeters in diameter but begins to dissipate almost immediately. Dissipation is minimized by having the bolt ride a "tunnel" of heated air generated by a laser beam from the weapon. Because the plasma bolt rides a laser beam to its target, plasma guns are sometimes referred to as plasers.

The ammunition for the weapon consists of photonic core plaser cells, each containing a fast discharge battery to pump the weapon's laser ignition and pathfinder beam, and the fuel pellet for the plasma bolt. After firing, the spent cells are ejected and are not reusable. Some care must be exercised in the selection of the location of the plasma gunner as the ejected cells are extremely hot, with semi-molten centers, and can cause minor burn injuries to other troops in the way, or even ignite dry, flammable materials. (1d4 damage)

**Quinn-Optronics M-76 Plasma Rifle:** Marketed as a competitor to the older A-9, the M-76 uses more efficient plaser cell technology derived from Kafer weapons, gaining a more compact round with no appreciable decrease in power.

**Type:** Man-portable 5-MW plasma gun Country: USA Length: 81 cm (Size=Medium) Action: Single shot Ammunition: 10x 60mm 5-MW photonic core plaser cell Magazine: 8 cells in rotating cylinder magazine. RoF: 1 Range: 48m Damage: 3d12 (18) Radius: 3m Increment: 1 m

**TL:** 12

**Weight (Empty):** 4.5 kg

**Ammunition Weight:** 0.3 kg each

**Price:** Lv1400 (Lv140 per disposable cell)

### Wu-Beijing Type 1 High Energy Assault Gun:

The Type 1 was the first man-portable plasma gun to see service. Although outclassed by many new types, it is still popular with militias and mercenary units that can't get access to newer weaponry.

**Type:** Man-portable 10-MW plasma gun Country: Manchuria Length: 137 cm (Size=Large) Action: Single shot Ammunition: 12 x 120mm 10-MW photonic core plaser cell Magazine: 4 cells in internal tubular magazine RoF: 1 Range: 72m Damage: 4d12 (18) Radius: 5m Increment: 1 m

**TL:** 11

**Weight (Empty):** 12 kg  
**Ammunition Weight:** 0.4 kg  
**Price:** Lv1300 (Lv120 per disposable cell)

**Quinn-Darlan Mk 2-A4 PGMP (Plasma Gun, Man-portable):** The result of a joint venture by Quinn Optonics, Inc. and Darlan Optophysique, the Mk 2-A4 is the heaviest of the man-portable plasma weapons now in service with American and French armed forces and is used as a heavy point fire weapon against hard targets at the squad level. The impact of the plasma bolt can cause considerable concussion and fragmentation effects. The current version of the weapon benefits from the acquisition of Kafer technology, resulting in more compact plaser cells and a more portable weapon.

**Type:** Man-portable 20-MW plasma gun Country: France/USA Length: 166 cm (Size=Large) Action: Single shot Ammunition: 17 x 84 mm 20-MW photonic core plaser cell Magazine: 10 cells in internal tubular magazine RoF: 1 Range: 96m Damage: 6d12 (18) Radius: 5m Increment: 2m

**TL:** 12  
**Weight (Empty):** 11 kg  
**Ammunition Weight:** 0.65 kg  
**Price:** Lv1800 (Lv220 per disposable cell)

## HEAVY PLASMA GUNS

Although less mobile, the following provide heavy firepower in more fixed locations.

**Darlan CLP-1A (Cannon Legere Pyrotechnique-1A) Field-mounted Plasma Gun:** The first field-mounted plasma gun to enter service, it incorporated a complex cruciform mount to allow more stable, accurate and rapid fire for a weapon of this type. Because it is virtually immobile on the battlefield, it has been withdrawn from front-line service, but can often be found in fixed locations. Many CLP-1 As have been exported, often as light vehicle armament upgrades. (Corresponds to the light plasma gun entry on the weapons table in the vehicle design section).

**Type:** Field-mounted 175-MW plasma gun Country: France Length (Gun Tube Only): 274 cm (Size=Huge) Action: Single shot Magazine: 10-cell clip fed into overhead hopper RoF: 1 Range: 220m Damage: 4d12 vehicle scale

**TL:** 11  
**Weight (Empty):** 344 kg  
**Ammunition Weight:** 3.5 kg  
**Magazine Weight:** 38 kg  
**Price:** Lv9300 (Lv500 for disposable 10-cell clip),

**Jaschonek Waffenfabrik A-4T Plasmagewehr:** The A-4T is a modification of the A-4 plasma gun often found mounted in the Kz-7A Combat Walker. Specifications for the

two weapons are the same, but the A-4T is a crew-served, tripod-mounted regular infantry version. The A-4T proved very effective in the German War of Reunification and has since become standard issue.

**Type:** 30-MW plasma gun Country: Germany Length: 166 cm (Size=Large) Action: Single shot Ammunition: 20x 107mm 30MW photonic core plaser cell Magazine: 5-round box RoF: 1 Range: 60m Damage: 3d12 (vehicle scale)

**TL:** 12  
**Weight (Empty):** 20 kg  
**Ammunition Weight:** 1 kg  
**Magazine Weight:** 5 kg  
**Price:** Lv5500  
**Ammo Price:** Lv240 per disposable cell

## PLASMA BAZOOKAS

**Quinn M-22 Point Destruction Weapon:** Though technically a field-mount weapon, the M-22 can be fired by a single gunner using the weapon's integral monopod. The weapon consists of a firing unit (Sight, trigger, monopod, containment system) and a 450 megawatt photonic core plaser cell which is attached to the back of the firing unit. Once fired, the expended cell is removed and another put in its place. The M-22 is a close-range weapon, used for point destruction of heavy vehicles and emplacements. Care must be taken with placement of the weapon, as it generates a considerable back-blast to compensate for the weapon's enormous recoil.

**Type:** 450-MW plasma gun Country: USA Length (exclusive of plaser cell): 168 cm (Size=Large) Length (with plaser cell attached): 231 cm (Size=V. Large) Action: Single shot Ammunition: 285 x 912mm 450MW photonic core plaser cell Magazine: 1 cell attached to rear of weapon Range: 72m Damage: 5d12 vehicle scale Price Lv2500 Ammo

**TL:** 11  
**Weight (Empty):** 14 kg  
**Ammunition Weight:** 16 kg  
**Price:** Lv700 per disposable cell

## NON-LETHAL WEAPONS

Sonic stunners project focused sound energy, usually in the ultrahigh frequency range, with sufficient energy to stun the target. They are only effective in atmospheres and against targets not wearing heavy armor (particularly airtight armored helmets). As a result of these limitations and the fact that the sonic bursts merely stun an opponent, they are of limited combat value. However, they are highly effective, non-lethal control weapons and are used extensively by police and security forces. Sonic weapons can be used underwater, where they have their ranges and damages doubled, and the DC on all saves raised by 2.

Neural weapons are a new development, arising from military police experience on Serpentis. Conventional sonic weapons don't work properly on a Kafer, due to their different physiology. However, neural weapons, which deliver an electromagnetic pulse to the target's nervous system, work on any animal or alien with a spinal column.

**Brandt Audionique AS-3:** This sonic stunner is often found in use by police and security guards.

**Type:** Sonic stun pistol Country: France Length: 47 cm (Size=Small) Action: Single shot Muzzle Velocity: Local speed of sound Magazine: 5mj LMS cell (40 pulses) RoF: 1 Range: 10m Area Fire Range: 20 m Damage: 1d10 stamina damage only.

**Effect:** Requires a Fort Save vs. DC14 or be knocked unconscious. Success still means a -2 on all actions for 2d6 rounds.

**TL:** 10

**Weight (Empty):** 2 kg

**Price:** Lv140 (Lv5 for 1 mj disposable LMS cell)

**Quinn Optronics Restraint Carbine:** The heavier restraint carbine is used for high-risk situations where its greater power overrides its more cumbersome size.

**Type:** Sonic stun police carbine Country: America Length: 73 kg (Size=Medium) Action: Single shot Muzzle Velocity: Local speed of sound Magazine: 5mj LMS cell (15 pulses) RoF: 1 Range: 25m Damage: 2d12 stamina damage only

**Effect:** Requires a Fort Save vs. DC16 or be knocked unconscious. Success still means a -2 on all actions for 2d6 rounds.

**TL:** 10

**Weight (Empty):** 4 kg

**Price:** Lv150 (Lv5 for 1 mj disposable LMS cell)

**PsiTech ND-12 Neural Disrupter:** Based in part on purchased Ylii technology, the ND-12 sees most of its use with the military garrisons on the Kafer homeworld.

**Type:** Neural Disrupter Carbine Country: America Length: 78 kg (Size=Medium) Action: Single shot Muzzle Velocity: C Magazine: 10mj LMS cell (10 pulses) RoF: 1 Range: 12m Damage: Special

**Effect:** Target must make a Fort Save vs. DC18 or fall unconscious for 3d4 minutes. Success still means a -2 on all actions for 3d6 rounds.

**TL:** 13

**Weight (Empty):** 4.5 kg

**Price:** Lv650 (Lv10 for 10mj disposable LMS cell)

## ROCKET LAUNCHERS AND MORTARS

Direct-fire rocket launchers are not in common use with most national militaries, and really only find their niche with mercenary and militia units that do not have access to anything better. That being said, a rocket launcher fired at close range is a very effective tank killer.

**LAW-66:** This disposable 66mm rocket launcher isn't very effective against tanks, but it quite capable versus light armored vehicles and combat walkers.

**Type:** 66mm disposable rocket launcher Country: Generic Length: 40cm folded, 75 cm unfolded (Size=Medium) Action: single shot Muzzle Velocity: 500 mps Magazine: single-shot RoF: 1 Range: 72m Damage: 5d10 vehicle scale.

**TL:** 9

**Weight:** 3.2 kg loaded

**Price:** Lv200

**Ströhl Waffenfabrik Stahlhammer:** The Freihafen "Steel Hammer" was produced in great numbers during the Kafer War, and was intended as a means of giving every soldier an antiarmor capability. It carries 2 rounds in a disposable magazine, and the weapon can be reloaded.

**Type:** 55mm rocket launcher Country: Freihafen Length: 55cm (Size=Medium) Action: single shot Muzzle Velocity: 500 mps Magazine: 2 RoF: 1 Range: 72m Damage: 4d10 vehicle scale.

**TL:** 10

**Weight:** 5.1 kg loaded

**Price:** Lv450

**60mm Mortar:** The standard infantry mortar is a clip-fed, 3-shot 60mm mortar. A typical mortar team consists of two soldiers, one carrying the tube and baseplate, and the other three magazines for the weapon. Setup time is very quick, less than a couple of minutes, and changing a magazine only takes a Standard Action. Due to the threat of counter-battery fire, these weapons can be operated remotely using an included controller with 100m of fiber-optic cable. It can also be connected to an Artillery computer for remote operation. Standard rounds for the mortar are High Explosive, smoke, and Flare.

**Type:** 60mm mortar Country: Generic Length: 55cm (Size=Medium) Action: single shot Muzzle Velocity: 500 mps Magazine: 3 RoF: 1 Range: 450m (indirect fire only) Damage: Varies.

**TL:** 11

**Weight:** 4 kg tube, 3 kg baseplate

**Ammunition Weight:** 6kg per loaded 3-round magazine

**Price:** Lv550



Round	Damage	Blast Radius	Range	Weight*	Price*
HE/Frag	8d6	12 meters	6 meters	2kg	Lv8
Smoke	-	12 meters	6 meters	2kg	Lv12
Flare	-	24 meters	6 meters	2kg	Lv14

\* per round.

## GRENADE LAUNCHERS

A variety of 30mm grenade launchers are currently found mounted integral to most combat rifles. All of these grenade launchers are roughly similar in performance. In addition, a few older magazine-loading grenade launchers are also available, although they are seldom used now by first-line troops. Below are listed grenade launchers and propelled grenades which are currently in use. All modern grenade launchers can mount rangefinder sights, which, when used with fused grenades, allow the round to be detonated at a set range, allowing such tactics as air-bursting over a trench, or in the middle of a room.

**Combat Rifle Integral Grenade Launcher:** This weapon is normally encountered as part of another weapon system, such as the AS-99 (see above, p. 227).

**Type:** 30mm grenade launcher (integral to rifle) Country: Generic Action: single shot Length: N/A Ammunition: Any 30mm propelled grenade Muzzle Velocity: 400 mps Magazine: 3-round internal tubular magazine RoF: 1 Range: 120 m Damage: Dependent on grenade used.

**TL:** 10

**Weight (loaded):** 3.3kg (included in weapon weight)

**Cost:** Lv120 (if purchased separately, otherwise this cost is included in the weapon)

On most combat rifles, the integrated grenade launcher can be removed and attached to a stock/grip that allows the launcher to be used separately. This separate launcher can accept rangefinder sights.

### Grenade Launcher with stock

**Type:** 30mm grenade launcher Country: Generic Action: single shot Length: 65cm (Size=Medium) Ammunition: Any 30mm propelled grenade Muzzle Velocity: 400 mps Magazine: 3-round internal tubular magazine RoF: 1 Range: 120 m Damage: Dependent on grenade used.

**TL:** 10

**Weight (Loaded)** 4.4 kg

**Cost:** Lv70 for stock unit (Sights extra)

**Rortmann GW-12 Grenade Launcher:** The GW-12 (Granatenwerfer-12) grenade launcher is typical of several of the older models of magazine-fed grenade launchers which are seldom found on the frontline. It saw a comeback in the ground phase of the Kafer War, where its firepower could be

put to use without fear of "collateral damage". It is equipped with a folding stock, but if fired without the stock it suffers a -2 on to hit rolls

**Type:** 30mm grenade launcher Country: Germany Action: Single shot Length: 80 cm (Size=Medium) Ammunition: Any 30mm propelled grenade Muzzle Velocity: 400 mps Magazine: 6-round box magazine RoF: 1 Range: 100 m Damage: Dependent on grenade used.

**TL:** 10

**Weight (empty):** 3.2 kg

**Magazine Weight:** 1.8kg

**Price:** Lv400

## PROPELLED GRENADES

The following propelled grenades are suitable for use with the grenade launchers which are listed above. For double the listed price, the grenades can be equipped with fuses that can receive ranging information from a gun-mounted sight. The usefulness of this is explained under sights, below.

Grenade	Damage	Blast Radius	Range	Weight	Price
HE	6d6	6 meters	6 meters	0.4 kg	Lv8
HEAP	4d6	3 meters	3 meters	0.4 kg	Lv10
Flechette	3d12 (x2)	-	-	0.4 kg	Lv10
Smoke	-	6 meters	6 meters	0.4 kg	Lv14
Beanbag	3d6*	-	-	0.5 kg	Lv12
Baton	4d6*	-	-	0.5 kg	Lv9
Splash	2d6	3 meters	1.5 meters	0.04 kg	Lv12

\* Stamina Damage

**30mm High Explosive Propelled Grenade:** Standard anti-personnel round

**30mm High Explosive Armor Piercing Propelled Grenade:** A light anti-armor round.

**30mm Flechette Propelled Grenade:** This round turns the grenade launcher into a giant shotgun, firing fin-stabilized darts. Is considered to be Piercing/Slashing vs. personal armors.

**30mm Concealment Propelled Grenade:** Creates a thick obscuration cloud which blocks visual and thermal images for 4 minutes.

**30mm Beanbag Round** A so-called "less-lethal" round that fires a shot-filled beanbag.

**30mm Baton Round** Another "less-lethal" round, this one fires a hard rubber baton.

**30mm Splash Round** This round is loaded with a volatile liquid, and is often used in microgravity and space craft environments due to its lack of penetrative capability.

## HAND GRENADES

The following three examples are representative of the common range of grenade types which are available.

**High Explosive Fragmentation Grenade:** Explosive grenade with concussive and fragmentation effects.

**Concussion Grenade:** Explosive grenade with a non-fragmenting case

**Smoke Grenade:** Visual and IR-blocking smoke grenade

**Flash-Bang Grenade:** Produces an extremely loud sound and a series of highly intense flashes. Causes disorientation and nausea. Any targets in the blast radius must make a Fort save vs. DC 14 or be at -4 to all actions for 1d10 rounds due to a combination of flash blindness and disorientation from the noise. Those with proper protection are unaffected. If the save is passed, the target are at -2 to all actions for 1d4 rounds. Targets in the second blast radius add +2 to their saves. Targets outside the second blast radius are unaffected.

Round	Damage	Blast Radius	Range	Weight	Price
HE	6d6	6 meters	6 meters	0.3 kg	Lv3
Concussion	6d6*	3 meters	3 meters	0.2 kg	Lv3
Smoke	-	6 meters	3 meters	0.3 kg	Lv6
Flash-Bang	-	6 meter	3 meters	0.3 kg	Lv10

\*Stamina Damage

## GUIDED ORDNANCE

Virtually every major power produces a variety of guided ordnance. These weapons incorporate various means to make mid-course changes while on the way to their targets (for example: movable fins and vectored thrust). A representative selection of man-portable weapons from the arsenals of France and Germany are presented in the list below.

**Guiscard Martel-5c:** Firing a silhouette-homing missile, the Martel-5c is fairly effective against targets that have been downloaded to its internal memory. Against new threats, however, the weapon's BAB is reduced to 13.

**Type:** Hand-carried light air defense missile Nation: France Range: 1900m Guidance: Automatic following gunner lock-on BAB: 23 Attack Angle: Direct Damage: 3d10 vehicle scale.

**TL:** 12

**Launcher Weight:** 6 kg (Size=Large)

**Missile Weight:** 2 kg

**Launcher Price:** Lv2000

**Missile Price:** Lv8000

**Guiscard Antichar-14:** The Antichar-14 fires a light SEFOP (SElf Forging Penetrator) warhead designed to defeat heavy armor. Type: Hand-carried light antivehicle missile Nation: France Range: 400m Guidance: Automatic following gunner lock-on BAB: 14 Attack Angle: Selectable Damage: 6d10 vehicle scale.

**TL:** 12

**Launcher Weight:** 12 kg (Size=Large)

**Missile Weight:** 3 kg

**Launcher Price:** Lv3000

**Missile Price:** Lv2000

**Jaschonek Panzerfaust A12:** In contrast to the Antichar-14, the Panzerfaust A12 fires an explosive warhead, using a binary-explosive mixture that is considerably more powerful than a conventional warhead of the same size.

**Type:** Hand-carried anti-vehicle missile Nation: Germany Range: 1000m Guidance: Automatic following gunner lock-on BAB: 15 Attack Angle: Selectable Damage: 8d10 vehicle scale.

**TL:** 12

**Launcher Weight:** 12kg (Size=Large)

**Missile Weight:** 11kg

**Launcher Price:** Lv3000

**Missile Price:** Lv3000

**Jaschonek Hornisse-4:** Using a smart targeting system, the Hornisse is more effective than its French counterpart at targeting unknown aircraft, something that stood it in good stead as Human forces pushed in Kafer space during the last war.

**Type:** Man-carried light air defense missile Nation: Germany Range: 2400m Guidance: Automatic or automatic following gunner lock-on BAB: 24 Attack Angle: Direct Damage: 3d10 vehicle scale.

**TL:** 11

**Launcher Weight:** 6 kg (Size=Large)

**Missile Weight:** 17 kg

**Launcher Price:** Lv2000

**Missile Price:** Lv7000

## WEAPON ACCESSORIES

**Peek-a-boo Mount:** The so-called "Peek-A-Boo Mount" is a flexible mount for pistols and assault pistols. It consists of a carbine-sized rear body, complete with shoulder stock, the carriage for the handgun itself, and a sight that mounts over the gun. The carriage and the sight can be repositioned easily from straight-forward to 90 degrees off the line of the rear body. This allows the weapon to be poked around corners without exposing the operator to hostile fire, and the sight, a computerized video camera with rangefinder, feeds to a helmet-mounted HUD or other display device, allowing the weapon to be fired with little or no loss in accuracy. The weapon itself is only a Tiny-sized target, and appropriate penalties to hit apply.

**TL:** 9

**Weight:** 1.3 kg

**Price:** Lv500

**Laser Designator** The laser designator is a small, flashlight-sized accessory for any rifle that allows it to be used as a laser designator for missiles and artillery. It has to be held on-target until the missile or artillery round arrives. This requires a To-Hit Roll every round, with all rounds after the first

gaining a +2 on the To Hit roll.

**Weight:** 0.5 kg

**Range:** 400m

**Price:** Lv340

**Laser Body Pack** The laser body pack is a power system designed to connect a laser rifle to multiple power packs located on the wearer's load-bearing gear. The load-bearing gear can hold up to ten power-packs for the weapon, and connects to the laser weapon with a long, auto-retracting power cable that plugs into the location on the weapon where a power-pack would normally go. This rig alleviates one of the biggest problems with battlefield lasers, and that the low number of shots each weapon gets. The connecting module is specific to each weapon, and is not interchangeable.

**TL:** 10

**Weight:** 1.2 kg, + weight of power packs

**Price:** Lv350, + cost of power packs

## SIGHTS

There are a variety of sights available for modern rifles and pistols.

**Laser Sight** The laser sight is a small laser attached to the weapon allowing rapid and more accurate target acquisition. It grants a +2 to hit, but only at Close range.

**TL:** 8

**Weight:** 0.1 kg

**Price:** Lv25

**Red-dot** The red-dot sight uses a small, non-magnifying scope on top of the weapon with a large lens area. The sight projects a red dot in the center of the sight, giving the same benefits as the laser sight without telling everyone where you are. Grants a +2 to hit, but again only at Close range.

**TL:** 8

**Weight:** 0.12 kg

**Price:** Lv20

## Build Your Own Sight

The items below are all options that can be combined into a scope. Rifle scopes can have all the options listed, while pistol scopes can only have one. All rifle scopes incorporate a red dot sight that can be turned on and off as needed.

**TL:** Variable

**Base Weight:** 0.15 kg

**Base Price:** Lv15 for pistols, Lv10 for rifles

**Imaging** The imaging option turns the sight into a camera, and feed the image to a HUD or other imaging device. This allows the soldier to shoot around corners, or use

the weapon as a periscope, while only exposing his hand.

**TL:** 9

**Weight:** +0.1 kg

**Price:** +Lv80

**Rangefinding and Fusing** The rangefinding and fusing scope reads exact distance to the target, and feeds the range information to propelled-grenades, which can then explode over a target, inside a room, whatever. In game terms, the rangefinding and fusing scope gives a +2 to hit with compatible propelled grenades.

**TL:** 9

**Weight:** +0.2 kg

**Price:** +Lv150

**Telescopic** Given the extremely long ranges most firearms are capable of, the telescopic sight allows the user of the gun to fire to maximum range. Telescopic sights are purchased based on the weapon's maximum range (Listed range x 15). Maximum range without a scope is only 100 meters.

**TL:** 6

**Weight:** +0.05 kg per 100 meters of maximum range of the weapon

**Price:** +Lv10 per 100 meters of maximum range of the weapon

**Low-light** Allows the shooter to see in near total darkness. Negates all penalties for darkness.

**TL:** 7

**Weight:** +0.1 kg

**Price:** +Lv100

**Thermal imaging** Using thermal imaging, it is possible to see (and shoot) through walls. Any wall less than 20cm thick allows sufficient thermal radiation through for the imager. Negates cover bonuses for the target, and allows Spot skill checks to be made through wall, though with a -2 circumstance penalty.

**TL:** 7

**Weight:** +0.15 kg

**Price:** +Lv125

## PERSONAL ARMOR

In many lines of work in 2320, body armor is extremely important. It may be all that stands between a character and a sudden, nasty death. There are two basic classifications of armor, civilian and military. The military armors are also widely used by police forces, when necessary. Civilian armor is usually designed to be worn under regular clothing, or be able to pass itself off as regular clothing. Military armor has no such pretensions, and it is obvious what it is.

All armors incorporate memory-plastic flaps and vents



to promote comfort, yet can be sealed almost instantly in the case of a firefight. If a character is caught Flat-footed with the vents open, subtract one from the AR for that first round only. Otherwise, they would have sufficient notice to seal the flaps.

Note that none of the modern armor types from T20 are available in 2320AD.

### AC vs. AR:

AC (Armor Class) is based on AR (Armor Rating). A character's AC is equal to 10 + AR + Dex Mod + Size Mod. 2320AD weapons list only the AR for any piece of armor, not the AC.

## ARMOR MATERIALS

There are three different types of body armor: non-rigid, rigid, and inertial. Non-rigid armor is made of flexible material which is tough and resists puncture by a bullet or energy beam. It doesn't inhibit the wearer's movement as much as rigid armor does. Rigid armor is made of solid pieces of ceramic-metal composite that resist blunt trauma and Piercing attacks equally well. Inertial armor is flexible like non-rigid armor but becomes rigid when struck by a fast moving projectile (such as a bullet or a piece of shrapnel). In practical terms, non-rigid armor has only half its AR versus distributed blows, like blunt weapons and falls, while inertial and rigid armor have their full value. In addition, non-rigid and inertial armors aren't as effective versus bladed weapons, losing 1 point of AR against any Piercing/Slashing melee weapon.

## Civilian ARMOR

### LAW AND Body ARMOR:

Generally speaking, body armor is almost as controlled as weapons. Most nations require a permit to own body armor, though these rules are considerably more relaxed on the Frontier. In general, civilian body armor is controlled at a Law Level of 10-AR of the armor, while military body armor is controlled at a Law Level of 8-AR of armor.

**Protective Vest:** This is a standard "bullet-proof" vest that can be easily concealed under most normal clothing.

**Nation:** Generic

**Type:** Light Armor

**TL:** 8

**Weight:** 1 kg

**Area Protected:** Chest, Torso

**AR:** 2 (Non-rigid)

**Signature:** 0

**Max Dex Bonus:** +8

**Armor Check Penalty:** 0

**Speed:** –

**Price:** Lv120

**Armored Jacket:** Though it appears to be a normal jacket, close examination of this armor may reveal its true nature. (Spot skill check vs. DC 18)

**Nation:** Generic

**Type:** Light Armor

**TL:** 9

**Weight:** 2 kg

**Area Protected:** Chest, Torso and Arms

**AR:** 3 (Non-Rigid)

**Signature:** 0

**Max Dex Bonus:** +6

**Armor Check Penalty:** -1

**Speed:** –

**Price:** Lv180

**Armored Long Coat:** This long, heavy coat resembles a drover's coat or heavy trench coat. Close examination may reveal its true nature. (Spot vs. DC 20)

**Nation:** Generic

**Type:** Medium Armor

**TL:** 9

**Weight:** 4 kg

**Area Protected:** Chest, Torso, Groin and Limbs

**AR:** 4 (Non-Rigid)

**Signature:** 0

**Max Dex Bonus:** +6

**Armor Check Penalty:** -1

**Speed:** –

**Price:** Lv450

**Armored Cap:** The armored cap provides little protection, but it is better than nothing. Appears to be a normal forage cap or similar article.

**Nation:** Generic

**Type:** N/A

**TL:** 9

**Weight:** 0.3 kg

**Area Protected:** Head

**AR:** 1 (Non-Rigid)

**Signature:** 0

**Max Dex Bonus:** –

**Armor Check Penalty:** –

**Speed:** –

**Price:** Lv50

## MILITARY ARMOR

### HELMETS

Most helmets incorporate communications systems and many have HUD systems and vision enhancements built-in as well. The prices and weights below are for a standard helmet with a built-in 5km range radio. If the radio is on it adds 1 to

the wearer's signature. Note that the steel helmet does not come with a radio.

**Helmet:** This item is made of molded composite materials, and is standard issue for most forces.

**Nation:** Generic

**Type:** Medium Armor

**TL:** 7

**Weight:** 0.5 kg

**Area Protected:** Head

**AR:** 6 (Rigid)

**Signature:** 0

**Max Dex Bonus:** –

**Armor Check Penalty:** –

**Speed:** –

**Price:** Lv15

**High Threat Combat Helmet:** The high-threat combat helmet is the best protection available for the head. It is normally equipped with a standard 5km range radio, along with mounting brackets for optional add-ons (see below). It is found only in first-line units in the more advanced militaries.

**Nation:** Generic

**Type:** Heavy Armor

**TL:** 10

**Weight:** 1 kg

**Area Protected:** Head

**AR:** 8 (Rigid)

**Signature:** 0

**Max Dex Bonus:** –

**Armor Check Penalty:** –

**Speed:** –

**Price:** Lv30

**Steel Helmet:** The old-fashioned "Steel pot," now in service only with colonial militias and small mercenary groups because of its low price and ease of manufacture.

**Nation:** Generic (primitive)

**Type:** Medium Armor

**TL:** 4

**Weight:** 2 kg

**Area Protected:** Head

**AR:** 3 (Rigid)

**Signature:** 0

**Max Dex Bonus:** –

**Armor Check Penalty:** –

**Speed:** –

**Price:** Lv1

## HELMET ADD-ONS

All of these helmet add-ons can be combined with one another, and can be mounted on either the standard helmet or the high-threat helmet, or on a battlesuit.

**HUD system** The HUD (Heads-Up-Display) puts data and images on a reticle right in front of the user's eyes. The HUD can be coupled to the electronic sights on a weapon, giving range and windage information, and provides a +2 bonus to hit. It can also be used with some sights to shoot around corners while only exposing the firing hand to return fire, or in the case of the Peek-A-Boo rig, exposing no body parts at all.

**TL:** 11

**Weight:** 0.3 kg

**Price:** Lv400

### HUDs and Sights:

A HUD can make use of the options on a weapon's sight, but the reverse is usually not true.

**Low-light Imaging:** This option allows the wearer to negate all penalties related to poor lighting, as long as there is some sort of light.

**Weight:** 0.1 kg

**Price:** Lv250

**Thermal Imaging:** This option allows the user to see heat sources, which are color-coded by the microprocessor in the overlay to go from blue (cold) to white (hot). This sight negates cover penalties for spotting, and even allows Spot skill checks (with a -2 circumstance penalty) to be made for completely concealed objects, so long as they radiate heat and the obstacle is no more than 20cm thick.

**Weight:** 0.1 kg

**Price:** Lv350

**Tactical Camera:** The tactical camera is more often found with law enforcement than with regular military, as the need to document their actions is more a function of the former than the latter. The tactical camera is designed to both record internally, and to narrowcast what it sees back to a command center. Both recordings have to match in order for the video to be admissible in court. The camera has a narrow-cast range of 500m, and can store 6 hours of high-resolution video and audio internally.

**Weight:** 0.1 kg

**Price:** Lv80

## MILITARY ARMOR

**Vedette Half Armor:** The vedette half-armor is a rigid ceramic/alloy plate designed to protect the chest and shoulders. Variations on this theme are found throughout human space. This armor uses special stacking rules. It can be stacked with any non-rigid or inertial torso armor.

**Nation:** France

**Type:** Medium Armor

**TL:** 9  
**Weight:** 2 kg  
**Area Protected:** Chest  
**AR:** 7 (Rigid)  
**Signature:** 0  
**Max Dex Bonus:** +8  
**Armor Check Penalty:** –  
**Speed:** –  
**Price:** Lv60

**Rigid Breastplate:** This heavy front-and-back armor is the best available for non-battlesuit troops, and is usually combined with inertial full-body armor for maximum protection. Most soldiers dislike the armor as heavy and awkward.

**Nation:** Generic  
**Type:** Heavy Armor  
**TL:** 10  
**Weight:** 8 kg  
**Area Protected:** Chest and Torso  
**AR:** 7 (Rigid)  
**Signature:** 0  
**Max Dex Bonus:** +4  
**Armor Check Penalty:** -2  
**Speed:** -1  
**Price:** Lv120

**Non-rigid Vest:** This long vest is not concealable, and incorporates additional padding and thicker armor than its civilian counterpart.

**Nation:** Generic  
**Type:** Medium Armor  
**TL:** 7  
**Weight:** 2 kg  
**Area Protected:** Chest, Torso, and Groin  
**AR:** 4 (Non-rigid)  
**Signature:** 0  
**Max Dex Bonus:** +8  
**Armor Check Penalty:** -1  
**Speed:** –  
**Price:** Lv20

**Inertial Armor Vest:** This long vest is not concealable, and incorporates additional padding and thicker armor than its civilian counterpart.

**Nation:** Generic  
**Type:** Medium Armor  
**TL:** 10  
**Weight:** 3 kg  
**Area Protected:** Chest, Torso, and Groin  
**AR:** 5 (Inertial)  
**Signature:** 0  
**Max Dex Bonus:** +8

**Armor Check Penalty:** -1  
**Speed:** -1  
**Price:** Lv100

**Full-body Non-rigid Armor:** This is a set of coveralls, with only the legs and arms protected by armor. It is designed to be worn with a vest of some kind or armor vest or the rigid breastplate.

**Nation:** Generic  
**Type:** Medium Armor  
**TL:** 7  
**Weight:** 10 kg  
**Area Protected:** Limbs  
**AR:** 2 (Non-rigid)  
**Signature:** 0  
**Max Dex Bonus:** +6  
**Armor Check Penalty:** -1  
**Speed:** –  
**Price:** Lv60

**Full-body Inertial Armor:** Like the full-body non-rigid armor, this is a set of coveralls, with the torso unarmored, but the legs and arms protected. It too is designed to be worn with an armored vest or the rigid breastplate.

**Nation:** Generic  
**Type:** Medium Armor  
**TL:** 10  
**Weight:** 10 kg  
**Area Protected:** Limbs  
**AR:** 3 (Inertial)  
**Signature:** 0  
**Max Dex Bonus:** +5  
**Armor Check Penalty:** -2  
**Speed:** -1  
**Price:** Lv350

**Battlesuit:** A battlesuit is a combination of full-body rigid armor, breastplate and high-threat combat helmet, along with a pair of armored boots, mated to an undergarment that provides cooling and additional protection for the joints. This undergarment also provides a databus to connect weapons and accessories to helmet HUDs and under-armor power packs. The only drawback to the battlesuit is that they are fatiguing to wear, and combat effectiveness is only a few hours at best. These suits are not powered, and the heavy armor takes its toll after time, even with the cooling layer. Up to four laser power packs can be carried under the armor, and connected to a weapon via a cable similar to the laser body-pack, above.

**Nation:** Generic  
**Type:** Heavy Armor  
**TL:** 12



**Weight:** 32 kg

**Area Protected:** All

**AR:** 7 (Rigid) (All)

**Signature:** 1

**Max Dex Bonus:** +3

**Armor Check Penalty:** -3

**Speed:** -3

**Price:** Lv1200, plus cost of accessories and electronics

**Combat Vacuum Suit (CVS):** Developed for use in boarding actions and other combat in a vacuum environment. The suit is designed with a limited self-sealing system consisting of an inner gel layer that hardens on exposure to air or vacuum. This system can only handle small breaches, such as those made by small-caliber weapons. Heavy weapons and plasma guns are too much for the self-sealing system to handle, however. (Can repair 1d10 points of damage per round, to a maximum of 30 points). It includes a Long-range radio.

**Nation:** Generic

**Type:** Medium Armor and Vac Suit

**TL:** 11

**Weight:** 14 kg + Life support

**Area Protected:** All

**AR:** Head: 7 (Rigid) Chest, Torso and Groin: 8 (Rigid)

Limbs: 5 (inertial)

**Max Dex Bonus:** +4

**Armor Check Penalty:** -2

**Speed:** -3 m

**Price:** Lv800, plus cost of accessories and electronics

**Military Life Support Pack:** Military Life-Support Packs are manufactured in two varieties: short duration and long duration. The shorter duration of these systems compared to civilian systems is due in large part to the increased cooling demands of military suits and equipment.

Short-Duration packs cannot add oxygen bottles, and have the following characteristics:

**Weight:** 2 kg

**Duration:** 4 hours

**AR:** 8

**Price:** Lv200

Long-Duration Packs can have additional oxygen bottles added to them to extend their operating range. Additional bottles cost Lv50, weigh 1kg, and add 6 hours to the suit's duration. There is room in the Long Duration Pack for two additional bottles.

**Weight:** 8 kg

**Duration:** 12 hours

**AR:** 10

**Price:** Lv2000

## CYBERNETICS

While most surgical, chemical and prosthetic/bionic enhancements are largely legal in the 24th century, few elect to have these invasive procedures performed. The drawbacks of these augmentations often outweigh the benefits, at least for most people. Cybernetics are usually obvious and attract attention, while chemical therapies have their own drawbacks, chiefly those of overdose and psychological/physiological dependencies. Then there are the risks of the surgery itself, the upkeep requirements, and the ever-present risk of infection. Normally, only those who truly have a need will go to the lengths required to obtain augmentations.

**PROSTHETIC vs. BIONICS:**

A distinction has to be made between prosthetics and bionics. Prosthetics are designed to duplicate the functionality and appearance of the original body part, while bionics are designed to augment it. Prosthetics are perfectly legal, while bionics are controlled.

Some do bother, however, whether they are the augmented agents of a TransNat, or the servant of a national government, or even a terrorist intent on sweeping aside the old order.

Bionics and prosthetics did go through a brief fad stage in the early years of the 24<sup>th</sup> century, but largely faded from the fashion stage as veterans of the Kafer War began arriving with prosthetic replacements earned the hard way, and the jet-set cybernetics aficionados started looking like poseurs. Only cybernetic eyes survived the cyber-fashion meltdown of the early 2300's.

**The Black Clinics:**

The Black Clinics are a sort of urban legend in the world of 2320AD. Everyone has heard of them, knew a friend of a friend of a friend who went to one, but no one has actually been to one. They do exist, but are very rare. One would have to have extensive underworld contacts to ever have a chance of tracking one down. If one was able to, however, and had the Livre, then they can provide just about any kind of augmentation imaginable. Most of the Black Clinics have links to ProVolution, though, and so one can never be certain that they are getting exactly what one asked for.

**SURGERY**

Any invasive procedure has listed a surgery cost and a surgery DC. The surgery cost lists the dice rolled for the time the operation takes, and the cost per hour. Recuperation time is equal the surgical time, in days rather than hours, with the cost being equal to the surgical cost. So a 6-hour surgery, costing Lv6000, requires 6 days of out-patient recuperation time, which would cost another Lv6000. The cost listed is for a legal procedure, with the Black Clinics charging up to 10x that amount.

The Surgery DC is the roll that the GM needs to make for the NPC doctor performing the procedure. Any modifications for autodocs, etc are to be taken in account here as well. If the surgery roll is failed, the procedure simply didn't work.

The various prosthetics, therapy and bionics presented here are for a "low-cyber" style of game. The GM may modify the price to best suit the sort of campaign he wishes. Likewise, the side-effects from many of these implants make them unpalatable to most players, and the GM is free to modify them as he sees fit to suit his game.

There are three types of modifications available: Surgical, chemical, and bionic/prosthetic.

**SURGICAL MODIFICATIONS**

Surgical modifications closely overlap with bionics, though the main difference is that surgical modifications tend to use implanted biological material rather than mechanical assists.

**Muscle Implants:** This technique involves taking a muscle tissue sample from the character and culturing it in a collagen tank, then grafting these new muscles into the existing tendon/ligament system of the character. The technique will increase a character's Strength by up to six points, but for each point of Strength gained, the character will lose 1d4 points of Dexterity until he has had time to become used to the new muscle mass. This training period costs 1000XP per point of Strength gained, which must be paid out before a character can further advance in levels.

Installing muscle implants is time-consuming, demanding one month of physical inactivity from the patient. It is also expensive, costing Lv1200 per point of Strength gained, plus surgery costs.

**Surgery Cost:** 2d6 hours, at Lv1000 per hour

**Surgery DC: 10**

**Neural Sheathing:** This technique utilizes viruses which have been engineered to manufacture and deposit certain organic chemicals around the nerve fibers of a character. The plastic-like sheath decreases the electrical resistance of the nerves and various outside electrochemical interferences to neural communication. To perform the process, a doctor takes samples of blood, nerve tissue, and spinal fluid from the patient and determines what support chemicals are required for the viruses to perform properly. The process must be monitored for one full month, with a medical appointment every three days to update the support solution.

The doctor must succeed in 10 successive DC 10 T/Medical checks. For every day the character is late for an appointment, the doctor's target goes up 4 DC (DC 10 becomes DC 14, DC 14 becomes DC 18, etc.), so it is important to be prompt for appointments while undergoing this treatment.

If the Medical check is failed by more than 4 points, the sheathing is lost, but the process can be retried. If the roll fails by more than 6 points, the character permanently loses one Dexterity point, and the process cannot ever be retried, as the character's nerves are permanently coated in a mass of what is technically termed "goo."

If the process is totally successful, then the character receives +1 to Dexterity and the benefits of the Lightning Reflexes Feat. If the character already has the Lightning Reflexes Feat, add +1 to the rolls. As the subject now has a significantly faster reaction time, they must undergo a training regimen. This regimen costs XP2000, and represents the time lost in training and adaptation.

The cost for this treatment is Lv3000.

**Surgery Costs:** Lv1000 per visit

**Neural Sheathing, Improved:** Improved neural sheathing a new generation of tailored viruses to the process to help regulate and direct the sheathing process. Instead of 10 Skill checks, the doctor performing the process must make only 5 checks, though vs. the same DC of 10. For every day a character is late, the doctor's target goes up 2 DC. Rather than 4, and failure will never result in the dreaded "goo". The benefits are otherwise the same.

The cost for this treatment is Lv12000

**Muscle Reanchoring:** Rather than simply adding additional muscle mass, Muscle Reanchoring instead alters how the muscles and tendons join the bone, resulting in increased strength and speed. This procedure is quite long and tedious, and has to be done in five steps. The Surgery Skill Check has to be made five times. After the completion of the second roll, the patient receives a +1 to Strength. Upon completion of the fourth roll, the patient receives a +1 to Dexterity, and

once the last roll is successfully completed, the patient receives an extra 5m per round to his Movement. Afterwards the patient must be retrained to use their own body. This retraining costs 2500XP.

**Surgery Cost:** 1d6 hours per stage, at Lv500 per hour. Five stages total.

**Surgery DC:** 20 per stage.

**Implanted Weapons:**

It is possible to implant several different types of weapons, mostly melee weapons, but Pentapod biolasers have been found in the hands (literally) of terrorists and criminals in many parts of human space. Any of these devices are extremely illegal, and possession of these weapons is often sufficient provocation for police and security forces to engage in pre-emptive self-defense. Implanted weapons include:

**Hand Razors:** Implanted into either a flesh or cybernetic hand, the razors extend on command. Typically the command is a difficult hand or finger movement. They are typically undetectable without medical scanning equipment, and even then are hard to find (T/Medical vs. DC25). User is considered to be armed for attacks of opportunity.

**Damage:** 1d4/2

**Price:** Lv1000 (black market only)

**Surgery Cost:** Lv1200

**Surgery DC:** 18

**Wrist Blades:** Larger than the razors, wrist blades are implanted in a sheath which runs up along the top of the forearm, and they can be detected through physical examination of the arm (Spot vs. DC 20). User is considered to be armed for attacks of opportunity.

**Damage:** 1d6

**Price:** Lv2500 (black market only)

**Surgery Cost:** Lv1800

**Surgery DC:** 20

**Cyberlimb Weapons:** Firearms can be installed into a bionic limb. An arm can hold up to a Tiny-sized weapon, while the leg can hold up to a Small-sized weapon. The leg mount can be either a holster, or else an actual firing mount, in which case it receives a -4 on To Hit rolls due to the awkwardness of aiming a leg.

**Price:** Weapon cost x 3 + Lv2000

**Bioweapons:** Pentapod bioweapons can be implanted into the arms, torso and even the head, and are effectively undetectable to anything but high-resolution medical scanners.

**Price:** Weapon cost x 5 +Lv3000

**Surgery Cost:** 1d6 hours for a limb, 2d6 hours for the torso, and 3d6 hours for the head, at Lv2000 per hour

**Surgery DC:** DC 15 for limbs, DC 20 for torso, DC 25 for head



## CHEMICAL MODIFICATIONS

Though they are tightly controlled, chemical therapies are more accessible than most other types of augmentation.

**Vasopressin-Y:** This drug allows the human brain to modify its electrical pathways, which will make it easier for a character to learn new things and recall things which he has already learned. Due to its addictive effect, this drug is usually used by people who are beginning major projects and can quit after the project's completion. The drug must be taken in a daily dose for two full weeks for any effect to occur, at which time the character's Intelligence score will be raised by 1d6 points. If the character remains on the drug for one month or less, he will suffer no side effects. For every month thereafter that the character remains on the drug, he will suffer the loss of 1d4 points of Wisdom, regained at the rate of 1 point per week after no more Vasopressin-Y has been taken. If a character's Wisdom reaches zero, he will slip into a catatonic state. To quit taking Vasopressin-Y, the character must roll for the following save:

To Beat Vasopressin-Y addiction: Will Save vs. DC 14. This can be re-rolled once per week. This roll applies whenever the character wishes to stop taking the drug.

The drug is bought in weekly doses, which cost from Lv50 per week's dose in the Core to Lv200 in the Arms. Due to the dangers inherent in this drug, it is illegal in many nations/systems, and its cost there could be as much as Lv800 per week's dose.

**Tesserone Beta-Five:** Tesserone Beta-Five is a drug that stimulates the endocrine system, causing increased production of strength-producing hormones. It is administered in a weekly dose and must be taken continually to keep up its effect. When a character first takes T-Beta-5, it will have no immediate effect. Upon taking the second dose, the character must make a FORT save vs. DC 14, or his body will reject the therapy and he will be unable to continue. With the third dose, the character will gain from 1 to 3 points of Strength (1d6÷2). This added Strength will drop by one point per week, unless further doses of the drug are taken to maintain it at its present level. Additional doses will not improve Strength further.

Should a character decide to quit T-Beta-5 after more than two weeks of use, he will suffer some withdrawal effects. Each week when the character's enhanced Strength drops by one point, the character will also lose one point of Dexterity due to muscle twinges. Once the character's enhanced Strength has worn completely off, his Dexterity will begin increasing by one point per week until it reaches its natural level.

The cost per dose can range from Lv50 at the Core to Lv300 deep in the Frontier.

## CYBERNETIC/PROSTHETIC MODIFICATIONS

One of the results of increased knowledge about the workings of nerve cells has been the development of a technology by which human nerves can be linked to electronic devices. In this way, the biochemical process of a thought can be translated into action by a machine. This technology is most valuable in allowing the control of prosthetic limbs and bionic replacements such as eyes and ears.

**Neural Jack:** When it first appeared in the late 2290's, the neural jack was hailed as the ultimate tool in ridding humanity of the constraints of the body. It is an electronic socket wired to a person's brain, allowing a person to plug cable connections into a piece of equipment in order to control that equipment by thought. Now machinery could be controlled as if it were the user's own body. Computers could respond at the speed of thought, allowing input without the cumbersome interference of the user's body. In reality, however, the neural jack was somewhat less useful.

The neural jack and the appropriate driver software did allow people to control equipment as if it were an extension of their own body. It does require a great deal of training, however. A new user of Neural Jack must pay an XP cost to learn how to use it, at a rate of 1000XP per point of Equipment bonus. After the initial training period, the Neural Jack grants an Equipment bonus equal to the character's Wisdom bonus, which represents their ability to control the unpredictable interface. Negative modifiers are possible. The major drawback to being jacked is that the character is so tied into the equipment's control system that he becomes almost insensible to control of his own body. Any skill checks requiring the character to use his own body while jacked into a piece of equipment have a -6 penalty attached to them.

Another drawback of jacking is the relative lack of equipment to plug into. Very little equipment comes with the cybernetic linkages installed. Most have to be either ordered custom-made, or the linkage servos and sensors have to be installed after the fact. This costs roughly 50% more than the standard price. Aircraft and spacecraft, being largely wired already, only cost an additional 10% to be equipped with the linkage equipment. Military starships are the most likely items to be fitted, with approximately 50% of them equipped for linkage in some form or another.

Weaponry is a special case, as any firearm can be equipped with a dual set of linkages, one of which controls the trigger while the other feeds targeting information directly to the optic nerve in much the same way as a virtual display (below). This gives the benefit of a built-in HUD (+3 to hit) along with granting the character in question the benefit of the Improved Initiative Feat, while using that weapon only. The linkage simply hijacks the command from the brain to

pull the trigger, and uses that impulse to fire the weapon, so anyone can benefit from the so-called smartgun link.

### Cold Storage Program:

Another urban myth from the early days of the 24<sup>th</sup> century, the Cold Storage Program is supposedly a computer program that can scan and copy a human brain, producing a digital copy of it. This would require enormous amounts of storage, and the subject of the scan would require a neural jack. The extremely complex file would likely be as unstable as any AI system, however.

The cost of having a neural jack installed in a character is Lv7500, plus surgery cost. At the time of installation the player must decide where the jack will be located on the character, the most common places being at the temple or on the forehead (for ease of access), or in the hollow at the nape of the neck (where it can be hidden by hair or clothing). Those choosing the temple or forehead are often called "bolthead" due to the unsightly neural jacks.

**Surgery Cost:** 4d4 hours, at Lv2000 per hour

**Surgery DC:** 18

## BIONIC REPLACEMENTS

Most crippling injuries in the 24th century can be simply repaired by growing replacement tissue from the patient's own cells and then grafting it on. Entire limbs and organs can be repaired in this way. The process takes about a month, and the surgery is relatively straight-forward as there is no possibility of rejection.

But some sources offer prosthetic replacements for those who prefer them to the real thing. Prosthetics, while they lack the subtlety of tactile sensation that real organs and limbs give, have many tempting advantages over their flesh-and-blood counterparts. Prosthetic limbs do not tire as easily as natural limbs, nor do they feel pain as more than an abstract sensation. Bionic eyes and ears can offer enhanced senses.

Prosthetics are not illegal, and are defined as mechanical medical replacements that do not extend the user's capabilities more than the original. Bionics, however, do extend the owner's capabilities, and if they violate local laws (see sidebar), they must be registered with national police services, at a cost of Lv1000 per point per year. So a character with a Strength of 12 could get a Strength 12 cybernetic arm with no difficulty, and in America (law level 8) could get a +2 boost

### Bionics and Law Level:

Bionics are limited by national or colonial law level. Bionics may increase a user's capabilities by 10-Law Level. A result of 0 or lower is still 0. Rolls of 0 indicated that strength-boosting bionics are prohibited.

with no difficulty. A +3 boost, however, would need to be registered, and cost Lv3000.

Though not illegal, governments and foundation tend to discourage the use even of prosthetic devices, due to fears that the users could become dehumanized from the effects of using the mechanical limbs. Many psychologists feel that those fears are largely groundless, but the debate rages.

Prosthetics tend to be more common in military circles, as regrowth therapy takes too long and is too specialized for field surgeries. A soldier who loses a limb can be in action in only a few weeks with a prosthetic, versus 2-3 months for a regrown limb including any retraining time.

### Full Cyborgs:

Full cyborgs, where the entire body has been replaced by mechanical systems are very rare in human space – there are only 61 known. All of them are accident victims where regrowth/regeneration failed for one reason or another. Most of them are concentrated on the Core Worlds, which have the resources to maintain their artificial bodies. Cyborgs would be designed as vehicles, with 20vol set aside for the central nervous system and support systems. They require daily nutrient, mineral, and vitamin supplements for their biological components (the brain, primarily), along with a power recharge/refueling for their mechanical systems.

## TYPES OF PROSTHETIC/BIONIC MODIFICATIONS

**Bionic Eyes:** Bionic eyes outlasted the cybernetic revolution, largely because of their usefulness. As poor eyesight is often genetically-based, simple regrowth techniques generally won't help, and genetic tweaking is quite expensive. In comparison, bionic eyes are relatively inexpensive, and offer perfect vision that won't fade with time. Bionic eyes also lack the power and maintenance problems of bionic limbs, and the infection issues of neural plugs. Most bionic eyes are fairly easy to detect as they tend to be a standard shade of blue, brown, or gray. Many also have the lensmaker's logo neatly printed around the iris in tiny script. Some are shades that no human eye will ever be, but it is possible to obtain eyes which appear to be completely real. There are several option packages available for use with bionic eyes, which must be purchased at the time of installation.

**Price:** Lv2000

**Surgery Cost:** 2d4 hours, Lv1000 per hour

**Surgery DC:** 12

**Color Enhancement:** This option allows the user to see things in computer-enhanced color, or black and white. Color enhancement makes it easier to spot camouflaged tar-

gets and to observe fine detail.

**Price:** Lv500.

**Low Light:** This option allows infrared vision in low light environments, like biocontacts.

**Price:** Lv650

**Flash Proof:** This option protects the owner's vision from sudden flares of light, giving him the same protection as photosensitive goggles.

**Price:** Lv300

**Optic Imager:** A favorite of espionage agents, this option lets a person take five high-resolution pictures on thought command and review them later. If the person has a neural jack, he may transfer the pictures to a high-resolution chip. Another option is to transfer them to a subdermacomp, which can hold thousands of images. To erase the pictures, the user simply records over them.

**Price:** Lv1000

**Subtlety:** This option makes it almost impossible to detect that the user's eyes are bionic.

**Price:** Lv850

**Laser Rangefinder/Designator:** Sometimes seen in espionage and special forces, the rangefinder/designator combination has proven very effective, though the range on the designator is quite short.

**Rangefinder Range Increment:** 120m

**Designator Range Increment:** 20m

**Price:** Lv3750

## Bionic Ears

Bionic ears are an uncommon modification, but enjoy a certain appeal with the avant-garde, even now, 20 years after the cyber-cult peaked. One of the drawbacks of the low-frequency and high-frequency features is that they make the ear obviously artificial in shape and/or material.

**Price:** Lv1000

**Surgery Cost:** Lv1200

**Surgery DC:** 10

**Low-Frequency Hearing:** This option enables a person to hear sounds below the range of normal humans. Ears with this option do not appear normal—they tend to be larger than normal, and although constructed of cartilage and flesh, they are often of an unusual shape (pointed at the top, for instance). These ears are popular with researchers studying the Eber, as it allows them to hear in the low-range that is part of the Eber aural spectrum. +2 on all applicable Listen Skill Checks.

**Price:** Lv600

**High-Frequency Hearing:** This option allows a person to hear sounds above the range of normal humans. Ears with this option also do not appear normal—they are usually of relatively dense materials such as plastics or even metals. +2 on all applicable Listen Skill Checks.

**Price:** Lv600

**Sound Dampening:** Although loud or irritating sounds won't damage the bionic ears in any way, they can be unpleasant to the user. This option enables the owner to dampen out specific ranges from the sonic spectrum, allowing sound to be dampened, which can also make it easier to hear a specific sound (such as someone's voice) in a noisy environment. +5 on Listen checks, but requires a Move Action.

**Price:** Lv250

**Recorder:** This option allows the user to record ten hours of sound and play it back at a later time. The recording can be accessed at any point and can be recorded over. The recorder option is especially popular with students and music fans. Recordings can be downloaded via neural jack, or dumped to a subdermacomp.

**Price:** Lv450

## Bionic Limbs

Bionic limbs come with a standard Strength of 12 but can be improved up to a maximum of 24. In most task rolls using Strength as a modifier, a character's normal Strength should be used, but if the referee judges that a particular task warrants it, the Strength of the bionic limb can be used instead. For example, if a character is attempting to lift a heavy weight from the floor, his natural Strength should be used, since all of his limbs and his torso muscles are involved. If, on the other hand, the character is hanging from a ledge by his bionic arm, the Strength of the arm should be used in determining whether or not he can hold on.

As there is some empty space in most bionic limbs, it is possible, though illegal, to have a secret compartment built into one. A bionic arm can have a compartment 20 centimeters long and 3 centimeters in diameter, and a bionic leg can have a compartment 30 centimeters long and 8 centimeters in diameter.

**Price:** Lv2000 for a Strength 12 bionic arm, plus Lv200 per extra point of Strength; Lv3000 for a Strength 15 bionic leg, plus Lv300 per extra point of Strength. A cybernetic hand is Lv1200, as the hand is the most complex part of the arm, while a bionic foot is usually only Lv500, though that foot has only limited function. At the base Strength rating, these limbs are considered prosthetics, though any extra points makes them Bionics.

**Surgery Costs:** 1D6 hours, at Lv1000 per hour.

**Surgery DC:** 12



**Equipment:** Rather than having a secret compartment, a bionic limb may be constructed with any one-handed piece of equipment built into it. A one-handed firearm can be built into a bionic arm (although it is highly illegal), but is never built into a bionic leg, due to the fact that it would be nearly impossible to aim. The extra cost for such equipment is five times what the equipment would normally cost.

**Power:** Bionic arms and legs require a power source, typically contained within the limb itself. This power supply is usually a compact super-battery, which can supply power to the limb for up to 24 hours of constant use. These batteries can be recharged from any standard supply, including household current and portable generators.

The battery itself weighs 2kg, takes up 1 vol of space, and costs Lv50.

**Maintenance:** Bionic legs in particular require a considerable amount of maintenance and tuning. Each bionic leg requires 6 hours a month of maintenance. For each month missed, the character suffers a penalty of -1 to all moving actions, and their speed drops by 1 meter. Bionic arms require less maintenance, only 2 hours a month, but still suffer the -1 penalty if the maintenance is missed. Note that this penalty is cumulative for each month missed, and the maintenance time must be made up before the penalty goes away. So if Jeff misses three months of maintenance on his bionic leg, he's at -3 on all moving actions, and will require 18 hours of maintenance on the leg to get back to normal. A full body cyborg would require 6 hours of maintenance per week to remain in optimal operating condition.

**Damage to Prosthetic Limbs:** All limbs have a base AR of 3. Any shot that penetrates that base AR causes damage to the limb's Structural Integrity (SI). Arms have 10 SI, while legs have 18 SI.

**Chargers:** Chargers are devices that are used to store some of the endorphin that the character's body naturally produces. The endorphin is saved for reintroduction into the body when needed to add extra oxygen to, and remove fatigue toxins from, the character's bloodstream. The charger is installed in a space made by removing all or part of one kidney. Chargers grant one or more Feats based on the type of charger installed. A supercharger gives the Endurance Feat (and requires removal of half the kidney); a hypercharger give both the Endurance Feat and the Great Fortitude Feat (and requires removal of an entire kidney). Ectomorphs may not have a hypercharger installed, due to the comparative bulk of the unit.

Superchargers cost Lv1500; hyperchargers cost Lv4000

**Surgery Cost:** Lv2000

**Surgery DC:** 12

## SUBDERMAL IMPLANTS

Subdermal Implants are a special case, and are completely legal practically everywhere. These implants do not go as far as full cybernetic implants. They consist of several types of equipment that are implanted in the body, but do not require mind-machine interfaces. Their control is more basic, typically by wiring the controls into the hands and displays to the optic nerve. To activate the devices usually requires a set of hand motions that are unlikely to be performed by accident. After that, the motions of the fingers control the equipment as if it were being held. This interface technology is called "virtual keyboard/keypad."

**RFID Chip:** On the Core worlds, most opt to have RFID chips installed, which provide hands-free access for their homes, cars and bank accounts. That the chips can also be used to track them doesn't bother most citizens of the Core, as they see this as another safeguard of their security.

**Surgery Time:** N/A

**Price:** Lv50

**Subdermawatch:** The Subdermawatch is a basic multifunction digital watch implanted just under the skin of the arm. Powered by body heat, it is widely available and widely used. The display is visible just under the skin at the wrist.

**Price:** Lv20

**Surgery Time:** 1d4 minutes

**Surgery Cost:** Lv50

**Subdermatalk:** The simplest of the true subdermals, the subdermatalk consists of a small 15 km range radio implanted in the skull behind the ear, with a microphone placed alongside the larynx. It isn't necessary to talk out loud to use the system – sub-vocalizing is sufficient. For an additional cost, a link phone can be installed that that can make use of the phone networks through the Core and the more developed colony worlds. Numbers can be dialed via the microphone and built-in speech recognition, or a virtual keypad can be installed that works through the fingers of the left or right hand. This is similar to the keypads of the subdermacalc and subdermacomp.

**Price:** Lv300

**Surgery Time:** 20 minutes

**Surgery Cost:** Lv200

**Link Option:** + Lv20

**Virtual Keypad** The simplest of the three styles of virtual input, the keypad can simulate up to about the size and complexity of a multi-function scientific calculator. This option is included with the subdermacalc.

**Price:** Lv100

**Surgery Time:** 10 minutes

**Surgery Cost:** Lv100

**Virtual Keyboard** The most complex of the three virtual interface options, the keyboard is as complex as a full-size computer keyboard. Chording versions are popular, with one key assigned to each finger and input accomplished by key combinations. This option is included with the subdermacomp.

**Price:** Lv220

**Surgery Time:** 10 minutes

**Surgery Cost:** Lv100

**Virtual Pointer:** The virtual pointer has to be used in conjunction with the virtual display and either the virtual keypad or virtual keyboard. Essentially, it tracks eye movements, and a mental keyboard command will select the object highlighted by the eye movement.

**Price:** Lv180

**Surgery Time:** 5 minutes if done along with virtual display, otherwise 20 minutes

**Surgery Cost:** Lv80 if done along with virtual display, otherwise Lv200.

**Virtual Display:** There are two classes of virtual display. The low-res model is used for subdermacalcs and subdermacomps, as they don't usually require better than a 16-million-color display. A high-resolution option is available, used by some subdermacomps and external systems. This display provides better-than-photo-realistic colors, and has been known to lead to some problems adjusting to the 'regular' palette of colors in the real world. Both of these implant displays actually tap into the optic nerve of one or both eyes, superimposing the generated image over the real-world image.

**Price:** Low-Res: Lv150  
High-Res: Lv250

**Surgery Time:** 20 minutes

**Surgery Cost:** Lv400

**Subdermacalc:** The subdermacalc is a multi-function calculator/chronometer/compass installed at a suitable point in the user's limb, and powered by the body's own heat. It is controlled by a virtual keypad, and is linked to the optic nerve via a virtual display. It grants a +1 bonus to any skill requiring calculations, and provides the Natural Compass Feat if the user doesn't already have it. Using the subdermacalc doesn't require an additional action.

**Price:** Lv750

**Surgery Time:** 30 minutes

**Surgery Cost:** Lv200

**Subdermacomp:** The subdermacomp is a much larger unit than the subdermacalc, and is similar in performance to a portacomp. The virtual keyboard can be configured for

a number of purposes, like the keyboard of the portacomp. The subdermacomp can't use normal plug-in program chips, but it does include a special reader that can interface with the subdermacomp through an induction link, allowing programs to be downloaded to the computer rather than slotted in. This takes about 1-2 minutes per program. Like the subdermacalc, the subdermacomp uses a link to the optic nerve to provide its display. It provides the benefits of the subdermacalc, plus allowing the user to access any database or program on the computer. If the user has a subdermatalk with link phone access, the subdermacomp can connect to available planetary networks, making their databases and information instantly available. The typical subdermacomp has the following stats:

**CPU:** 100

**Model:** B9

**Int:** 1

**PP:** 10/5

**Weight:** 0.5 kg

**Price:** Lv2100

**Surgery Time:** 1d4 x 20 minutes

**Surgery Cost:** Lv400

**Growler:** The Growler is a specialized implant used for communication with the Ebers, and allows a person to duplicate the low notes used in parts of Eber speech.

**Price:** Lv200

**Surgery Time:** 30 minutes

**Surgery Cost:** Lv1000

### Brave New Worlds:

A recent trend in the Core has been that of the "Reality Overlay", where external head, body and drone-mounted cameras feed the wearer's surroundings into a subdermacomp, and the comp overlays a modified image of the world on the user's visual and audio centers. This can range from editing out ads and billboards to living inside an almost wholly artificial world. These artifices can be shared and experienced by many people, and sees people living out their lives while at the same time playing a vast, and very complex, game. Typically the systems requires a subdermatalk, subdermacomp, high-resolution virtual display, and virtual keyboard. Software costs range from Lv100 to over Lv5000, depending on complexity. And most of the shared-world systems also require a monthly fee, typically between Lv10 and Lv50.

## OPTIONAL RULE: PROSTHETICS FROM CHARACTER BACKGROUND

If a GM and Player agree, prosthetics can be built in to

the character's background. This is easier with the Prior History character generation, as the stages where prosthetics could be introduced are obvious; anytime a military character takes a mishap, he or she can select a prosthetic from the table below if desired or roll randomly.

For characters generated using the Quick System, it's a little less obvious. However, using the Turning Points, we can rule that any time a character's roll for the turning point was equal to the roll required, they can select a prosthetic if desired. This rule only applies to military and mercenary characters.

Roll (1d10)	Prosthetic
1	Hand
2	Hand
3	Arm
4	Arm
5	Leg
6	Eye
7	Eye
8	Eye
9	Ear
10	Ear

## DNA MODIFICATION

One of the great breakthroughs of 22<sup>nd</sup> century medical technology was the development of DNA Modification (DNAM) technology. Originally created as a means of curing genetic disorders, DNAMs use tailored retroviruses to rewrite the genetic code of a mature individual. These changes are permanent, and are passed along to successive generations. In the 150 years since they were first developed, they have helped to all but eliminate genetic disorders on the Core worlds. In 2192, a joint American-Canadian team developed the most famous of the DNAMs, the so-called King DNAM, which opened up the hostile world of King to settlement and exploitation.

There are, of course, persistent rumors of DNAM technology being misused, of governments and megacorporations, not to mention ProVolution, creating super-soldiers or super-geniuses. There has been no evidence of this to date, though. Each of the three DNAMs mentioned below required upwards of 20 years of development time, something that few megacorporations, governments or terrorist organizations can commit to. These rewrites were largely the work of extra-governmental foundations, in particular the Royal Society, the Life Foundation, and the Alberta Farmer's Cooperative. Since the Gene Protests of the early 2200's, however, there has been no new (official) research into DNA modifications, nor any attempts made to alleviate the problems inherent in the King DNAM.

**Game notes:** All DNAM treatments are listed with a type, cost and rejection save. Type refers to the severity of the

### TRANSHUMANISTS:

There is a small, but vocal, movement in 2320AD called transhumanists. The basic tenet of transhumanism is that mankind has developed the tools to improve himself, far beyond the minor tweaks done in the name of eliminating congenital diseases. Super-intelligence, immortality, and perfect health are some of the benefits touted by the transhumanists. They feel that DNAM technology has the potential to advance humanity to something approaching godhood, and the transhumanists vigorously protest the research moratorium. The opposition to the transhumanists simply has to point at the Pentapods to show where that approach can lead.

modification. Minor modifications are outpatient treatments, with patient held for an hour or two after treatment to ensure that his body has accepted the procedure. The modification is typically complete within a week, and the patient notices little save the occasion bit of itchiness or hot or cold spells. Major modifications, on the other hand, significantly rework a sizable portion of the patient's body, and usually require the patient to be sedated for up to a month.

Cost simply refers to the cost of the treatment itself, and in the case of major modifications doesn't include the cost of the hospital stay. As these modifications are usually performed on colonists, the sponsoring government typically picks up the bill.

If the DNA modification is rejected, it can simply be tried again. If it is rejected a second time, however, it cannot be retried. If it is retried the patient will likely get very sick, even if they make the rejection save. If they fail the rejection save the result is often death due to massive shock and tissue rejection.

## KING MASSIVE WORLDER MODIFICATION (TEMPLATE)

The first, and most-widely known, of the DNAM therapies, the King rewrite is also the most extensive. The primary change is a rebuild of the host's muscular and skeletal system, greatly increasing the strength and density of both. This tends to alter the subject's height as well, resulting in a more compact, but no less massive, individual. Additional changes are made to the host's cardiovascular system, strengthening the heart and altering the circulatory system to ensure efficient blood flow at all times. The lungs were also altered, allowing them to function properly in King's much denser atmosphere.

Another aspect of the King modification is the addition of an environmental symbiote, called the AFS (Atmosphere Filtration Symbiote), a cluster of micro-organisms that, in this case, live in the subject's lungs and filter the sulfur out of



King's air. These symbiotes require the sulfur in the atmosphere in order to live, and if someone leaves King for any length of time, the symbiotes will die, requiring the person to be reinfected with them upon return.

Less well-known, and little-publicized, are the side-effects of the King modifications. The supercharged cardiovascular system, coupled with King's extreme gravity, sees few colonists living past their 50<sup>th</sup> year. Their hearts and bodies just wear out. The DNAMs didn't provide any sort of additional clotting mechanism, so any lacerations or penetrating wounds tend to be extremely serious, as the powerful cardiovascular system will send blood jetting out of any serious wound.

**Special Qualities:** All characters who receive the King modification, and pass the required Save, have their bodies transformed into the Mesomorph body type, in addition, they receive all heavy gravity modifications, plus an additional (1d6-3) to Strength and Constitution, and a penalty of (1d6-4) to Dexterity, with a minimum bonus (or penalty) of 1 in all cases. They also receive the Heavy Gravity Adaptation Feat for free.

In any atmosphere type less than Dense (1.25 atm), the character must wear a respirator mask.

Any Lifeblood damage that penetrates armor causes an additional 1d4 points of Lifeblood damage to the character.

**Skills:** Same as the character

**Advancement:** By character class

**Type:** Major (4 weeks)

**Price:** Free if sponsored, Lv12,500 otherwise. The AFS is Lv100 per treatment.

**Rejection Save:** Fortitude save vs. DC 14

## ZERO-G SPACE ADAPTATION MODIFICATION (TEMPLATE)

Though the King modification is the most noteworthy of the DNAMs, the Zero-G modification is the most common. Practically everyone who expects to spend more than a few days in zero-gravity receives this modification, and it's so wide-spread that Earth's Orbital Quarantine Command (OQC) lets it pass without mention. The Zero-G modification acts to limit muscle degradation and bone decalcification while in zero-gravity.

Like many of the DNAMs, it actually consists of the DNA modification itself, which acts to prevent muscle decay, and an environmental symbiote, in this case a microorganism that fixes calcium out of the bloodstream and back into the bone structure. This symbiote usually needs to be destroyed once the recipient is back in a normal-gravity environment, as some have been known to go awry, and keep fixing additional calcium even though the body no longer needs it. This can result in bone spurs and other ailments, up to and including kidney failure. The symbiote thus needs to be renewed whenever

the host goes back to a zero-gravity environment.

**Special Qualities:** Allows a character born in zero-gravity or low gravity to use the Zero-Gravity line of the Home World Gravity type, rather than simply being immobilized when in any sort of gravity well. Also acts to reduce the DC of Fortitude saves needed to avoid muscle and bone loss on long space voyages. See the Chapter 16: Space Travel for more information.

**Skills:** Same as the character

**Advancement:** By character class

**Type:** Minor

**Price:** Initial Treatment: Lv550 Subsequent Treatments (Environmental Symbiote) Lv250

**Rejection Save:** Fortitude Save vs. DC 10

## THINAIR (TEMPLATE)

The Thinair modification was the last of the DNAM treatments to hit the market, developed shortly before the Gene protests led to a moratorium on DANM research., and is aimed at worlds like Crater, where the surface atmospheric pressure is thick enough to breathe, but thin enough to cause a great deal of discomfort. The Thinair modification greatly increases the concentration of blood vessels along the alveoli inside the lungs. This modification acts to increase the amount of oxygen the lungs can draw out of the surrounding air. The downsides of this modification are two-fold. First, normal air feels thick and heavy to breathe, and the increased oxygen can possibly cause the subject to behave erratically. This can be overcome with a special filter mask, which draws out a portion of the atmospheric oxygen. The second drawback is the increased concentration of blood vessels in the upper torso, which can increase the severity of any chest wound. Most consider these drawbacks to be acceptable. This modification is quite popular on Crater, where many of the topside ranchers underwent the modification before the recent security crack-down.

**Special Qualities:** Allows a character to breathe in Thin and Very Thin atmosphere (<0.60 atm) without a compressor mask. It also adds an additional 1d4 Lifeblood damage to any wound that occurs in location 9 (Chest).

**Skills:** Same as the character

**Advancement:** By character class

**Type:** Minor

**Price:** Lv1200

**Rejection Save:** Fortitude DC 12

There are several other DNAM therapies on the market, though most of them are aimed at their original purpose, that of curing genetic disorders. These therapies are all Minor modifications, and cost between Lv500-Lv5000, depending on their seriousness and rarity.

# VEHICLES

Vehicles travel by interacting with land, air, or water. Ground vehicles interact by means of wheels, tracks, legs, rails, or air cushions. Air vehicles remain aloft by means of dynamic lifting surfaces (such as rotors or airfoil wings), vectored thrust (where the engines bear the entire weight of the vehicle, without benefit of aerodynamic surfaces) or lifting cells filled with a gas lighter than the background atmosphere. Combinations of all of the above are certainly possible. For water travel, vessels rely on air-filled hulls for buoyancy. These hulls may be designed either to travel completely submerged (as in a submarine), partially submerged, or lifted from the water by hydrofoils.

On Earth and Tirane, all vehicles sold come equipped with TrafCon (Traffic Control) links, allowing them to be driven automatically. These vehicles are also tied into the global satellite network, for both navigation and tracking purposes. Versions sold on colony worlds usually do not have the TrafCon links, nor the tracking modules. The navigation equipment is standard everywhere, however.

An even wider variety of vehicles are produced by the factories of Earth and its colonies in the 24th century than are available today. It would impractical to completely catalog them here, but the following listings give a broad sample of the types of vehicles available and explain their performance capabilities.

Most vehicles are powered by hydrogen fuel cells, and are effective in any environment containing oxygen, though compressor systems may be required for worlds with a low partial-pressure of oxygen.

## DESIGN NOTES:

The vehicles of 2320AD were designed with the T20 Vehicle Design system, along with a set of options specific to the 2320AD universe. 2320AD vehicles cannot be recreated with the T20 Vehicle Design system alone.

## Vols:

A vol is an abstracted measure of mass and volume. For purposes of conversion, 1 vol = 5 liters.



## PUBLIC TRANSPORT:

Most people on the Core Worlds in the 24th century do their daily travelling by means of public transportation. Tube lines, for example, offer a smooth, comfortable ride at very high speeds. Ground cars, though not quite as fast, as just as comfortable thanks to TrafCon systems, and offer added flexibility. Because of the high speeds available to the Tube trains and to TrafCon controlled vehicles, suburban areas can lie much farther from the cities they surround, and those wealthy enough to live in the suburbs enjoy an added sense of security with the increased distance. Ground cars are more used by those living closer to the city, or people who need (or just want) the increased flexibility. Out in the Frontier, however, public transportation is typically not very well-developed, even in the more urbanized areas.

## LAND VEHICLES

Land vehicles are, of course, the most commonly used of all vehicles. They run the full range from small civilian recreational vehicles to massive construction equipment and machines of war.

### CIVILIAN VEHICLES

**Street Monowheel (Medium Wheeled Vehicle):** The monowheel is a favorite with young people looking for a fast, impractical vehicle. These small vehicles can be found throughout urban areas of the Core and even on the streets of the more developed Frontier worlds. It is next to useless off-road, however. When the speed drops below 10 kph, a small wheel drops down in front to keep the vehicle stable. The Monowheel is one square wide and one square long.

**TL:** 11

**Price:** Lv625

#### Bushi 918

Class:	Monowheel	EP Output:	6.EP Fuel Cell	(2.74 excess)
Price:	Lv625	Agility:	5	
Tech Level:	11	Initiative:	+5	
Size:	Medium			
Streamlined?:	Standard	AC:	15	
Pressurized?	No	(Size Medium)	0	
Climate Control?	No			
Drive Train:	Wheeled	AR:	0	
Crew:	1	SI:	17	
Passengers:	0	Signature:	-2	
Cargo Space:	8			
Fuel:	0.9			
Range:	330			
Speeds:				
Std. Acceleration=	22kph	Max. Acceleration=	66kph	
Very Slow=	22kph	Slow=	55kph	
Cruising=	110kph	Fast=	165kph	
Max Speed=	220kph	Off-road=	11kph	
Visual:	1 headlight(s)	1 brake light(s)		
Sensors:				
Comm:	2-Way Radio	Range=Medium		
Other Equipment:				

**Personal ATV (Large Wheeled Vehicle):** The personal ATV is a small, one or two person, open ATV. It sees wide use as a recreational vehicle, but is also used as a utility vehicle and even for exploration. The compact fuel cell gives the small vehicle a very long range. The ATV is one square wide and two squares long.

**TL:** 11

**Price:** Lv850

#### Bridgeport-Swift Sandpiper

Class:	Wheeled ATV	EP Output:	16 EP Fuel Cell	(12.52 excess)
Price:	Lv850	Agility:	4	
Tech Level:	11	Initiative:	+4	
Size:	Large (260 vol)			
Streamlined?:	Standard	AC:	13	
Pressurized?	No	(Size Large)	-1	
Climate Control?	No			
Drive Train:	Wheeled	AR:	0	
Crew:	1	SI:	25	
Passengers:	1	Signature:	-2	
Cargo Space:	20 vol			
Fuel:	9.6 vol			
Range:	660 km			
Speeds:				
Std. Acceleration=	11kph	Max. Acceleration=	44kph	
Very Slow =	11kph	Slow=	28kph	
Cruising=	55kph	Fast=	83kph	
Max Speed=	110kph	Off-road=	11kph	
Visual:	2 headlight(s)	1 brake light(s)	1 spotlight	
Sensors:				
Comm:	2-Way Radio	Range=Long	Radio Receiver	
Other Equipment:	Str 50 Winch			





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**Range Truck (Huge Ground Vehicle):** This vehicle, similar in concept to 20<sup>th</sup> century Humvees and jeeps, is a cross-country vehicle designed to carry passengers and light cargo. On the Core worlds, these vehicles are relatively rare luxury vehicles, but any available models come equipped with the standard TrafCon and navigation/tracking modules. On the Frontier, these vehicles are quite common, in personal, corporate, government and military use, and are widely manufactured under a variety of brands and models. For safety and structural reasons, these vehicles do not feature swap-out bodies, though they are fairly modular. The Range Truck is two squares wide and four squares long.

**TL:** 11

**Price:** Lv4200

**HOUSTON MOTORS RANGE STAR**

Class:	Range Truck	Power Plant	60 EP Fuel Cell (26 excess)	
Price:	Lv4200	Agility:	2	
Tech Level:	11	Initiative:	+2	
Size:	Huge (3200 vl)			
Streamlined?:	Standard	AC:	9	
Pressurized?	No	(Size Huge)	-2	
Climate Control?	Yes			
Drive Train:	Wheeled	4 wheels	AR:	1
Crew:	1	SI:	52	
Passengers:	5	Signature:	-1	
Cargo Space:	635 vol			
Fuel:	18 vol			
Range:	300 km			
Speeds:				
Std. Acceleration=	10kph	Max. Acceleration=	10kph	
Very Slow =	10kph	Slow=	25kph	
Cruising=	50kph	Fast=	75kph	
Max Speed=	100kph	Off-road=	10kph	
Visual:	2 headlight(s)	1 Spotlight(s)	2 brake light(s)	
Comm:	2-way radio, range Extreme			
Other Equipment:	Winch, Strength 40	Climate Control		

**Family Car (Huge Wheeled Vehicle):** This represents a typical family ground car of the type in use on most worlds. It is usually powered by a small fuel cell, though some rare colonies use petrochemical burners instead. The more common cars feature independent motors in each wheel powered by the inboard fuel cell, or fed from a high-density battery. Front and back wheels can steer independently, allowing great maneuverability and ease of parking. Many models can actually swap out the main body shell for a different one in a matter of an hour or less. The cost of one of these modules is typically about 40% of the cost of a complete vehicle, with pickup, van, car, and sporty packages available. The family car is two squares wide and three squares long.

**TL:** 11

**Price:** Lv2700

#### SUMATRA-FABRIQUE Skate 750

Class:	Skate Ground Car	EP Output:	40 EP fuel cell (15.68 excess)
Price:	Lv2700	Agility:	2
Tech Level:	12	Initiative:	+2
Size:	Huge		
Streamlined?:	Standard	AC:	10
Pressurized?	No	(Size Huge)	-2
Climate Control?	Yes		
Drive Train:	Wheeled	AR:	0
Crew:	1	SI:	50
Passengers:	3	Signature:	-1
Cargo Space:	84 vol		
Fuel:	24 vol		
Range:	720 km		
Speeds:			
Std. Acceleration=	12kph	Max. Acceleration=	24kph
Very Slow =	12kph	Slow=	30kph
Cruising=	60kph	Fast=	90kph
Max Speed=	120kph	Off-road=	12kph
Visual:	2 headlights	HUD with Infrared	2 brake lights
Sensors:			
Comm:	Radio	TrafCon Beacon	
Other Equipment:	Climate Control		

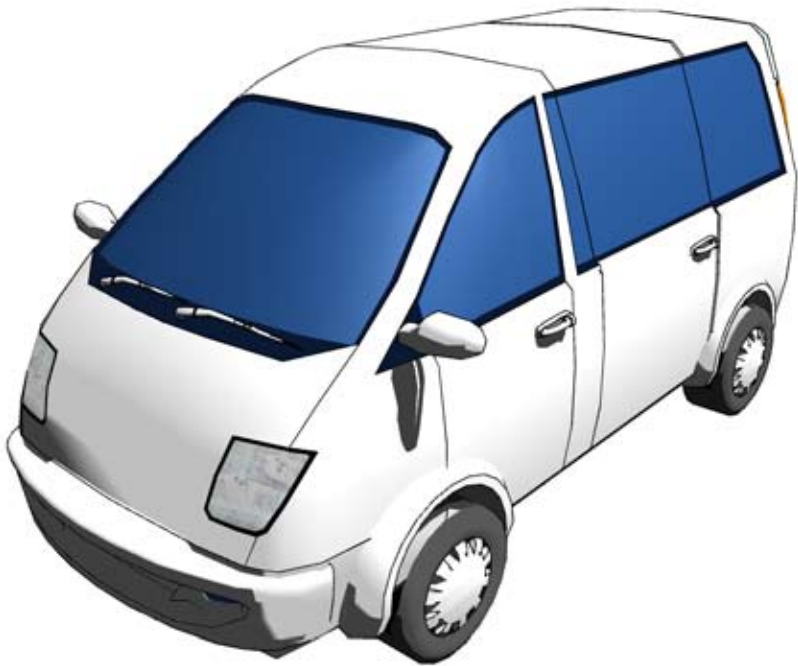
**Heavy Truck (Huge Ground Vehicle):** This is a specialized cargo hauler for use on frontier worlds. While at its best on roads, its large tires, high ground clearance, and all-wheel drive give it a reasonable off-road capability as well. In military service the vehicle is often equipped with a heavy ring mount on the left side of the cab for either a machinegun or autocannon. Similar versions exist in the Core, but are much less capable of off-road movement, and only Tier Four nations would use them as military vehicles. The Heavy Truck is two squares wide and five squares long.

**TL:** 11

**Price:** Lv7200

#### Iltris 3.5 4x4

Class:	Heavy Cargo Truck	EP Output:	62 EP fuel Cell	(1.05 excess)
Price:	Lv7200	Agility:	0	
Tech Level:	11	Initiative:	+0	
Size:	Huge	7000 vol		
Streamlined?:	Standard	AC:	9	
Pressurized?	No	(Size Huge)	-2	
Climate Control?	Yes			
Drive Train:	Wheeled	6 wheels	AR:	1
Crew:	1		SI:	55
Passengers:	2		Signature:	-1
Cargo Space:	2900 vol			
Fuel:	42 vol			
Range:	500 km			
Speeds:				
Std. Acceleration=	10kph	Max. Acceleration=	10kph	
Very Slow =	10kph	Slow=	25kph	
Cruising=	50kph	Fast=	75kph	
Max Speed=	100kph	Off-road=	10kph	
Visual:	4 headlight(s)	2 brake light(s)		
Sensors:	None			
Comm:	2-Way Radio	Radio Receiver		
Other Equipment:	Winch (Str 200)	Climate Control		



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**Utility Van (Huge Ground Vehicle):** This is a general-purpose passenger or cargo hauler used for light loads on roads. Like the family car, the basic frame for this vehicle is modular, and can accept several different chassis models depending on requirements. These modules can typically be swapped out in less than a day. Modules available include a passenger mini-bus, ambulance, utility vehicle, tow truck (with extra fuel cell for more power and weight), and pickup truck. These vehicles are a common sight throughout the Core and any urbanized area in the Colonies. The Utility Van is two squares wide and four squares long.

**TL:** 11  
**Price:** Lv4800

<b>RAVEN G250</b>				
Class:	Cargo Van	EP Output:	32 EP Fuel Cell	(1.50 excess)
Price:	Lv4800		Agility:	0
Tech Level:	11		Initiative:	+0
Size:	Huge (3000 vl)			
Streamlined?:	Standard		AC:	8
Pressurized?	No		(Size Huge)	-2
Climate Control?	Yes			
Drive Train:	Wheeled		AR:	0
Crew:	1		SI:	13/25/51
Passengers:	1		Signature:	-1
Cargo Space:	2075 vol			
Fuel:	9.6 vol			
Range:	300 km			
Speeds:				
Std. Acceleration=	10kph	Max. Acceleration=	10kph	
Very Slow =	10kph	Slow=	25kph	
Cruising=	50kph	Fast=	75kph	
Max Speed=	100kph	Off-road=	10kph	
Visual:	2 headlights	2 brake lights	1 video camera w/IR, and 1 HUD	
Comm:	2-Way Radio	Radio Receiver		
Other Equipment:	Climate Control			



**Explorer ATV (Huge Tracked Vehicle):** A tracked wilderness vehicle popular with scientific parties. It can double as living quarters in hostile environments and can negotiate most types of terrain. It is designed to float, and a built-in set of propellers can move it across water at up to 20 km/h. Accommodations are provided for 4, and most feature an inflatable, attached shelter, which can be used in almost any environment, to provide roomier quarters or shelter for an additional four. This model includes a fuel station, as described in the equipment section, to further extend its range. The Explorer is three squares wide and six squares long.

**TL:** 11

**Price:** Lv20,000

### Mule Corp Explorer

Class:	ATV	EP Output:	120 EP Fuel cell	(9.82 excess)
Price:	Lv20,000		Agility:	0
Tech Level:	11		Initiative:	+0
Size:	Huge	6000 vol		
Streamlined?:	Standard		AC:	9
Pressurized?	Yes		(Size Huge)	-2
Climate Control?	Yes			
Drive Train:	Tracked		AR:	1
Crew:	1		SI:	57
Passengers:	3		Signature:	+1
Cargo Space:	1000 vol			
Fuel:	144 vol			
Range:	960 km			
Speeds:				
Std. Acceleration=	8kph	Max. Acceleration=	8kph	
Very Slow =	8kph	Slow=	20kph	
Cruising=	40kph	Fast=	60kph	
Max Speed=	80kph	Off-road=	25kph	
Visual:	2 headlight(s)	1 Spotlight(s)	4 video cameras w/IR, 4 video monitors	
Sensors:	Sonar			
Comm:	Loudspeaker	Radio Receiver	2-Way Radio	Range=V.Long
Other Equipment:	2 x winch (Str 200)	Fuel Station	Inflatable Shelter	
	Fresher, Galley, 4 bunks		Pressurized	Climate Control
Aquatic Drive Train				
Speeds:				
Std. Acceleration=	2kph	Max. Acceleration=	4kph	
Very Slow=	2kph	Slow=	5kph	
Cruising=	10kph	Fast=	15kph	
Max Speed=	20kph	Off-road=	N/A	

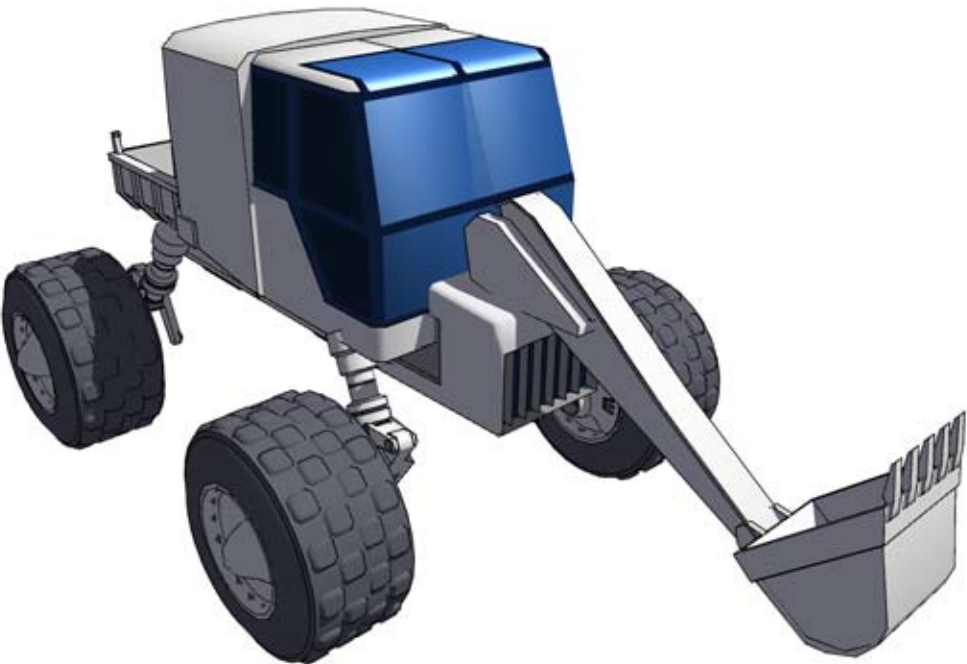
**Bridgeport-Swift Songbird (Large Hover Vehicle):** The Bridgeport Swift Songbird is a typical small hovercraft found throughout Human space. Though open-topped, it does come equipped with a tarpaulin for inclement weather. Military version sport a pintle mount and feature jump-jets for added terrain-crossing capability. The Songbird is two squares wide and four squares long.

**TL:** 10

**Price:** Lv12,000

### Songbird

Class:	Hover craft	EP Output:	40 EP Fuel Cell	(8.37 excess)
Price:	Lv12,000		Agility:	0
Tech Level:	10		Initiative:	0
Size:	Large	1450 vol		
Streamlined?:	Standard		AC:	9
Pressurized?	No		(Size Large)	-1
Climate Control?	Yes			
Drive Train:	Advanced Hover		AR:	0
Crew:	1		SI:	42
Passengers:	3		Signature:	+2
Cargo Space:	300 vol			
Fuel:	24 vol	6 hours		
Range:	480 km			
Speeds:				
Std. Acceleration=	16kph	Max. Acceleration=	16 kph	
Very Slow (Stall)=	16kph	Slow=	40kph	
Cruising=	80kph	Fast=	120kph	
Max Speed=	160kph	Off-road=	N/A	
Visual:	4 headlight(s)	2 Spotlights	2 brake lights	
Sensors:				
Comm:	2-Way Radio			
Other Equipment:	Winch Str 200	Climate Control		



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**Mule Corp FarmMaster Tractor/ATV (Huge Ground Vehicle):** Designed for use on colony worlds, the FarmMaster is designed as a robust, easy-to-repair vehicle that can perform multiple functions on a distant farm. Though designed primarily as a tractor, the variable transmissions built-in to each of the four large-diameter tires can propel the large, ungainly vehicle at a fair speed. The fuel cell is over-sized, allowing the FarmMaster to be used as power station when it isn't running, and the tractor comes with a complete set of specs for spare parts on a chip, with no royalty fee attached. This allows a colonist to effect any required repair, and fabricate any needed part, without worrying about being hit for royalty fees later. The FarmMaster is three squares wide and five squares long.

**TL:** 11  
**Price:** Lv15,000

FARMMASTER TRACTOR ATV			
Class:	ATV	Power Plant:	40EP Fuel Cell (17 excess)
Price:	Lv15,000	Agility:	1
Tech Level:	11	Initiative:	+1
Size:	Huge	5000 vol	
Streamlined?:	Standard	AC:	10
Pressurized?	No	(Size Huge)	-2
Climate Control?	Yes		
Drive Train:	Wheeled	AR:	1
Crew:	1	SI:	56
Passengers:	2	Signature:	-2
Cargo Space:	300		
Fuel:	480		
Range:	1200		
Speeds:			
Std. Acceleration=	5kph	Max. Acceleration=	5kph
Very Slow =	5kph	Slow=	13kph
Cruising=	25kph	Fast=	38kph
Max Speed=	50kph	Off-road=	5kph
Visual:	2 headlight(s)	2 brake light(s)	2 Spotlight(s)
	2 video camera(s), 4 video monitor(s)		
Additional Equipment:	Fresher, Galley, single bunk	Vehicle Shop	Climate Control
	2 x Winch, Strength 100	Mechanical Tool kit	

## CARGO HANDLING EQUIPMENT

These pieces of equipment can be found at warehouses and spaceports across human space, and the exo-loader forms the basis for a number of different machines used in a variety of industrial and commercial roles.

**Mule (Large Ground Vehicle):** Able to take a variety of custom attachments, from forklift tines to a small earth mover blade or bucket, the versatile little Mule is also used as a tractor for moving large loads in an industrial environment. The Mule is two squares wide and three squares long.

**TL:** 11

**Price:** Lv34,000

### Mule

Class:	Industrial	EP Output:	50.00 EP battery	(8.65 excess)
Price:	Lv34,000		Agility:	2
Tech Level:	10		Initiative:	+2
Size:	Large	1000 vol		
Streamlined?:	Standard		AC:	11
Pressurized?	No		(Size Large)	-1
Climate Control?	No			
Drive Train:	Wheeled	Over-sized tires	AR:	0
Crew:	1		SI:	35
Passengers:	0		Signature:	-4
Cargo Space:	200 vol			
Battery Life:	8 hours			
Range:	40 km			
Speeds:				
Std. Acceleration=	1kph	Max. Acceleration=	2kph	
Very Slow =	1kph	Slow=	3kph	
Cruising=	5kph	Fast=	8kph	
Max Speed=	10kph	Off-road=	1kph	
Visual:	4 headlights	2 Spotlights	2 brake lights	
Sensors:				
Comm:	2-Way Radio			
Other Equipment:	Manipulators (forklift tines) Str 200 Dex 2		Mech Toolkit	

**HA-90 Exo-loader (Large Walker Vehicle):** In 2308, SorTech of France came out with the second-generation of exo-loader, to compete directly with the older HHMMPT from Australia's Pinchot Industries. The Industrial Loader featured here is the same size as its older competitor, but able to handle more cargo, and is easier to control. It can also accept the Space Maneuver package from the Combat Walker accessory section, and can be worn by someone wearing a light-duty P-suit. The HA-90 is two squares wide and one square long.

**TL:** 12

**Price:** Lv7500

### Industrial Exo-Skeleton

Class:	HA-90	EP Output:	33 EP fuel cell	
Price:	7,500		Agility:	1
Tech Level:	12		Initiative:	+1
Size:	Large			
Streamlined?:	Standard		AC:	10
Pressurized?	No		(Size Large)	-1
Climate Control?	Yes			
Drive Train:	Legs		AR:	0
Crew:	1		SI:	25
Passengers:	0		Signature:	-3
Cargo Space:	0			
Fuel:	16.5 vol			
Range:	50 vol			
Speeds:				
Std. Acceleration=	1kph	Max. Acceleration=	1kph	
Very Slow =	1kph	Slow=	3kph	
Cruising=	5kph	Fast=	8kph	
Max Speed=	10kph	Off-road=	5kph	
Visual:	2 headlight(s)	Spotlight	2 brake light(s)	
Sensors:				
Comm:				
Other Equipment:	2 Appendages: Str 160, Dex 5			



## AIRCRAFT

The following brief listing gives a representative sample of the types of civilian aircraft in widespread use in the year 2320. Virtually all civilian aircraft carry, by law, radio transponders to assist air traffic controllers in aircraft location. Furthermore, on the Core Worlds, aircraft cannot be operated in urban areas unless under remote autopilot from the local TrafCon grid.

Most aircraft engines can operate at one level higher or lower in world gravity (ie an engine built for Normal Gravity would work in a High-Gee and a Low-Gee environment, but wouldn't work in a zero-gravity environment or an Extreme Gravity environment (like King). This takes into account both gravity differences and atmospheric density differences, as in most cases gravity and atmospheric pressure are closely linked

### Light Aircraft:

Light aircraft are popular choices on many colony worlds. Most of these aircraft have short or vertical takeoff and landing capability (SVTOL), and so do not require much investment in landing strips and infrastructure to support them.

### Houston Aerospace UV-7 "Howey" Military Liaison and Civilian Light Transport (Huge Tilt-Rotor):

This aircraft combines a vertical takeoff and landing capability with efficient level flight by means of two propfans which rotate on an axis through the centerline of the wings. When horizontal, they provide sufficient thrust to lift the aircraft off the ground. They are then rotated 90 degrees to provide forward thrust, with the conventional wing surfaces taking over lift. The Howey is two squares wide and eight squares long. Wingspan is eight squares

**TL:** 11

**Price:** Lv48,500

#### UV-7 "Howey"

Class:	Tilt-rotor	EP Output:	150 EP Imp. Gas Turbine	77.51 Excess
Price:	Lv48,500		Agility:	5
Tech Level:	11		Initiative:	5
Size:	Huge	2100vl		
Streamlined?:	Yes		AC:	13
Pressurized?	Yes		(Size Huge)	-2
Climate Control?	Yes			
Drive Train:	Tilt-rotor		AR:	0
Crew:	1		SI:	50
Passengers:	4		Signature:	+4
Cargo Space:	50 vol		Take-off Run:	VTOL
Fuel:	150 vol		Landing Run:	VTOL
Range:	1540 km		Clearance:	24m
Speeds:				
Std. Acceleration=	70kph	Max. Acceleration=	70kph	
Very Slow =	70kph	Slow=	175kph	
Cruising=	350kph	Fast=	525kph	
Max Speed=	700kph	Off-road=	N/A	
Visual:	2 headlights, 1 Spotlight, 1 video camera, HUD with IR, Low-light			
Sensors:	Radar	Range=	Short	
Comm:	2-Way Radio	Radio Receiver		
Other Equipment:	Winch	Str 200	Climate Control	

### Aircraft Stats:

In addition to the normal set of vehicle statistics, aircraft are also rated for Take-Off Run and Landing Run. This is simply the runway length needed for a safe take-off or landing. Some aircraft are identified as VTOL, and for these aircraft, and additional stat is included: Clearance. Clearance is the landing/take-off area diameter required for safe operation.

**AeroDyne Manufacturing, Inc. UV-45 "Gull" Light Transport (Huge Tilt-Rotor):** This aircraft operates on a principle similar to that used on the light transport described above. It has improved hover characteristics due to the use of two large-radius conventional propellers. The aircraft's characteristically high wing ensures propeller clearance when landed. This particular model is capable of water landings, and is often used aboard ships. The UV-45 exists in both military and civilian configurations. The military version is virtually identical save for the addition of two external hardpoints for missiles or anti-sub torpedoes and a pair of door guns. The Gull is three squares wide and ten squares long. Wingspan is ten squares.

**TL:** 11

**Price:** Lv220,000

## UV-45 "Gull"

Class:	Light Transport	EP Output:	300 EP Imp. Gas Turbine	(99.51 excess)
Price:	Lv220,000		Agility:	+4
Tech Level:	12		Initiative:	+4
Size:	Huge	6200 vol		
Streamlined?:	Yes		AC:	17
Pressurized?	Yes		(Size Huge)	-2
Climate Control?	Yes			
Drive Train:	Tilt Rotor	2 rotors	AR:	5
Crew:	2		SI:	58
Passengers:	2		Signature:	+6
Cargo Space:	940 vol		Take-off Run:	VTOL
Fuel:	375 vol		Landing Run:	VTOL
Range:	1650 km		Clearance:	30m
Speeds:				
Std. Acceleration=	60kph	Max. Acceleration=	60kph	
Very Slow =	60kph	Slow=	150kph	
Cruising=	300kph	Fast=	450kph	
Max Speed=	600kph	Off-road=	N/A	
Visual:	6 headlight(s)	2 Spotlight(s)		
Sensors:		Radar	Range=Long	
Comm:		Radio Receiver	2-Way Radio	Range=V. Long
Other Equipment:	Winch Str 200	Fresher	Climate Control	



### Airships and Wind Effects:

Due to their large size and huge surface area, airships are vulnerable to high winds and have trouble maneuvering. The following table provides a little of DC modifiers for any movement action an airship takes.

Wind Speed	DC
Light	0
Moderate	+5
Strong	+10
Severe	+15
Windstorm	+20
Hurricane	+40
Tornado	+60

Magnus-type LTAs subtract 5 from the above rolls, while the cyclo-crane adds 5

**Panavia Loadmaster (Gargantuan Aircraft):** Capable of carrying either passengers or freight, this type of heavy-lift aircraft is very useful for quick transfer of large cargo loads on most worlds. The engines are mounted above and ahead of the wings increasing lift at low speeds and giving the aircraft a shorter takeoff distance than would be expected from an aircraft of this size. The Loadmaster is five squares wide and thirty squares long. Wingspan is sixteen squares.

**TL:** 11

**Price:** Lv1.5 Million

#### LOADMASTER

Class:	Heavy Lift	EP Output:	500.00 EP Imp. Gas Turbine	(77.37 excess)
Price:	Lv1.5 million	Agility:	1	
Tech Level:	11	Initiative:	+1	
Size:	Gargantuan	30000 vol		
Streamlined?:	Airframe	AC:	7	
Pressurized?	Yes	(Size Gargantuan)	-4	
Climate Control?	Yes			
Drive Train:	Jet	4 jets	AR:	0
Crew:	4	SI:	78	
Passengers:	0	Signature:	+7	
Cargo Space:	17000	Take-off Run:	225m (STOL)	
Fuel:	1500	Landing Run:	450m (STOL)	
Range:	6480			
Speeds:				
Std. Acceleration=	90kph	Max. Acceleration=	90kph	
Very Slow (Stall)=	90kph	Slow=	225kph	
Cruising=	450kph	Fast=	675kph	
Max Speed=	900kph	Off-road=	N/A	
Visual:	2 headlights, 1 Spotlight, 4 video cameras, 4 video monitors, and 4 HUDs			
Sensors:		Radar	Range=Medium	
Comm:	2-Way Radio	Range=Long	Radio Receiver	
Other Equipment:	Fresher, Galley, 2 bunks, Pressurized, Climate Control			

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**Magnus L-20 Light Duty Zep (Gargantuan Airship):** This handy little airship features a spherical, semi-rigid gasbag which, in flight, rotates around a central axis giving the vessel additional lift. The spherical gasbag also eliminates the tendency that larger cigar-shaped airships have of "weathervaning" in high winds (pointing their noses into the wind). This added stability gives it a much better all-weather flight capability. The L-20 is twenty squares wide and twenty squares long. The gondola is three squares wide and eight squares long.

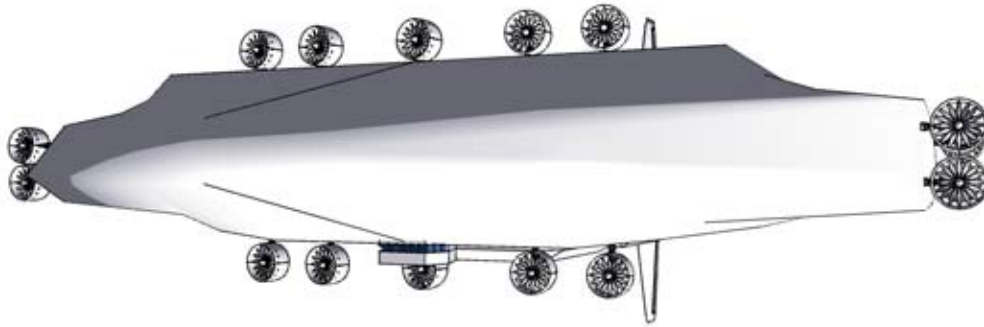
**TL:** 11

**Price:** Lv110,000

#### L-20

Class:	Light Cargo LTA	EP Output:	140.00 EP fuel cell	(1.77 excess)
Price:	Lv110,000	Agility:	0	
Tech Level:	11	Initiative:	0	
Size:	Gargantuan	5000 vol + lift envelope		
Streamlined?:	Standard	AC:	6	
Pressurized?	Yes	(Size Gargantuan)	-4	
Climate Control?	Yes			
Drive Train:	Magnus-effect LTA	AR:	0	
Crew:	3	SI:	55	
Passengers:	0	Signature:	+2	
Cargo Space:	2500 vol	Take-off Run:	VTOL	
Fuel:	168 vol	Landing Run:	VTOL	
Range:	3000 km	Clearance	30m	
Speeds:				
Std. Acceleration=	25kph	Max. Acceleration=	25kph	
Very Slow =	25kph	Slow=	63kph	
Cruising=	125kph	Fast=	188kph	
Max Speed=	250kph	Off-road=	N/A	
Visual:	4 headlights, 2 Spotlights, 2 video cameras, 2 video monitors			
Sensors:		Radar	Range=Long	
Comm:	2-Way Radio	Range=V. Long		
Other Equipment:	Fresher, Galley, winch STR=500) Climate Control			





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**Luftwerk Gz-320 Cargo Airship (Enormous Airship):** This helium-filled rigid airship is an efficient and cost-effective means of hauling large cargos to inaccessible areas. Using a lifting-body hull, the Gz-320 can carry immense loads, and doesn't require any supporting infrastructure save a short (though very wide) runway for take-off and landing. Though slower than an airplane, the aerodynamic hull allows it to reach speeds surpassing conventional railways, and is far faster than surface ships. Airfoil airships are the biggest vehicles ever to take to the skies, dwarfing even the largest shuttles and passenger aircraft. The Gz-320 is 300 squares wide and 400 squares long.

**TL:** 11

**Price:** MLv1.1

#### Luftwerk Gz-320

Class:	Cargo LTA	EP Output:	1500.00 EP MHD Turbine (8.78 excess)
Price:	Lv1.1 million	Agility:	0
Tech Level:	11	Initiative:	0
Size:	Enormous	100,000 vol + lift envelope	
Streamlined?:	Yes	AC:	0
Pressurized?	Yes	(Size Enormous)	-10
Climate Control?	Yes		
Drive Train:	Airfoil LTA	AR:	0
Crew:	10	SI:	96
Passengers:	None	Signature:	+5
Cargo Space:	56000 vol	Take-off Run:	800m
Fuel:	7200 vol	Landing Run:	200m
Range:	10560 km		
Speeds:			
Std. Acceleration=	40kph	Max. Acceleration=	40kph
Very Slow (Stall)=	40kph	Slow=	100kph
Cruising=	200kph	Fast=	300kph
Max Speed=	400kph	Off-road=	N/A
Visual:	6 headlights, 10 Spotlights, 5 video cameras, 10 video monitors w/IR, Low-light		
Sensors:	Radar	Range=V.Long	
Comm:	2-Way Radio	Range=V.Long	
Other Equipment:	3 Freshers, 10 bunks, galley, 12 small cabins	4 winches, Str 500	Climate Control

## WATERCRAFT

**Waverider Runabout (Large Watercraft):** The Waverider Runabout is a small, basic boat used for a variety of purposes, from sport fishing to fish-farming, and even as a light pleasure craft, though its speed is far from extraordinary. The Runabout is two squares wide and four squares long.

**TL:** 11

**Price:** Lv14,440

### WAVERIDER

Class:	Utility Boat	EP Output:	22.00 EP fuel cell	(8.41 excess)
Price:	Lv14,440		Agility:	1
Tech Level:	11		Initiative:	+1
Size:	Large	1800 vol		
Streamlined?:	Yes		AC:	10
Pressurized?	Yes		(Size Large)	-1
Climate Control?	Yes			
Drive Train:	Water, Surface		AR:	0
Crew:	1		SI:	47
Passengers:	5		Signature:	0
Cargo Space:	60 vol			
Fuel:	13.2 vol			
Range:	396 km			
Speeds:				
Std. Acceleration=	12kph	Max. Acceleration=	12kph	
Very Slow =	12kph	Slow=	30kph	
Cruising=	60kph	Fast=	90kph	
Max Speed=	120kph	Off-road=	N/A	
Visual:	4 headlights	2 Spotlights	Radio Receiver	
Comm:	2-Way Radio	Range=V.Long		
Other Equipment:	None			

**Sea Squid Research Submersible (Huge Submarine):** The Sea Squid is a utility sub adapted for research purposes. Originally designed to service deep-sea well-heads and thermal generators, it is well suited for a role in deep-water research. The Squid features several manipulators of different size and purpose, and all the manipulators give it an appearance reminiscent of its namesake. The Sea Squid is three squares wide and seven squares long.

**TL:** 12

**Price:** Lv85,000

### SEA SQUID

Class:	Research Sub	EP Output:	120.00 EP fuel cell	(28.03 excess)
Price:	Lv85,000		Agility:	1
Tech Level:	12		Initiative:	+1
Size:	Huge	8000 vol		
Streamlined?:	Standard		AC:	21
Pressurized?	Yes		(Size Huge)	-2
Climate Control?	Yes			
Drive Train:	Water, Subsurface		AR:	12
Crew:	1		SI:	61
Passengers:	6		Signature:	-4
Cargo Space:	1200 vol		Max. Safe Depth:	18000 m
Fuel:	144 vol			
Range:	480 km			
Speeds:				
Std. Acceleration=	4kph	Max. Acceleration=	4kph	
Very Slow =	4kph	Slow=	10kph	
Cruising=	20kph	Fast=	30kph	
Max Speed=	40kph	Off-road=	N/A	
Visual:	6 headlights, 10 Spotlights, 5 video cameras, 10 video monitors			
Sensors:	Sonar	Range=Medium	Auditory Sensors	
Comm:	Voder	BG Laser Comm	Range=Medium	
		2-Way Radio	Range=V. Long	
Other Equipment:	Fresher, 2 bunks, galley, laboratory      Pressurized, Climate Control Manipulators 4 x Str 20, 4 x Str 10 all Dex 12			

**Trilon Aquadyne Cargo Vessel (Enormous Swath Watercraft):** These large SWATH-hulled cargo vessels ply the waters of the Core worlds and many highly developed Frontier planets. Standard roll-on and roll-off cargo containers can be accommodated in bays high above the water while the large MHD turbines power the ship from the submerged primary hulls. The Aquadyne is forty squares wide and sixty squares long.

**TL:** 11

**Price:** MLv3.2

#### Aquadyne

Class:	Cargo Ship	EP Output:	9400EP MHD Turbine	(93.52 excess)
Price:	MLv3.2		Agility:	0
Tech Level:	11		Initiative:	+0
Size:	Enormous	3,000,000vol		
Streamlined?:	Standard		AC:	0
Pressurized?	No		(Size Enormous)	-10
Climate Control?	Yes			
Drive Train:	Surface	SWATH Hull	AR:	0
Crew:	10		SI:	601
Passengers:	4		Signature:	+6
Cargo Space:	2,483,000vol			
Fuel:	236880			
Range:	10080 km	2 weeks		
Speeds:				
Std. Acceleration=	6kph	Max. Acceleration=	6kph	
Very Slow=	6kph	Slow=	15kph	
Cruising=	30kph	Fast=	45kph	
Max Speed=	60kph	Off-road=	N/A	
Visual:	50 headlights	10 Spotlights	Range=Close	
	20 video cameras, 6 video monitors		Range= Short	
Sensors:		Radar	Range=Medium	
Comm:	Loudspeaker	2-Way Radio	Range=Long	
Other Equipment:	4 High-Pressure Pumps	16 small cabins	10 freshers	10 person galley
Climate Control				

## RAIL TRANSPORTATION

In the 24th century, there are three types of rail transports. Each has its own particular applications. Regardless of the type, rail cars all follow certain standards. Passenger cars are designed to carry people, and include standard cars, which seat 80, sleeper cars, which will accommodate 30, and dining/lounge cars, which have facilities for up to 40 people at a time. Cargo cars vary from boxcars, which can carry up to 50 tons of mixed freight, to more special purpose cars, such as grain carriers, fuel and chemical tanks, and bulk cargo. These more specialized cars can typically carry up to 60 tons. Rail cars are a standard 3 meters wide by 15 meters long.

**Conventional Train (Gargantuan Wheeled Vehicle):** Trains are efficient means of moving large quantities of cargo and passengers by land. Each car rides on solid wheels which in turn ride on solid tracks. This allows very high pressure loadings (much higher than for vehicles which ride on open ground). Details here are for the conventional train locomotive, which can tow another 200,000 vol of railcars at no penalty. A locomotive is three squares wide and ten squares long.

**TL:** 11

**Price:** Lv400,000

#### BM-98

Class:	Locomotive	EP Output:	2200.00 EP MHD Turbine (63.18 excess)
Price:	Lv400,000	Agility:	0
Tech Level:	11	Initiative:	+0
Size:	Gargantuan	60000vol	
Streamlined?:	Standard	AC:	6
Pressurized?	Yes	(Size Gargantuan)	-4
Climate Control?	Yes		
Drive Train:	Wheeled	AR:	0
Crew:	2	SI:	86
Passengers:	1	Signature:	+3
Cargo Space:	0		
Fuel:	2200 vol		
Range:	600 km		
Speeds:			
Std. Acceleration=	12kph	Max. Acceleration=	12kph
Very Slow =	12kph	Slow=	30kph
Cruising=	60kph	Fast=	90kph
Max Speed=	120kph	Off-road=	12kph
Visual:	2 headlights, 1 Spotlight, 4 video cameras, 4 video monitors, 4 brake light(s)		
Sensors:	Radar		Range=Long
Comm:	2-Way Radio		
Other Equipment:	Fresher, Galley	Climate Control	



**Passenger Railcar (Gargantuan Wheeled Vehicle):** This class of railcar would be seen on most routes, capable of carrying 40 passengers in relative comfort. Commuter trains would pack in more passengers, perhaps upwards of 80 or more. The railcar is towed behind a locomotive, and is incapable of movement on its own. Cargo cars would simply have 8000 vol of cargo rather than passengers. Railcars are similar for all type of trains. A railcar is three squares wide and twelve squares long.

**TL:** 11

**Price:** Lv13,000

#### PASSENGER

Class:	Rail Car	EP Output:	14.00 EP fuel cell	(0.49 excess)
Price:	Lv13,000	Agility:	0	
Tech Level:	11	Initiative:	+0	
Size:	Huge	10000 vol		
Streamlined?:	Standard	AC:	8	
Pressurized?	Yes	(Size Huge)	-2	
Climate Control?	Yes			
Drive Train:	Wheeled	AR:	0	
Crew:	0	SI:	65	
Passengers:	40	Signature:	-4	
Cargo Space:	0			
Fuel:	16.8 vol			
Range:	12 hours			
Speeds:				
Std. Acceleration=	0kph	Max. Acceleration=	0kph	
Very Slow =	0kph	Slow=	0kph	
Cruising=	0kph	Fast=	0kph	
Max Speed=	0kph	Off-road=	0kph	
Visual:	Windows			
Sensors:	None			
Comm:	2-Way Radio			
Other Equipment:	2 Freshers	Climate Control		

**Airfilm Train (Gargantuan Air Cushion Vehicle):** Airfilm trains also ride on hard rails, but interact by means of a thin, high-pressure airfilm instead of wheels. This allows even higher pressure loadings with very little friction. Emergency wheels are designed to deploy should the air cushion ever fail. The airfilm train can tow another 200,000 vol of railcars at no penalty. Airfilm cars have the same stats as conventional cars. A n airfilm locomotive is three squares wide and ten squares long.

**TL:** 11

**Price:** Lv13,000

#### AFM-35

Class:	Locomotive	EP Output:	7200.00 EP MHD Turbine	(175.65 excess)
Price:	Mlv1.3	Agility:	0	
Tech Level:	11	Initiative:	+0	
Size:	Gargantuan	60000vol		
Streamlined?:	Standard	AC:	6	
Pressurized?	Yes	(Size Gargantuan)	-4	
Climate Control?	Yes			
Drive Train:	Air Cushion	AR:	0	
Crew:	2	SI:	86	
Passengers:	0	Signature:	+5	
Cargo Space:	0			
Fuel:	7200 vol			
Range:	1250 km			
Speeds:				
Std. Acceleration=	25kph	Max. Acceleration=	25kph	
Very Slow =	25kph	Slow=	63kph	
Cruising=	125kph	Fast=	188kph	
Max Speed=	250kph	Off-road=	73kph	
Visual:	2 headlights, 1 Spotlight, 4 brake lights, 4 video cameras, 4 video monitors, and 2 HUDs			
Sensors:	Radar	Range=Long		
Comm:	2-Way Radio	Range=V.Long		
Other Equipment:	Fresher, Galley	Climate Control		

**Maglev Trains:** On vacuum worlds, it is unfeasible to support a train on a film of air. Instead, a strong magnetic field is generated around the rail that the train travels along. These systems are also used in the tube-train systems of Earth, where they travel at high speeds along partially-evacuated tunnels. Stat-wise, Mag-lev trains are identical to air-film trains

MILITARY VEHICLES

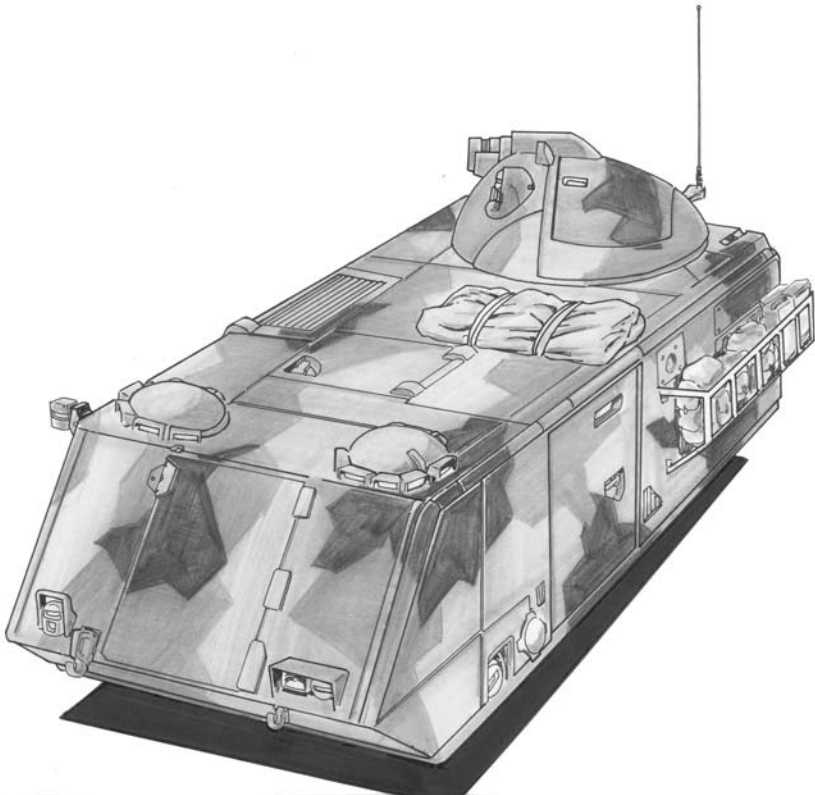
This section includes a few samples of the many different types and classes of military vehicles available. The statistics for weapons and ordnance can be found at the end of this chapter.

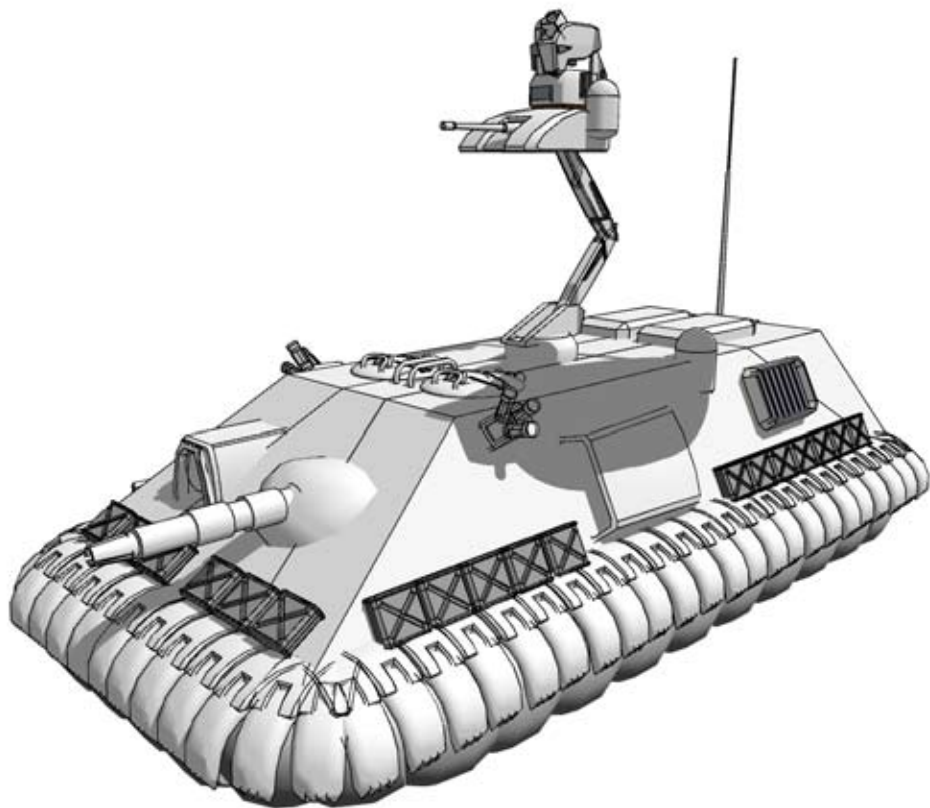
**Kangaroo V ACV-APC (Huge Advanced Hovercraft):** A typical air-cushion, armored personnel carrier, the extra weight of the vehicle is carried at high speed by jet-assisted vectored thrusters. These also give the vehicle a limited jump-jet capability, enabling it to negotiate cliffs and similar obstructions. Each minute in jumpjet mode uses 10 minutes of fuel, and speed is quartered. The Kangaroo V is an updated version of the venerable Kangaroo IV, which saw service with Tanstaafl units throughout the Kafer war, and is no longer considered a frontline unit. The major difference between the older IV and the V model are armament and frontal armor. The Kangaroo V is three squares wide and six squares long.

TL: 12

Price: MLv8.2

KANGAROO V				Weapons
Class:	Hover APV	EP Output:	500EP MHD Turbine (153.14 excess)	CLP1A light plasma gun in remote turret
Price:	Lv510,000		Agility: +4	20mm Gatling in remote turret
Tech Level:	12		Initiative: +4	2 shot Aero-29 missile launcher
Size:	Huge	8000 vol		Gatling point defense system
Streamlined?:	Partially		AC: 18	
Pressurized?	No		(Size Huge) -2	
Climate Control?	Yes			
Drive Train:	Advanced Hover	w/Jump Jets	AR: 6	
Crew:	2		SI: 61	Armor
Passengers:	10		Signature: +4	Front: 12
Cargo Space:	314			Overhead: 12
Fuel:	150			Side: 6
Range:	960	6 hours		Rear: 3
Speeds:				Bottom: 3
Std. Acceleration=	32kph	Max. Acceleration=	64kph	Turret Front: 12
Very Slow (Stall)=	32kph	Slow=	80kph	Turret Other: 6
Cruising=	160kph	Fast=	240kph	
Max Speed=	320kph	Off-road=	N/A	
Visual:	2 headlights	1 Spotlight		
		Lowlight, IR, 4 video cameras, 4 video monitors, and 2 HUDs		
Sensors:		Radar	Range = Medium	
Comm:		2-Way Radio	Range=Long	
Other Equipment:	Targeting computer , Pressurized, Climate Control			





**AC-14 (Aero-Char-14) (Huge Advanced Hovercraft):** Often called “gunplats” or “gunsleds,” hovercrafts are the cutting edge of heavy ground force units. The Aero-Char 14 is representative of many similar tanks of Kafer War vintage. This is the latest French expeditionary hover tank, and approaches the maximum size for such a vehicle. The AC-14 uses vectored-thrust jets which give it a limited jump jet capability, enabling it to negotiate cliffs and similar obstructions. Each minute in jump-jet mode uses 10 minutes of fuel and speed is quartered. The AC-14 is three squares wide and eight squares long.

**TL:** 12

**Price:** MLv8.2

**AC-14**

Class:	Hovercraft	EP Output:	1000 EP MHD Turbine (567.70 excess)
Price:	MLv8.2	Agility:	4
Tech Level:	12	Initiative:	+4
Size:	Huge	13500vol	
Streamlined?:	Standard	AC:	22
Pressurized?	Yes	(Size Huge)	-2
Climate Control?	Yes		
Drive Train:	Advanced Hover With Jump Jets		
Crew:	4	AR:	10
Passengers:	0	SI:	72
Cargo Space:	120vol	Signature:	+6
Fuel:	200 vol		
Range:	440 km		
Speeds:			
Std. Acceleration=	22kph	Max. Acceleration=	88kph
Very Slow =	22kph	Slow=	55kph
Cruising=	110kph	Fast=	165kph
Max Speed=	220kph	Off-road=	N/A
Visual:	2 headlights, 1 Spotlight, 4 video camera(s), video monitor(s), and 4 HUDs		
Sensors:	Radar	Range=Long	Ladar Range=Long
Comm:	Loudspeaker	2-Way Radio	Range=V. Long
		Tight-beam Laser	Range=V. Long

Other Equipment: Mechanical Toolkit, High-Pressure Pump, 2 Winches (Str1000), Pressurized, Climate Control

Weapons
75mm Mass Driver w50 rounds
20mm AC on snorkel mount
Laser Anti-Missile system
Hull-mounted launcher for Anti-Char Missiles
Gauss MG at Commander's cupola
Anti-personnel mine belt
Armor
Front: 20
Overhead: 20
Side: 10
Rear: 5
Bottom: 5
Turret Front: 20
Turret Other: 10

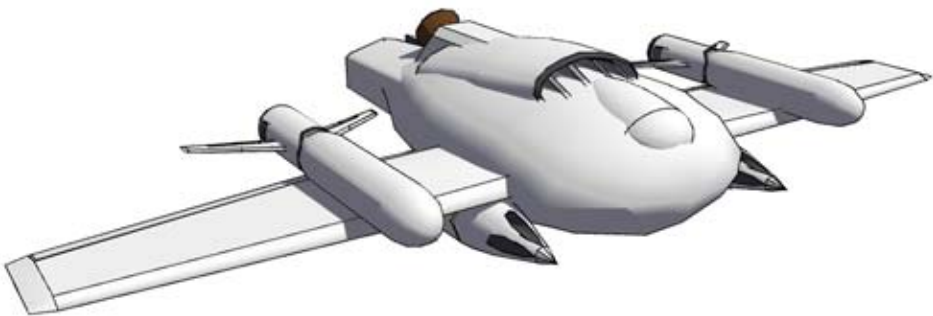


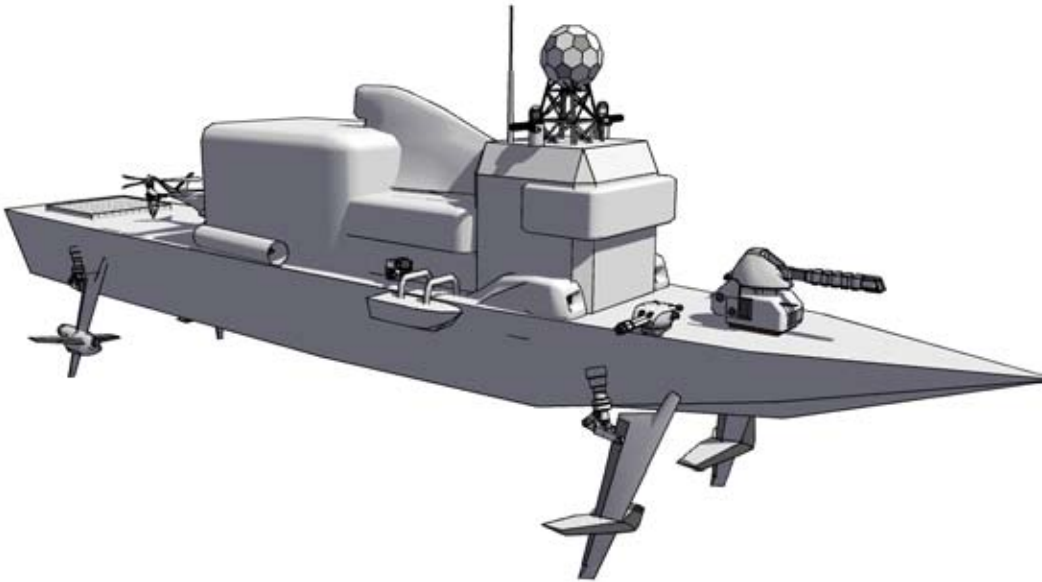
MILITARY WATERCRAFT

**Um-550 Class Fighter Sub (Huge Watercraft):** The short-range fighter sub is a relatively new weapon system designed to operate from a larger mother sub, shore base or even a surface vessel. The Um-550 can dive to a depth of 7500m, which is as deep as any major oceanic settlement. Armament is fairly heavy, but only two of the heavy torpedoes can be carried, along with a few more of the smaller Blowfish defensive torpedoes. Some fighter subs mount a blue-green laser for point defense, but the Um-550 relies on its stealth for protection. The Um-550 is four squares wide and six squares long. Wingspan is ten squares.

TL: 12  
Price: MLv1.7

Um-550					Weapons
Class:	Fighter Sub	EP Output:	230 EP Fuel Cell	(4.87 excess)	2 Akula torpedo launchers 2 Blowfish torpedo launchers
Price:	MLv1.7		Agility:	1	
Tech Level:	12		Initiative:	+1	
Size:	Huge	20000vol			
Streamlined?:	Streamlined		AC:	19	
Pressurized?	Yes		(Size Huge)	-2	
Climate Control?	Yes				
Drive Train:	Advanced Sub	And Super-cavitating rocket	AR:	10	
Crew:	4		SI:	75	
Passengers:	0		Signature:	-2	
Cargo Space:	0vol		Maximum Safe Depth:	11000 m	
Fuel:	200 vol				
Standard Drive		Rocket:	Range:	428 km	
Range:	440 km				
Speeds:					
Std. Acceleration=	5 kph	Max. Acceleration=	5 kph		
Very Slow =	40 kph	Slow=	12.5 kph		
Cruising=	25 kph	Fast=	37.5 kph		
Max Speed=	50kph	Off-road=	N/A		
Supercavitating Rocket					
Range:	680 km				
Speeds:					
Std. Acceleration=	40kph	Max. Acceleration=	88kph		
Very Slow =	40kph	Slow=	100kph		
Cruising=	200kph	Fast=	300kph		
Max Speed=	400kph	Off-road=	N/A		
Visual:	1 IR video camera, video monitor				
Sensors:	Sonar	Range=Medium			
Comm:		Tight-beam Laser	Range=V. Long		
Other Equipment:	2 high pressure pumps, Anti-Torpedo Decoy launcher, Pressurized, Climate Control				





**Leander Batch 5B Hydrofoil Frigate (Colossal Watercraft):** The Leander-5B is the latest version of this popular frigate to be deployed by the British Royal Navy. Variants of this design are also in service with the Canadian and Australian navies. The Leander is classed as a frigate as it specializes in power projection; a similar hulled version known as the Achilles destroyer carries more weapons but at the expense of the marine bay and cargo. The light 65mm mass-driver allows the ship to fight without deploying stabilizers, something the heavy guns on larger vessels require. A small tilt-rotor is carried in the vessel's small hanger, and is used for anti-submarine and utility work. Boarding operations are usually conducted using the two small runabout class boats carried amidships on davits. The Leander Batch 5B is six squares wide and forty squares long

TL: 12  
Price: MLv23

LEANDER BATCH 5B

Class:	Frigate	EP Output:	12,250 EP MHD Turbine (23.67 excess)
Price:	MLv23	Agility:	1
Tech Level:	12	Initiative:	+0
Size:	Colossal		1,200,000vol
Streamlined?:	Standard	AC:	8
Pressurized?	No	(Size Colossal)	-8
Climate Control?	Yes		
Drive Train:	Hydrofoil	AR:	5
Crew:	30	SI:	235
Passengers:	30	Signature:	+3
Cargo Space:	120vol		
Fuel:	35280 vol		
Range:	24 days		
Speeds:			
		Max. Acceleration=	20kph
Std. Acceleration=	20kph		50kph
Very Slow =	20kph	Slow=	150kph
Cruising=	100kph	Fast=	N/A
Max Speed=	200kph	Off-road=	
Visual:	8 headlights, 1 Spotlight, 4 video cameras, video monitors		
Sensors:	Radar	Range=Long	Ladar Range=Long
Comm:	Loudspeaker	2-Way Radio	Range=V. Long
		Tight-beam Laser	Range=V. Long
Other Equipment: UV-45 "Gull" Tilt-Rotor Aircraft in Minimal Hanger, 2 Waverider boats on davits, Pressurized, Climate Control, 4 high pressure pumps, ECM/ECCM, 2 anti-torpedo decoy launchers, 2 anti-missile decoy launchers			

Weapons
1 heavy computer controlled turret with 65-mm Mass Driver Cannon
2 Heavy computer-controlled turrets with Gatling Lasers
2 heavy manned turrets with 5.5-mm Gauss and PGMP-Mk4
64 Aero-29 launchers
2 Blowfish launchers
4 anti-missile PD laser mounds
2 BG PD lasers

MILITARY AIRCRAFT

**Merlin GR.4 Attack Fighter (Huge VTOL Jet):** The Merlin is a British aircraft optimized to perform best under primitive conditions, a feature extremely useful on Frontier worlds where massive paved airstrips are infrequent except at spaceports. Like most modern military aircraft, the pilot sits in an enclosed, armored cockpit, with all information relayed to his helmet-based display system from an array of sensors and cameras spread throughout the fuselage of the aircraft. The Merlin's vectored thrust engines, in addition to giving it a vertical takeoff capability, also make it extremely maneuverable. The Gr.4 is one squares wide and twelve squares long. Wingspan is ten squares.

TL: 11  
Price: Lv300,000

Merlin					Weapons
Class:	Fighter	EP Output:	150.00	(92.12 excess)	2 x 20mm Gatlings w 500 round/gun 6 hardpoints with 1500 vol of stow- age.
Price:	Lv300,000		Agility:	5	
Tech Level:	11		Initiative:	+5	
Size:	Huge				
Streamlined?:	Airframe	AC:	17		
Pressurized?	Yes	(Size Huge)	-2		
Climate Control?	Yes				
Drive Train:	Advanced Jet	VTOL	AR:	4	
Crew:	1		SI:	55	
Passengers:	1		Signature:	+4	
Cargo Space:	0 vol		Take-Off Run:	VTOL	
Fuel:	112.5 vol		Landing Run:	VTOL	
Range:	1800 km		Clearance:	30m	
Speeds:					
Std. Acceleration=	100kph	Max. Acceleration=	500kph		
Very Slow (Stall)=	100kph	Slow=	250kph		
Cruising=	500kph	Fast=	750kph		
Max Speed=	1000kph	Off-road=	N/A		
Visual:	1 Spotlight(s)				
	4 video cameras w/Low-light and IR, 2 video monitors, and 1 HUD				
Sensors:	Radar		Range=Medium		
Comm:	2-Way Radio		Range=long		
Other Equipment:	decoy dispenser x 2, PD laser system				

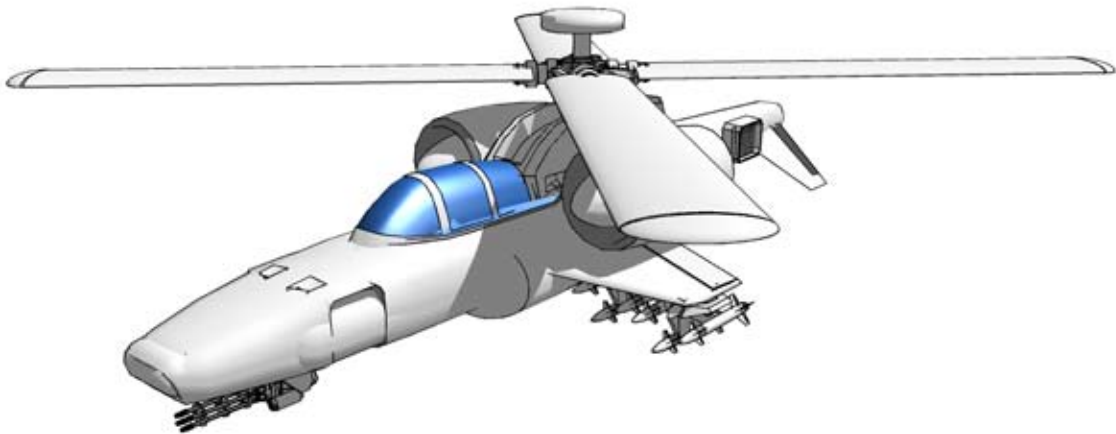
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Aircraft and World Gravity:

Simplistically, given that atmospheric density increases as gravity increases, aircraft suffer little effect to their performance in different environments. If you want a bit more detail, modify maximum speed and landing/take-off run by multiplying them by atmospheric pressure (in atmospheres) and dividing it by world gravity. For most worlds, this will end up being the same, but for a few unusual ones it will make a difference.





**SA.826F Zephyr 2 Close Support Gunship (Huge X-Wing):** This type of aircraft uses the X-Wing concept to achieve a very good level flight performance, full vertical takeoff and landing capability, and excellent hover characteristics. The aircraft is lifted aloft by the overhead, large diameter, four bladed rotors. Forward thrust is provided by pair of shrouded conventional turbines. Once the craft is airborne and close to cruise speed, the rotor is stopped in flight and locked into place, the four blades forming an "X" (hence the name X wing). In this position, the blades provide conventional lift (supplemented by the stub wings, which double as weapon pylons). The Zephyr 2 is one square wide and eight squares long. Wingspan (rotor diameter) is ten squares.

**TL:** 11

**Price:** Lv171,000

**Zephyr Gunship**

Class:	X-Wing	EP Output:	200.00	(171.92 excess)
Price:	Lv171,000	Agility:	+5	
Tech Level:	11	Initiative:	+5	
Size:	Huge			
Streamlined?:	Airframe	AC:	19	
Pressurized?	Yes	(Size Huge)	-2	
Climate Control?	Yes			
Drive Train:	X-Wing	AR:	6	
Crew:	1	SI:	51	
Passengers:	0	Signature:	+4	
Cargo Space:	0	Take-Off Run:	VTOL	
Fuel:	200 vol	Landing Run:	VTOL	
Range:	600 km	Clearance:	30m	
Speeds:				
		Max. Accel-		
Std. Acceleration=	30kph	eration=	150kph	
Very Slow=	30kph	Slow=	75kph	
Cruising=	150kph	Fast=	225kph	
Max Speed=	300kph	Off-road=	N/A	
Visual:	2 headlight(s)	1 Spotlight		
		4 video cameras with IR, low-light, 1 video monitor, and 1 HUD		
Sensors:		Radar	Range=Long	
Comm:		2-Way Radio	Range=Long	
Other Equipment:	2 decoy dispensers, Targeting computer, Video recorder			

Weapons
20mm AC with 200 rounds
6 hardpoints with
600vol available

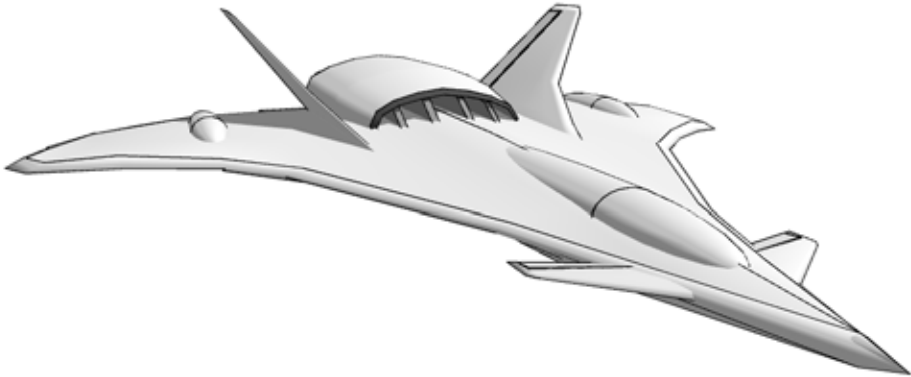
**Viggen -8 Rapier Continental Interceptor:** The Rapier sacrifices a certain amount of stealth for a very high (Mach 5+) speed, enabling it to make long-range interceptions of hostile aircraft. The main weapon is a laser cannon operating off of the aircraft's power plant. It is also equipped with a laser-based point-defense system, and a bay for mounting missiles. The pilot of the Rapier sits in a fully enclosed cockpit, with all data supplied by an array of sensors and cameras. In an emergency, the armored canopy shell can be ejected, allowing the pilot to see outside the craft without any sensors. The pilot's lungs are filled with oxygenated fluorocarbon fluids, to help him withstand the extreme stress of maneuvering. The Rapier is the last of the -8 series of hypersonic interceptors to come off Viggen's line. They have since switched production to a new sub-orbital fighter. The Rapier is one square wide and sixteen squares long. Wingspan is twelve squares.

**TL:** 11  
**Price:** Lv171,000

**V-8 Rapier**

Class:	Interceptor	EP Output:	600 EP Imp. Turbine	(23.67 excess)
Price:	Lv5.8 million	Agility:	+2	
Tech Level:	12	Initiative:	+2	
Size:	Huge	8100vol		
Streamlined?:	Hypersonic	AC:	8	
Pressurized?	Y	(Size Huge)	-2	
Climate Control?	Y			
Drive Train:	Advanced Jet	AR:	0	
Crew:	1	SI:	61	
Passengers:	N/A	Signature:	+6	
Cargo Space:	N/A	Take-Off Run:	1080m	
Fuel:	900 vol	Landing Run:	540m	
Range:	16,200 km			
Speeds:				
Std. Acceleration=	540kph	Max. Acceleration=	1080kph	
Very Slow (Stall)=	540	Slow=	1350kph	
Cruising=	2700kph	Fast=	4050kph	
Max Speed=	5400kph	Off-road=	N/A	
Visual:	50km range with IR, LI, and HUD			
Sensors:	Radar	Range=Long	Ladar	Range=Long
Comm:		2-Way Radio	Range=V. Long	
		Tight-beam Laser	Range=V. Long	
Other Equipment:	2 x Decoy dispensers			
Targeting Computer				

Weapons
Laser Cannon
PD Laser
Missile Bay w/
4 Aero-29 missiles



COMBAT WALKERS

Combat walkers are armored fighting vehicles based on a small walker chassis. Their role in modern tactics is as a sort of very heavy infantry, and typically operate in support of conventional infantry.

The first true combat walker was built near the middle of the 23rd century. Since that time, a number of other types have been created, but the French BH-24 and the Manchurian Type-44 remain the most commonly encountered varieties.

Combat walkers come in two main forms, the roughly humanoid types, used by most Western militaries, and the pod type, consisting an a completely enclosed pod on top of a set of armored legs, more often used by Manchurian forces and colonial militias. The humanoid types are 2.5-3 meters tall, while the pods are shorter but more bulky, usually 2-2.5 meters tall and 1.5-2 meters long. Humanoid walkers are considered to be armor rather than vehicles for purposes of acting in a round, while pod-types are considered to be vehicles. This means that in any engagement involving both humanoid and pod-type walkers, the pods will always move and act last. However, for purposes of determining damage, both types of walkers are classified as vehicles.

Humanoid-type combat walkers can carry and use conventional weapons in their arms. Any Large-to-Huge - sized weapon can be used as a carried weapon, at a cost of Lv1000 for appropriate sighting equipment to tie the weapon into the walker's fire-control net. Pod-type walkers cannot use carried weapons.

**BH-25 Combat Walker:** The BH-25 Combat Walker is a French-made suit of powered combat armor. It is a systemic upgrade of the original BH-21 that was first produced late in the period of the Central Asian War. The BH-24 builds on the lessons of the War of German Reunification, and, in particular, the Kafer War.

There are two different models of BH-25 Combat Walker. The basic model has powerful motors in the limbs that are slaved to the pilot's movements, an internal monitor that can expand up to a 360-degree view of the surrounding area, heavy NBC filters to provide clean air to the operator, and three fixed hard-points, one on the right arm, and one on both the right shoulder and left shoulder. A plasma gun in the left arm rounds out the suit's weaponry. The Space Warfare variant, the BH-25 V, is sealed for vacuum, and has air-tanks with a 24-hour duration, along with several maneuvering jets around the body of the suit.

In addition to the Mk4-A3 PGCW on the left arm, typical weapons load-out includes a DunArmCo 9mm rotary gun on the right shoulder, and either a drone mount or a point-defense weapon on the left shoulder. The right arm hard point is typically left open. The BH-24 is one square wide and one square long.

TL: 12  
Price: Lv315,000

<b>BH-25</b>					Weapons 3 hardpoints w 90 vol of Capacity Mk4-A3 Plasma gun in left arm
Class:	Combat Walker	EP Output:	10 EP Fuel Cell	(1.75 excess)	
Price:	Lv315,000	Agility:	1		
Tech Level:	12	Initiative:	+1		
Size:	Large	400 vol			
Streamlined?:	Standard	AC:	18		
Pressurized?	Yes	(Size Large)	-1		
Climate Control?	Yes				
Drive Train:	Legs	2	AR:	8	
Crew:	1		SI:	27	
Passengers:	0		Signature:	-4	
Cargo Space:	0				
Fuel:	2.1 vol				
Range:	90 km				
Speeds:					
Std. Acceleration=	3kph	Max. Acceleration=	3kph		
Very Slow=	3kph	Slow=	8kph		
Cruising=	15kph	Fast=	23kph		
Max Speed=	30kph	Off-road=	15kph		
Visual:	2 headlights	1 Spotlight			
		2 video cameras w/low-light, IR, 1 video monitor, and 1 HUD			
Sensors:	Auditory	Radar	Range=	Medium	
Comm:	Voder	2-Way Radio	Range=	Medium	
Other Equipment:	2 Arms Str 24 Dex 10	Pressurized	Climate Control		





**PzKf-II "Panzerbär":** The *Panzerkampfanzug-II "Panzerbär"* is Freihafen's first major entry into the combat walker market and has proved a popular and cheap export item. The original PzKf-I was developed from the Bavarian/German Kz-7. Although this proved an inferior design, it gave a useful platform to develop a more sophisticated combat walker, which became the PzKf-II. The PzKf-II equips the Freiwehr's emerging CW arm and has proved popular with mercenaries and colonial forces along the French Arm.

The PzKf-II is a robust and well-armored humanoid design utilizing well proven, if not cutting edge, Freihafen weapons and electronics. The PzKf-II does not use a modular weapon system and lacks versatility when up against other more modern designs. The PzKf-II's aging chassis also limits its mobility somewhat and it has been unkindly described as lumbering. There are two main PzKf-II models, both of which utilize a rapid fire Frie-Optik 21 70.01 Laser in the right arm; the Ausf A has a powerful 45MW plasma weapon and the Ausf B a hardpoint for Luchs *ausf* B anti-vehicle missiles on the right shoulder. The "*Panzerbär*" is two squares wide and one square long. In the field, many units use the DunArmCo Mini-12 or similar weapons as a carried weapon for additional anti-personnel and light anti-vehicle work. The PzKf-II is one square wide and one square long.

**TL:** 11

**Price:** 120,000

#### PzKf-II

Class:	Combat Walker	EP Output:	8 EP Fuel Cell (1.49 excess)	
Price:	Lv120,000	Agility:	1	
Tech Level:	11	Initiative:	+1	
Size:	Large	450 vol		
Streamlined?:	Standard	AC:	17	
Pressurized?	Yes	(Size Large)	-1	
Climate Control?	Yes			
Drive Train:	Legs	2 legs	AR:	7
Crew:	1	SI:	27	
Passengers:	0	Signature:	-4	
Cargo Space:	0			
Fuel:	2.4 vol			
Range:	60 km			
Speeds:				
Std. Acceleration=	2kph	Max. Acceleration=	2kph	
Very Slow=	2kph	Slow=	5kph	
Cruising=	10kph	Fast=	15kph	
Max Speed=	20kph	Off-road=	10kph	
Visual:	2 headlight(s)	1 Spotlights		
Sensors:		Radar	Range=Short	
		Auditory		
Comm:	Voder	2-Way Radio	Range=Long	
Other Equipment:	2 Arms Str 30 Dex 10 , Climate Control			
Targeting Computer				

#### Weapons

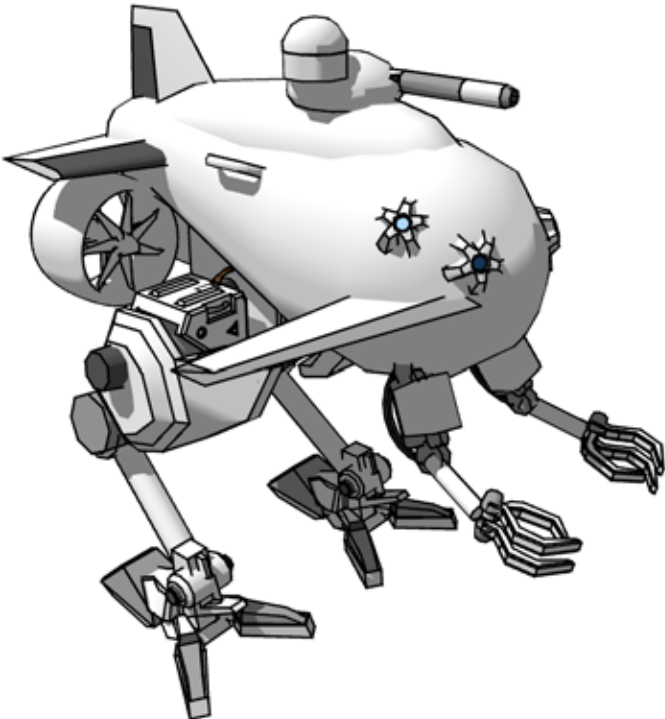
70.01 laser rifle in arm mount  
 Ausf A  
 A-4 Sturmgewehr in shoulder-mount  
 Ausf B  
 2 x Luchs missiles in shoulder mount.

**Chyuantii Defense Systems (CDS) Type 14-1 Combat Swimmer:** The Type 14-1 is a commercially available combat swimmer suit currently in service with the forces of Heidelshemat. The Type 14-1 is a militarized version of a civilian diving suit used in the commercial exploitation of Syuhlahm's oceans. The Hiedelsheimatians purchased a number of suits from Chyuantii Defense Systems along with submersible carriers to get the Type 14-1's close to the shore. This purchase was in reaction to increasing tensions with the neighboring Texan colony over off-shore resources. The Type 14-1 is optimized for littoral operations rather than deep-diving and in Heidelshemat service it equips special amphibious raiding units.

The Type 14-1 is a typical CDS pod-style design, with legs that can fold behind the pod when under secondary submarine drive. The Type 14-1 is a sleek, streamlined design, and although it is not heavily armored, is structurally very strong. The walker has a CDS Type 50 70.01 blue-green laser in a mini-turret on the top of the pod capable of engaging underwater and surface targets. It also has two hardpoints capable of carrying conventional weapons or underwater guided ordnance. The BH-24 is one square wide and two squares long.

**TL:** 12  
**Price:** Lv155,000

Type 14-1 Combat Swimmer					Weapons
Class:	Combat Walker	EP Output:	12EP fuel cell	(1.40 excess)	
Price:	Lv155,000		Agility:	1	BG 70-01 laser rifle in small turret
Tech Level:	12		Initiative:	+1	
Size:	Large	520 vol			80 vol on hardpoints
Streamlined?:	Partially		AC:	18	
Pressurized?	Yes		(Size Large)	-1	
Climate Control?	Yes				
Drive Train:	Legs	Sub-surface	AR:	8	
Crew:	1		SI:	27	
Passengers:	0		Signature:	-4	
Cargo Space:	0		Sub Signature:	-8	
Fuel:	2.52 vol				
Range:	60 km				
Speeds:					
Std. Acceleration=	2kph	Max. Acceleration=	2kph		
Very Slow=	2kph	Slow=	5kph		
Cruising=	10kph	Fast=	15kph		
Max Speed=	20kph	Off-road=	10kph		
Speeds: (Underwater mode)					
Std. Acceleration=	1kph	Max. Acceleration=	1kph		
Very Slow=	1kph	Slow=	3kph		
Cruising=	6kph	Fast=	9kph		
Max Speed=	12kph	Off-road=	N/A		
Visual:	2 headlights , 4 video cameras w/low-light & IR, video monitor, and HUD				
Sensors:	Sonar, Range=Close, Radar , Range=Medium, Auditory				
Comm:	Voder	2-Way Radio	Range=Long		
Other Equipment:	High Pressure Pump , 2 arms Str 50 Dex 10, Pressurized, Climate Control				



## COMBAT WALKER ACCESSORIES

**Drone mount:** An external, armored carrier for a Hund Whisperdrone (p.00). It includes the compressor to power it, and all necessary cables and bus connections. Information from the drone is displayed on the suit's HUD. The drone can also be used to designate targets for missiles and artillery. (Laser designator range increment 96m). It requires a hardpoint on the walker, or else it must be custom-fitted (3 days, Lv4000, T/Mechanical vs. DC 15).

**Weight:** 20kg

**Size:** 20 vol

**EP:** 1

**Price:** Lv2000

**Anti-personnel belt:** Actually more of a harness, the AP belt contains several small explosive flechette mines. It is designed to deal with infantry at close quarters who can easily outflank a combat walker.

**Weight:** 10 kg

**Effect:** 6d6 damage **Area of Effect:** 5m **Range Increment:** 5m

**Price:** Lv10 per mine, Lv120 for the harness

**Armored overalls:** The joints on humanoid combat walkers are especially vulnerable to shrapnel and battlefield debris. The armored overalls are a set of walker-sized Kevlex overalls that help to protect the walker's vulnerable joints, and have the additional salutary effect of softening the walker's outline, making it blend a little bit easier. The overalls have to be custom-made for each model of walker.

**Weight:** 22kg

**AR:** +1 (vehicle scale)

**Sig:** -1

**Price:** Lv520 (1560 Cr)

**Sensor upgrade kits:** The upgrade kit augments the effects of all onboard sensors, giving a +1 circumstance bonus on all Spot checks.

**Weight:** 2 kg

**Price:** Lv1200

**Space Maneuvering System (SMS):** This is an add-on package, consisting of several clusters of compressed gas jets allowing the combat walker greater mobility in zero-gravity environments.

**Weight:** 120 kg

**Effect:** +2 to all Zero-G maneuvering rolls

**Price:** Lv12000

## VEHICLE ORDNANCE

These weapons are typical of many of the vehicle-mounted ordnance available. A hardpoint weapon can be mounted on any vehicle hardpoint with enough capacity to carry it..

## MISSILES

There are a number of vehicle-mounted missile systems available. There are a few special rules regarding missiles, which are dealt with in the section on vehicle combat.

**Guiscard Manta-1:** The Manta-1 was one of the first generation of hyperkinetic anti-tank missiles, using a solid-fuel, air-breathing motor to achieve Mach 5 speeds shortly after launch.

**Type:** Obsolete Vehicle-mounted anti-vehicle missile

**Nation:** France

**Guidance:** Automatic

**Attack Angle:** Selectable

**To-Hit Bonus:**



**Guiscard Aero-29:** The Aero-29 is a fast anti-aircraft interceptor missile, using a conventional explosive warhead.

**Type:** Vehicle-mounted air defense missile Nation: France

**Flight time to maximum range:** 5 min.

**Guidance:** Automatic following gunner lock-on

**Attack Angle:** Direct

**Guiscard Aero-22:** The Aero-22 is an advanced silhouette-seeking missile that homes in on vehicle profiles. The heavy HEAP warhead is capable of punching most modern armor.

Type: Vehicle-mounted anti-vehicle missile

**Nation:** France

**Guidance:** Automatic

**Attack Angle:** Selectable

**Luchs ausf B:** The Luchs is a hyperkinetic missile that launches at Mach 7, and damages its target solely through kinetic energy. There is no explosive in the warhead.

**Type:** Vehicle-mounted anti-vehicle missile

**Nation:** Germany

**Guidance:** Automatic

**Attack Angle:** Selectable

**Ohu ausf C:** The Ohu is a large, vehicle mounted missile. The heavy warhead consists of three hyperkinetic submunitions that home in on their target.

**Type:** Vehicle-mounted air defense missile

**Nation:** Germany

**Flight Time to maximum range:** 3 min

**Guidance:** Automatic following gunner lock-on

**Attack Angle:** Direct

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Type	Launcher Vol	Missile Vol	Damage	A0E	RoF	Rng	Attack Bonus	Cost, Launcher	Cost, Missile
Manta-1100	20		6d12	1	1	3.2 km	+2	4700	6000
Aero-22 90	35		8d12	1	1	6 km	+3	4200	7300
Aero-29 90	200		3d12	2	1	100 km	+5	3000	25000
Luchs-c 120	18		8d12	1	1	2.4 km	+4	4000	5000
Ohu-B 90	100		4d12	2	1	50 km	+6	3000	20000

## TORPEDOES

Similar in some ways to missiles, torpedoes are water-borne weapons used to attack submarines and surface shipping. Most torpedoes are of the super-cavitating type fired at speeds of up to 500 km/h. However, they are unguided weapons due to the difficulty of getting sensor information through the bubble generated around the weapon. Their high speeds usually mitigate this problem, however. The only counters to these weapons are supercavitating interceptors and point-defense blue-green lasers.

**Blowfish:** A small torpedo usually used as a defensive weapon on larger boats and a back-up weapon on fighter subs. They can be used as interceptors against incoming torpedoes, with an additional -2 to hit. These are direct-fire, dumb weapons.

**Type:** Vehicle-mounted mini-torpedo

**Nation:** Britain

**Guidance:** Unguided

**Attack Angle:** Direct

**Akula:** The Akula is a stealth torpedo developed by Russia as a counter to the big, noisy supercavitating torpedoes. Using a magnetic tunnel drive and a synthetic case, it gets as close to the target as possible before igniting its supercavitating drive

for a 650km/h sprint to the target. It can often get within the minimum range of point defense torpedoes, and only has to worry about the laser systems. These torpedoes are large enough that they can often take a hit from the relatively low-powered lasers on subs.

**Type:** Vehicle-mounted Heavy Torpedo

**Nation:** Russia

**Guidance:** Automatic after gunner lock-on

**Attack Angle:** Direct

Type	Volume			A0E	RoF	Rng	Attack Bonus	Cost	
	Launcher	Torpedo	Damage					Launcher	Missile
Blowfish	100	20	4d12	10	1	1 km	+1	4100	6000
Akula	600	500	6d12	10	1	8 km	+3	4000	5000

## BOMBS

**200-Kilogram WASP Bomb:** The WASP (Wide-Angle Scatterable Projectiles) is an area-denial cluster bomb, throwing out large numbers of grenade-sized bomblets over its area of effect.

**Type:** Aircraft-guided bomb

**Nation:** Generic

**Guidance:** Automatic following gunner lock-on

**Attack Angle:** Direct

**200-Kilogram High-Explosive Bomb:** This is a typical high-explosive bomb, designed to cause concussion and fragmentation damage to its targets.

**Type:** Aircraft-guided bomb

**Nation:** Generic

**Guidance:** Automatic following gunner lock-on

**Attack Angle:** Direct

**To-Hit Bonus:**

**200-Kilogram Incendiary Bomb:** The incendiary bomb is loaded with jellied petrochemical fuel, and sticks to anything it hits, burning intensely for 1d6 minutes.

**Type:** Aircraft-guided bomb

**Nation:** Generic

**Guidance:** Automatic following gunner lock-on

**Attack Angle:** Direct

**400-Kilogram WASP Bomb:** A larger variant of the standard 200-kg bomb, with a larger area of effect.

**Type:** Aircraft-guided bomb

**Nation:** Generic

**Guidance:** Automatic following gunner lock-on

**Attack Angle:** Direct

**400-Kilogram FAE Bomb:** The fuel-area explosive, or thermobaric explosive, is the most powerful non-nuclear warhead available. It releases gaseous fuel over a large area, and then ignites it to produce an exceptionally powerful explosion with massive over-pressure.

**Type:** Aircraft-guided bomb

**Nation:** Generic

**Guidance:** Automatic following gunner lock-on

**Attack Angle:** Direct

Type	Bomb Vol	Damage	A0E	RoF	Rng	Attack Bonus	Cost
200kg WASP	200	4d12	10	1	6 km	+2	1000

200kg HE	200	8d12	10	1	5 km	+0	1300
200kg Incendiary	200	6d12*	10x50	1	5km	+0	1700
400kg WASP	400	8d12	20	1	5 km	+2	2000
400kg FAE	400	10d12	50	1	4.5 km	+2	4000

## Rocket Pods

The two types of rocket pods are defined by the number of shots they hold. Rocket pods can be rippled-fire at a rate up to the number of rockets in each pod. Treat the 7-shot pod as having an RoF of 10, while the 19-shot pod can have an RoF up to 20. Rocket pods are often simply discarded rather than being reloaded.

Weapon	Size	Cost	Damage	AoE	RoF	Rng
70mm-9	200	35000	1d6	5	1/4/7	1.4 km
70mm-19	300	45000	1d6	5	1/4/19	1.4 km

## Vehicular Weapons

These are the stats for all the direct-fire weapons found in this chapter.

### Lasers

Weapon	Damage	RoF	Rng
Laser Cannon	3d10	1	Sensors
Gatling Laser	4d10	4	Sensors

### Autocannons

Weapon	Damage	RoF	Rng	Ammo volume	Ammo cost
20mm	1d10	10	240	10/20	100/20
30mm	1d12	10	300	10/15	100/40
20mm Gatling	1d10+1	100	240	10/20	100/20
30mm Gatling	1d12+1	80	300	10/15	100/40
10mm Gauss	1d12	100	800	10/50	20/100

### Mass-Driver Cannons

Weapon	Damage	RoF	Rng	Ammo volume	Ammo cost
65mm	6d12	5	3 km	1	10
70mm	7d12	5	3.4 km	1.2	12
75mm	8d12	5	3.8 km	1.4	18

### Personal Weapons

Weapon	Damage	AoE	RoF	Rng	Ammo volume	Ammo cost
5.5mm MG	1d12 (1d12-5)	0	20	60m	2.5/100	120/100
7.5mm MG	2d12 (1d12-4)	0	20	100m	3.5/100	180/100
9mm MG	2d12 (1d12-4)	0	20	144m	2.5/100	350/100
12mm MG	3d12 (1d12-3)	0	10	250m	6/100	500/100
5.5mm Gauss	3d12 (1d12-3)	0	100	120m	10/1000	100/1000
Plasma Gun (PGMP-Mk4)	(2d10)	0	1	96m	1/10	50/1
Anti-personnel mines	6d6	5	1	20m	-	-

### Plasma Guns

Weapon	Damage	AoE	RoF	Rng	Ammo volume	Ammo cost
Light	4d12	5	1	400	1.5	40

## COMBAT WALKER WEAPONS

**35-01 Laser Rifle:** Many combat walkers use this light laser as an integral anti-personnel weapon, as it can be run off the vehicle's power plant.

**Type:** 35-01 laser rifle

**RoF:** 3



**Range:** 72m**Damage:** 2d12 (x2)

**70-01 Laser Rifle** This is typical of the highest-power anti-personnel lasers found on vehicles and combat walkers. A Blue-Green variant is available for submarine use,

**Type:** 70-01 laser rifle**ROF:** 1**Range:** 96m**Damage:** 3d12 (x2)**70-01 Blue-Green Laser Rifle****Underwater Use:** Range: 24m Damage: 2d12 (x2)**Surface Use:** Range: 72m Damage: 3d12 (x2)

**DunArmCo M-600 Rotary Gun:** A heavy Gatling-type machinegun often used on aircraft and combat walkers.

**Type:** 9mm rotary machinegun**Size:** 55 vol with magazine**Magazine:** 1500-round cassette**RoF:** 0/20/100**Range:** 96 m**Damage:** 2d12 (x2)**AP Bonus:** +1

**Mk4 PGCW (Plasma Gun, Combat Walker):** After many iterations, this is the current version of the Franco-American Mk4 PGCW. Powerful enough for light vehicle and anti-bunker work, yet compact enough to have a large ammunition supply, the Mk4 is ideal for light combat walkers.

**Type:** Combat Walker 20-MW plasma gun**Size:** 15 vol**Magazine:** 40 cells in external cassette**ROF:** 1**Range:** 96m**Damage:** 8d12 (18)

**Jaschonek Waffenfabrik A-4 Sturmgewehr:** Though superseded in German service by more modern weapons, the A-4 continues to see use on third-party platforms, including Freihafen's export combat walker, the Panzerkampfanzug-II.

**Type:** 30-MW plasma gun**Size:** 50 vol**Magazine:** 25-round drum**ROF:** 1**Range:** 60m**Damage:** 3d12 (vehicle scale)

# ALIEN TECHNOLOGY

Several of the races encountered by Humanity possess high technology, often the equal of anything produced in Human space.

The Kafers, the Ylii, the Sung, the Pentapods, and to an extent the Ebers, all possessed technological societies. Most Humans are at least vaguely familiar with the artifacts of these races, though the operation of most would be beyond them.

## EBER

Eber technology has fallen a great deal since the war that ended their interstellar civilization. The Civilized Ebers have worked themselves up to level about equal to Earth in the days of the Renaissance, while the Nomads seem content to stay fairly primitive.

## EBER WEAPONS

### Melee Weapons

**Eber Edged Pole Arm** A long wooden pole surmounted by a heavy steel blade

**Eber Long Sword:** A slashing weapon designed for use on foot.

**Eber Horse Sword:** A relatively short, very curved weapon designed to be used while mounted.

**Eber Lance:** This long wooden weapon is designed to be used from atop a charging E-horse. It can be used in melee combat, but is very clumsy, suffering a -2 to Hit.

**Eber Hook Spear:** The hook spear is a common weapon among Eber nomads. It is made from the bulb-pole plant, which is common at desert oases, and is specially-designed to pull grunt-bugglies from their dens.

Weapon	Price	TL	Weight	Range	DMG (crit)	Type
Pole Arm	Lv20	1	12kg	3m	1d12 (x2)	Large Piercing/Slashing
Long Sword	Lv200	1	15kg	1.5m	1d10 (x2)	Medium Piercing/Slashing
Horse Sword	Lv150	1	10kg	1.5m	1d8 (x2)	Medium Piercing/Slashing
Lance	Lv80	1	6kg	3m	See Note,	Large Piercing/Slashing
2d10 (x3) on a charge from an E-horse, 1d10 (x2) in melee						
Hook Spear	Lv10	1	15kg	1.5 meters	1d10 (x2)	Large Piercing/Slashing or crushing
Javelin	Lv200	1	15kg	1.5 meters	See note	Large Piercing/Slashing
Used as a stabbing weapon, a javelin has a damage of 1d10 (x2). When thrown, however, the damage increases. Divide the Eber's STR by 5, and roll that many d10's. (STR 15 Eber, 15/5 = 3, so roll 3d10 for damage) Thrown javelins have one level of Armor Piercing.						
Napalm Gourd	Lv5	1	15kg	10 meters	2d10 (x2)	Medium Incendiary
Stink Gourd	Lv200	1	1kg	10 meters	N/A	Medium Gas

### Projectile Weapons

**Eber Javelin:** The javelin is the signature weapon of the Eber nomads, and is capable of piercing light vehicle armor, let alone personal armors.

**Napalm Gourds:** The napalm plant is a wide-spread desert succulent that stores moisture as a sticky, poisonous pitch in its fruit. This pitch is highly inflammable, and the gourd is used in serious warfare by the desert tribes.

**Stink Gourds:** Stink gourds are used in ritualized combat, almost like a game. The foul-smelling meat of the stink gourd is used to "mark" opponents, as a way of counting coup. It takes a week or so for the stench to wear off.

### FIREARMS

The civilized Ebers have developed some primitive firearms, which are slowly finding their way into general use. Only a few have found their way into the hands of the nomads, who consider them to be overly-complicated.

**G-D-E Pistol:** This is typical of the civilized Eber pistols, equivalent in many ways to the long-barreled cavalry pistols of the late 1700's on Earth. It is a well-made flintlock pistol, firing a heavy ball with a bruising recoil.

Type: 15mm black powder pistol Country: Civilized Eber Length: 41cm (Size=Small) Action: Single shot Ammunition: 15mm ball Muzzle Velocity: 200 mps Magazine: 1 ROF: 1 Range: 20m Damage: 1d8 (x2).

**Weight (Empty):** 2.2kg

**Ammo Weight:** 0.05kg

**Price:** Lv100 (Lv1 for 100 rounds of powder and ball)

**G-F-E Arquebus:** The arquebus is a longer-barreled version of the pistol, firing a heavier ball. It is rifled, which greatly increases its range. The weapon is rifle-sized for a human, and is -2 to fire. Strength bonuses cancel out this penalty on a 2-for-1 basis. (2 points of Strength bonus cancel out -1 of the penalty.)

Type: 21mm black powder arquebus Country: Civilized Eber Length: 112cm (Size=Medium) Action: Single shot Ammunition: 21mm ball Muzzle Velocity: 420 mps Magazine: 1 ROF: 1 Range: 40m Damage: 1d10 (x2)

**Weight (Empty):** 3.2kg

**Ammo Weight:** 0.05kg

**Price:** Lv100 (Lv1 for 100 rounds of powder and ball)

## EBER ARMOR

The civilized Ebers make use of two types of armor: chainmail armor, by far the most common of the two, and plate armor, generally reserved for the most powerful of Ebers. Eber plate is far heavier than human-equivalent armors, and is designed to be able to stop a nomad javelin. It can easily handle the primitive firearms currently in use. The value before the brackets represents the Armor Rating against non-firearm weapons, while the value in brackets represents the Armor Rating against firearms.

### Chainmail Vest

**Nation:** Eber

**Weight:** 16kg

**Area Protected:** Torso

**AR:** 6 (3) (Non-rigid)

**Max Dex Bonus:** +2

**Armor Check Penalty:** -3

**Speed:** 15m

**Price:** Lv100 (equivalent)

### Chainmail Suit

**Nation:** Eber

**Weight:** 30kg

**Area Protected:** Torso and limbs

**AR:** 6 (3) (Non-rigid)

**Max Dex Bonus:** +1

**Armor Check Penalty:** -4

**Speed:** 10m

**Price:** Lv200 (equivalent)

### Plate Carapace

**Nation:** Eber

**Weight:** 24kg

**Area Protected:** Torso

**AR:** 12 (6) (Rigid)

**Max Dex Bonus:** 0

**Armor Check Penalty:** -5

**Speed:** 10m

**Price:** Lv150 (equivalent)

### Plate Suit

**Nation:** Eber

**Weight:** 45kg

**Area Protected:** Torso and limbs

**AR:** 12 (6) (Rigid)

**Signature:** +2

**Max Dex Bonus:** -1

**Armor Check Penalty:** -5

**Speed:** 10m

**Price:** Lv500 (equivalent)

## KAFERS

Kafer equipment is simple and rugged, designed to accept a great deal of harsh use. Some Human troops have refitted Kafer weapons with Human stocks and grips for just that reason. Although prices are included for some items, Kafer equipment is not ordinarily purchased, it is found, captured, or otherwise acquired at the referee's discretion.

Names for Kafer equipment are usually assigned by the organization first describing it in military or scientific literature, but sometimes reflect the nickname assigned by Human troops. Where known, the Kafer name is included in parentheses.

### Kafer Equipment

**Ration packs:** Kafer ration packs are unappetizing and disgusting to Humans, though edible. It is a sausage-like tube of meat, grain and vegetables in a tough casing, which appear to have partially decomposed before being preserved for travel. Each ration pack will last a Kafer trooper for about a day.

**Weight:** 0.5kg

**Price:** N/A

**Computer Mark II:** When human researchers first discovered this artifact, they were at a loss to explain it. Its design, from the physical shape to the circuitry to the programming was completely different from any other piece of Kafer electronics yet discovered. Contact with the Ylii solved the mystery, however, as it was revealed that the small, compact and powerful computer was a Ylii design, created by slave technicians. Equivalent to a Human portacomp, save that it has an exabyte of internal storage.

**Weight:** 1.4kg

**Price:** N/A

**Thermal Imager:** The Thermal Imager is designed to



allow a Kafer to see in low-light conditions, much like Human gear. It can be used by Humans, but the output from it is uncomfortably bright, and can even damage Human eyes due to the high amount of UV light generated. Allows the Kafer to see in dim red light, or no light at all. The thermal imager negates all penalties for no- or poor-light conditions.

**Weight:** 2.1kg

**Price:** N/A

**Worry Thing:** These round lumps of rock often puzzled Human researchers, and it took until testimony of some Human prisoners from Beta Canum revealed their purpose. They revealed that Kafers put the stone in their mouths and rubbed it around their pedipalps and other oral protrusions. The theory is that this is somehow soothing to a Kafer.

**Weight:** 0.2kg

**Price:** N/A

**Scepter:** Kafers officers carry a scepter into combat, which they use to get their subordinate's attention, and to make them smart. Their method is simple: they use the long metal scepter to beat their underlings until the para-adrenalin rush leaves them smart enough to understand orders.

**Weight:** 2.7kg

**Price:** N/A

**Pressure Suit** The pressure suit is only issued to security troops and officers on Kafer warships. Common soldiers have no means of protection should a ship suffer explosive decompression. These suits have a 9-hour life-support system carried in a robust, armored backpack.

**Weight:** 12kg

**Area Protected:** All

**Armor Rating:** 3 (Inertial) 4 (rear torso) (Rigid)

**Max Dex Bonus:** +5

**Armor Check Penalty:** -2

**Signature:** +1

**Price:** N/A

## Kafer Weapons

Kafer weapons tend to be of a simple, uncomplicated design, though possessing a fair degree of sophistication in their manufacture. Sighting tends to be very simple on most infantry weapons, however, some of the special-purpose types can have fairly advanced optics, including low-light, telescopic and rangefinder options.

**Horse Pistol (Vved ush):** An extremely heavy and rugged revolver. It is oddly shaped, due to the design of the Kafer hand, with a half-ring support which fits around the Kafer's wrist when it grasps the revolver's frame behind the cylinder.

Type: 14.5mm revolver Country: Kafer Length: 31cm

## Drug Bug:

Discovered recently on a captured Kafer raider, this object/creature looks like a fist-sized, scarab beetle with a large proboscis and ten atrophied and essentially useless legs. The example found was dead, but dissection revealed that most of the body cavity was taken up by a large sac (feeding into the proboscis). The proboscis feeds into a digestive tract, leading researchers to believe the creature lives by siphoning fluids from some other form of life, but the sac was puzzling – it has no associated glands, and seems to be oriented to propel something out of the proboscis. Detailed examination made a chilling discovery: the sac contained traces of a compound essentially identical to the Kafer para-adrenal hormone. No evidence of a gland for the secretion of the hormone could be found, but the specimen was partially decomposed by the time it could be examined.

The classified report, issued by ARI to a limited military and governmental mailing list, speculates that the creature is used as by Kafers as a reservoir/injector for an artificial para-adrenal hormone.

**Weight:** 0.4kg

**Price:** N/A

(Size=Small) Action: Single shot Ammunition: 14.5x31mm fixed cartridge ball Muzzle Velocity: 490 mps Magazine: 7 round cylinder RoF: 1 Range: 20m Damage: 2d10 (x2).

**TL:** 10

**Weight (Empty):** 1.3kg

**Magazine Weight:** 0.2kg

**Price:** N/A

**Thud Gun (Vved ach\*):** An assault rifle with integral grenade launcher similar to the American M4. It has the general appearance of a rifle, but the overall shape is oddly curved.

Type: 12.1mm assault rifle with integral 27.2mm grenade launcher Country: Kafer Length: 81cm (Size=Medium) Action: Single shot or bursts Ammunition: 12.1x31mm APHE Muzzle Velocity: 610 mps Magazine: 66 rounds RoF: 1/4/10 Range: 72m Damage: 2d12 (x2) AP Bonus: +1

**TL:** 10

**Weight (Empty):** 6.5kg

**Magazine Weight:** 2kg

**Price:** N/A

**Flashlight (Vved kala'ach\*):** A heavy and robust laser rifle, the Flashlight is often issued to scouts and snipers, along with orbital assault troops. It also carries the Kafer integral grenade launcher.

Type: 73-01 laser rifle Country: Kafer Length: 76.2cm (Size=Medium) Action: Single shot Pulse Energy: 0.73 mega-

joules Muzzle Velocity: C Magazine: 8.9 mj FDLMS cell (12 pulses) RoF: 1 Range: 112m Damage: 3d12 (x2).

**TL:** 12

**Weight:** 3.5kg

**Magazine Weight:** 1kg

**Price:** N/A

**Double-Thud Gun (Vved ach ul\*):** The double Thud Gun is the Kafer version of a machinegun, using the ammo and basic layout of a Thudgun, but adding a second barrel to improve the rate of fire. Unlike human designs it incorporates two separate ammunition feeds, one for each barrel.

Type: 12.1mm machinegun Country: Kafer Length: 88cm (Size=Medium) Action: Single shot or bursts Ammunition: 12.1x31mm APHE Muzzle Velocity: 610 mps Magazine: 2x333 rounds RoF: 1/4/20 Range: 96m Damage: 2d12 (x2) AP Bonus: +1.

**TL:** 11

**Weight (Empty):** 7.5kg

**Magazine Weight:** 10kg

**Price:** N/A

**Beamer (Gh'eh Kalech\*):** High-energy plasma gun found mounted on vehicles.

Type: Vehicle-mounted 40-MW plasma gun Country: Kafer Length: 172cm (Size=Large) Action: Single shot Ammunition: 22x76mm 40-MW photonic core plaser cell Magazine: 100 cells in external hopper RoF: 1 Range: 112m Damage: 9d12 (18).

**TL:** 12

**Weight (Empty):** 17kg

**Ammunition Weight:** 0.65kg

**Price:** N/A

**Tri-Beamer (Gh'eh uch):** This vehicle mounted plasma gun can attain a higher rate-of-fire than most plasma weapon, due to the 3-barreled rotary action. Salvaged examples of this weapon are popular among Human troops

Type: Man-portable 26-MW plasma gun Country: Kafer Length: 155cm (Size=Large) Action: Single shot or bursts Ammunition: 19x75mm 26-MW photonic core plaser cell Magazine: 100 cells in external hopper ROF: 3 Range: 96m Damage: 8d12 (18).

**TL:** 12

**Weight (Empty):** 23kg

**Ammunition Weight:** 0.68kg

**Price:** N/A

**Integral Grenade Launcher:** This is the typical 27.2mm grenade launcher found on Thudguns and Flashlights. Action: Single-shot Ammunition: 27.2x52mm propelled grenade Muzzle Velocity: 375 mps Magazine: 9 round

detachable box magazine Magazine Weight: 1.9kg RoF: 1 Range: 100m Damage: As Grenade

## Kafer Vehicles

**Bugbus:** The Bugbus is a common transport and personnel carrier in Kafer service. Usually powered by an internal combustion engine that can be tuned to burn anything from gasoline to vegetable oil, the Bugbus is a sturdy and versatile vehicle. The Bugbus is three squares wide and four squares long.

**TL:** 11

**Price:** Lv90,000

**Deathsled:** The Deathsled is the largest hovertank fielded by the Kafers, so large that it doesn't have full jump-jet ability. It can use its jump-jets to cross obstacles no more than 3 meters high and/or 10 meters across. It cannot cross chasms or ravines. The Deathsled is three squares wide and five squares long.

**TL:** 11

**Price:** 300,000

## KAFER SPACECRAFT

**Kafer Infiltrator:** The Kafer infiltrator-scout is one of the smallest Kafer interstellar vessels thus far encountered. Lightly armed, it and its crew try to avoid confrontation when at all possible. The Kafer scout uses its masked hull to good effect, as it lands in an isolated part of a target world and sends out its complement of infiltrators to gather intelligence. For atmospheric maneuvering it uses its fission plant as a nuclear thruster, channeling reaction mass past the reactor to generate thrust. While using the thruster, the reactor doesn't generate any excess power, and the vessel cannot fire its weapons, use active sensors nor engage its stutterwarp drive.

**TL:** 12

**Price:** N/A

**Bugbus**

Class:	Tracked APC	EP Output:	60.00 EP ICE (4.84 excess)
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Price:	Lv90,000 (equivalent)
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Tech Level:	11
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Size:	Huge (3300 vl)
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Streamlined?:	Standard
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Pressurized?	No
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Climate Control?	Yes
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Drive Train:	Tracked
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Crew:	2
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Passengers:	12
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Cargo Space:	200 vol
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Fuel:	72 vol
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Range:	480 km
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Speeds:	
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	Max.	Accelera-
Std. Acceleration=8kph	tion=	8kph

Very Slow =	8kph	Slow=	20kph
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Cruising=	40kph	Fast=	60kph
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Max Speed=	80kph	Off-road=	25kph
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Visual:	Headlightsx6	Spotlightsx2
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Sensors:	None
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Comm:	2-Way Radio	Radio Receiver
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Other Equipment:	Winch (Str 200)
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**WEAPONS:**

**Tri-Beamer plasma gun on pintle mount with AR 5 gun-shield**

Armor:

Front: 14

Overhead: 14

Side: 7

Rear: 4

Bottom: 4

**DEATHSLID**

Class:	Hovertank	EP Output:	700 EP MHD Turbine (58.53 excess)
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Price:	Lv300,000
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Tech Level:	12
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Size:	Gargantuan	23000vol
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Streamlined?:	Standard
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Pressurized?	Yes
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Climate Control?	Yes
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	Advanced
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Drive Train:	Hover	With Jump jets	AR:	10
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Crew:	5	SI:	77
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Passengers:	0	Signature:	+6
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Cargo Space:	0
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Fuel:	420 vol
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Range:	800 km	4 hours
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Speeds:	
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	Max.	Accelera-
Std. Acceleration=20kph	tion=	100kph

Very Slow (Stall)=	20kph	Slow=	50kph
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Cruising=	100kph	Fast=	150kph
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Max Speed=	200kph	Off-road=	N/A
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Visual:	2 headlight(s)	1 Spotlight(s)	4 video cameras w/LI, 4 video monitors
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Sensors:	Radar	Range=Medium
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Comm:	Loudspeaker	2-Way Radio	Range=Very Long
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Other Equipment:	1 decoy dispenser , 1 winch str 200
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**Weapons**

78mm mass driver (equivalent to human 75mm) in crewed heavy turret

23.2mm autocannon in commander's

cupola Beamer plasma gun in cupola

2 missiles (equivalent to Antichar missiles)

Armor:

Front: 20

Overhead: 15

Side: 10

Rear: 5

Bottom: 5

Turret Front: 20

Turret Other: 10



**OMEGA**

Class:	Infiltrator
Tech Level:	12
Profile:	
	Radial: -2
	Lateral: 1
Size:	420 ton Wedge Synthetic Hull
Main Computer:	Model/4
Sensor Range:	
	Active: 15hexes
	Passive: 5hexes
AC:	18
AR:	8
SI:	163
Signature	
	Radial Reflected: 5
	Lateral Reflected: 7
	Radiated: 6/3
Screens:	Rating: 0
Streamlining:	Hybrid Lifting Body Airframe
Atmospheric Speed:	Maximum 4700 km/h
Atmospheric Agility:	-6
Take-OffRun:	VTOL Landing Run:VTOL
Atmospheric Cruise:	940 km/h Duration:Unlimited
Flight Avionics:	Model 2
Thruster Rating:	2G Nuclear-Thermal Thruster
Thruster Fuel:	47.04dtons LHyd
	Duration 14minutes
Cargo to Low Orbit:	5.31dtons
Cargo to High Orbit:	1.3275dtons
Stutterwarp Speed:	Loaded: 2.537ly/day
	Unloaded: 2.652ly/day
Tactical Speed:	5
Stutterwarp Agility:	5
Power Plant:	60EP Fission Reactor
Power Plant Fuel:	N/A dtons
Solar Cells:	0 m2 Output: 0
Batteries:	EP Output: 0
	Duration: 0day
Life Support:	Basic Military 0man/days
	Basic Civilian 0man/days
	Extended Military 18360man/days
	Luxury Civilian 0man/days
Crew:	Bridge: 54
	Engineering: 37
	Gunnery: 13
	Ship's Troops: 20
	Medical: 2
	Stewards 3
	Maintenance: 0
	Total: 129
Passengers	High: 0
	Middle: 0
Stateroom	4
Small Cabin	0
Berth	130
Freezer Tube	0
Fresher	8
Autodoc	0
Couch	0
Sickbay	0
Vehicle shop	1
Laboratory	0
Engineering Shop	1
Cargo:	32.31dtons
Spin Habitat:	N/A None
	0G
Radiation Screen:	150rads/hour
Storm Shelter:	900Rads/hour
Comm. Range:	Long Range
Other Sensors:	Navigational Radar, Gravitational Scanner, Deep System Scanner
Small Craft:	0tons, in
Other:	
Price:	65.12MLv

TTAs	0	UTES?
Missile Controllers	4	
Lasers:	0	
EAS-1000 Laser	2xMasked	4 y
Particle Beams		
BMZ-150	2xMasked	2
Missiles:		
X-Ray		4

## PENTAPOD

Possibly the most alien of the technological races encountered, the Pentapods are nonetheless one of Humanity's closest friends. Their technology is based almost exclusively on genetic engineering. Their tools, weapons, and vehicles are alive, and they travel the stars in living, self-aware starships. They make a wide range of tools and enhancements designed for the Human market, some of which are detailed in Chapter 11: Equipment.

## PENTAPOD EQUIPMENT

### SENSORS

The Pentapods have a variety of sensors, most of which are designed to track and categorize life forms. The sophistication of some of these sensors is near-magical to Human observers, with some able to differentiate and categorize cerebral functions from a distance. All the sensors resemble large, legless insects, with a bioluminescent screen to display information. Human-useable models are available for twice the price.

**Basic:** The basic life scanner has a range of 500 meters, and can categorize animals on the basis of size and metabolism. It adds +2 to Spot Rolls for finding any sort of life form.

**Weight:** 2.5kg

**Price:** Lv5000

**Standard:** The standard life scanner has a range of 500 meters as well, but can categorize life based not just on size and metabolism, but also has the ability to perform rough categorization based on level of mental activity. +4 to Spot Rolls.

**Weight:** 7kg

**Price:** Lv9000

**Advanced:** The advanced life scanner significantly improves on the mental activity sensing functions of the standard scanner. It can finely categorize mental activity, and can differentiate sapient life from non-sapient life. It otherwise has the capabilities of the standard scanner.

**Weight:** 12kg

**Price:** Lv22,000

**Biot controllers** A biot controller is a device the Pentapod use to keep control of their biological robots, or biots. Biot controllers are implanted biotech radios that receive signals from a remote controller device, and either stimulate or suppress neurochemical or hormonal activity in the target. This gives the Pentapod with the biot controller a +4 on any task that involves commanding the biot.

**Weight:** 1.1kg

**Price:** Lv3500

## PENTAPOD WEAPONS

Pentapod weapons are largely adaptations of tools, or else were designed for police duties, to handle the rare bullet or construct that loses sight of their purpose. They have yet to manufacture any real military weapons, instead equipping their Warrior biots with adapted human-made weapons, typically the AS-99 or FAM-90bis.

**"Tooth Gun"** The rounds from the so-called Tooth Gun bear an uncanny resemblance to human molars, but are actually used in construction, like a biotech nail gun. The tooth gun takes that one step further, and modifies the basic design for use as a weapon. It has a very short range however. This creature is capable of making its own ammunition, but it takes a day to make a full magazine. The Pentapods have bred a separate creature that is much more effective at making ammunition.

Type: Organic Carbine Country: Pentapod Length: 67cm (Size=Medium) Action: Single shot or bursts Ammunition: 6.2x14mm organic "tooth" Muzzle Velocity: 710 mps Magazine: 32 rounds Magazine Gas Production is sufficient to fire 100 rounds/day ROF: 1/3 Range: 60m Damage: 1d10 (x2).

**TL:** N/A

**Weight (Empty):** 2.2kg

**Magazine Weight:** 0.1kg

**Price:** Lv6700

**Ammo Maker:** A small sessile creature that can make new rounds for the tooth gun at the rate of approximately 100 per day, given sufficient raw materials. It also can refill the gas reservoirs on the gun, allowing it to fire up to 500 rounds a day.

**TL:** N/A

**Weight:** 4kg

**Price:** Lv3200

**Flechette Gun:** One of the few purpose-built Pentapod weapons, the flechette gun is a creature that uses high-pressure air to propel long darts at its target. The darts are often chemically-treated by the gun for specific effects, selected by the user.

Type: 3.2mm flechette gun Country: Pentapod Length: 81cm (Size=Medium) Action: Single shot or bursts Ammunition: 3.2x22mm organic flechettes Muzzle Velocity: 540mps Magazine: 60 rounds ROF: 1/3 Range: 40m Damage: 1d8 (x2).

### Flechette Effects

**Tranquillize/Paralyze:** Injects a paralytic agent into the target. Fortitude Save vs. DC 19 or be paralyzed. Often used to reclaim bullets for repurposing. The result of a save is -3 to

all actions for 1d6 minutes.

**Kill:** Injects poison into the target. Fortitude Save vs. DC 20 or die. Save is vs. DC 30 for a Pentapod. The result of a save is 1d6 damage, directly to Lifeblood.

**Consume:** The consumer dart releases a horde of tailored fungal spores in the target. The spores are keyed to the first organic material they encounter, and will utterly consume anything they come into contact with that matches the original material. Fortitude Save vs. DC 20 or be killed, otherwise take 3d12 damage.

**TL:** N/A

**Weight (Empty):** 3.3kg

**Magazine Weight:** 0.3kg

**Price:** Lv320

**Biolaser:** This purpose-built weapon can also be implanted into a Pentapod, and is almost undetectable that way. After all, who knows what's normal for Pentapod internal organs? Powered by an organic battery, the organic chemical laser has enough power for five shots before needing time to rest (about twenty minutes) during which time it also needs to be replenished with the chemicals the laser requires. Some examples of this weapon have recently begun to turn up in human hands (literally) as implanted weapons.

Type: 20-01 biolaser Country: Pentapod Length: 22cm (Size=Small) Action: Single shot Ammunition: N/A Muzzle Velocity: C Magazine: 5 rounds ROF: 1 Range: 30m Damage: 1d10 (x2)

**Weight (Empty):** 2.1kg

**Magazine Weight:** N/A

**Price:** Lv3000

## PENTAPOD SERVITORS (BIOTS)

Servitors, or biots as they are sometimes called, are intelligent, or nearly intelligent, Pentapod constructs that use something other than Pentapods as the base organism. These constructs are considered to be even more disposable than the Pentapods themselves, and the Pentapods are careful to keep evidence of their sentient nature from humans. Biots retain much of their original species intelligence, but the Pentapods use the biot controller to keep them restrained. It is possible that the Pentapods can use DNA modification technology to construct the servitors from the base stock, but most servitors are from the breeding vats.

**Warrior:** This new servitor class arose from the chaos surrounding the death of Star Gazer. The majority of the Pentapod "gods" decided that they needed a warrior class to protect them, as the basic "bullet" Pentapod didn't have the skills, or disposition, for sudden violence. Initial research on this servitor used humans as base stock, but some Pentapods, closely involved in human "market research" came to the conclusion that if humanity ever found out about these experiments, their reaction would be very bad. So Kafers were chosen, with the initial "donors" provided by the research program that would eventually create the so-called Pentapod Revenge.

The base stock is heavily-modified to disguise its origins, but little was done other than that. Temperamentally, the Warriors are still Kafers, complete with the stress-response. This is used in conjunction with the biot controller to maintain control of this warrior race. Further research is concentrating on making them more controllable without dulling their capacity for violence.

**Appearance:** The base Kafer has been heavily modified, rebuilt along a radially-symmetrical plan. They have three upper limbs, shaped much like Pentapod limbs, and two lower limbs still bearing some resemblance to the original Kafer legs. The head has been repositioned, so the mouth points up, and now five eye-stalks ring the three-lobed jaw. The carapace has been thinned, yet toughened, and now surrounds the entire torso, providing it with basic armor.

**Stats:** As biots, almost all examples of this type will be identical, without even the limited variation allowed to the Pentapods themselves. Biots are not products of the Pentapod gods, unlike the Pentapods, but instead originate in the Pentapod's massive organic brood vats.

## PENTAPOD VEHICLES

Most Pentapod ground vehicles are vaguely-insectoid walkers, but other forms of locations are occasionally seen, including the infamous "slug".

**Walker Transport:** The walker transport is a very common design in the dry parts of Pentapod cities, and is designed to carry up to 8 Human-sized passengers, or 16 Pentapods. The walker is three squares wide and four squares long.

Common Trooper		Kafer 2/Army 4				TL	12	ST		LB					
Grav	N	Core/Frontier													
Str	15	Dex	13	Con	16	Int	4 (12)	Wis	11	Chr	4 (11)	Edu	3	Soc	-
Init	+1 (+5)	AC	12	AR	1	Spd	9m	Fort	+4 (+5)	Will	+1 (+2)	Ref	+5(+8)	SZ	M
Attacks	+4 (+6) Flechette Gun (1d8 (x2) Rng 40m RoF: 1/3 60 rounds) .														
Feats	Weapon Proficiency (Marksman), Weapon Proficiency (Combat Rifleman), Weapon Proficiency (Heavy Weapons), Brawling, Toughness, Endurance, Stealthy, (Lightning Reflexes, Tactics, Improved Initiative),														
Skills	Driving 8, Spot 6, Survival 7, Gambling 1(5), T/Mechanical -2														
Equipment	Thud gun, 4 hand grenades, 4 propelled grenades, combat knife, 2 weeks rations, string of human ears														



## Walker Transport

Class:	Walker ATV	EP Output:	34.00	(1.78 excess)
Price:	340,920.00	Agility:	0	
Tech Level:	11	Initiative:	+0	
Size:	Huge	4000 vol		
Streamlined?:	Standard	AC:	8	
Pressurized?	No	(Size Huge)	-2	
Climate Control?	No			
Drive Train:	Legs	6 legs	AR:	0
Crew:	2	Stamina:	53	
Passengers:	8	Lifeblood:	40	
Cargo Space:	500	Signature:	+2	
Fuel:	102			
Range:	180	3 hours		
Speeds:				
Std. Acceleration=	6kph	Max. Acceleration=	6kph	
Very Slow (Stall)=	6kph	Slow=	15kph	
Cruising=	30kph	Fast=	45kph	
Max Speed=	60kph	Off-road=	30kph	
Visual:	2 biological headlights, 4 compound eyes with IR capability			
Sensors:	None			
Comm:	None			

Other Equipment: 2 Arms Strength 80Dex 12  
Int: 12 Wis: 10 Con:40

## PENTAPOD SHIPS

Pentapod vessels do not require a crew for basic operations, only to give the ship directions. Control of the vessel is accomplished via Nodes. The Master Node is the central intelligence for the vessel, and directs all the other Nodes in their tasks. The Master Node is intelligent, but it wholly without drive or ambition. Note that Pentapod vessels do not have radiation screens or storm shelters, and instead rely on their own intrinsic genetic repair capabilities. Pentapod vessels are very careful to stay out of the danger zone of solar flares.

**VoidShark-class Defensive:** The Pentapods have recognized that since their contact with humanity, they face the possibility of attack, an idea essentially unknown to them until that time. Part of their response to this knowledge was the class of vessel known as a "Defensive." Fast, lightly armored, and mounting human-made weapons, the defensive is a good vessel, but neither the construct itself nor the Pentapod crew have the reactions and tactical planning ability required to fight a battle in space. This was proved beyond a doubt when the Pentapod Transport Blue Skies and her escort of six defensives were attacked by a Kafer deep-raider squadron in 2307. Only one of the defensives survived, or rather some of its crew did. The construct itself was killed.

For reasons unknown, the Voidshark is a long, sleek vessel, with the insectoid look of Pentapod rigid-hulled vessels, yet with an air of menace reminiscent of a barracuda. This vessel is not capable of atmospheric operations, but looks like it should be.

**Dark Venturer-class Tradeship/Transport:** Originally used to transport bulk organic material between the various Pentapod colony worlds; the tradeship is now engaged in ferrying goods the human marketplace, often in exchange for goods whose function can only be guessed at by the ship, let alone its crew. Like all Pentapod starships, the tradeship is fully sentient, yet has no ambition of its own. It is utterly incapable of taking any action without orders, but it follows those orders unquestioningly. Tradeships are a relatively common sight at Beta Canum and Tirane, though in the Sol system they are not permitted to approach any closer than the enclave on Mars.

These huge, globular ships have a vaguely glistening look to them, and their hulls are made up of some sort of vacuum-proof slime-like material. They are incapable of landing. It was a modified Tradeship that was ferrying Star Gazer to Beta Canum when the Kafer raider squadron hit, and despite its vast size, it was quickly destroyed by the Kafer vessels.

Name:	VoidShark		TTAs	2	UTES?
Class:	Defender		Missile Controllers	2	
Tech Level:	New Commercial		Point Defense:		
Profile:			Type 17 DC	1	
	Radial:	-2	Lasers:	0	
	Lateral:	0	EA-122	4	Y
Size:	300dton	Rigid Bio-hull	Missiles:		
			Ritage-2	2	
Main Computer:	Model/0				
Sensor Range:					
	Active:	7hexes			
	Passive:	5hexes			
AC:	16				
AR:	0				
SI:	145				
Signature					
	Radial Reflected:	4			
	Lateral Reflected:	6			
	Radiated:	3/3			
Screens:	Rating:	0			
Streamlining:	Standard				
Atmospheric Speed:	Maximum	N/A			
Atmospheric Agility:		N/A			
Flight Avionics:	Model 2				
Thruster Rating:	0	0			
Thruster Fuel:	0dtons	HRF			
	Duration	0minutes			
Cargo to Low Orbit:	N/A	dtons			
Cargo to High Orbit:	N/A	dtons			
Stutterwarp Speed:	Loaded:	2.912ly/day			
	Unloaded:	2.93ly/day			
Tactical Speed:	6				
Stutterwarp Agility:	6				
Power Plant:	60EP Pentapod Thermal Plant				
Power Plant Fuel:	N/A	dtons			
Solar Cells:	0 m2	Output:	0		
Batteries:	EP Output:	0			
	Duration:	168day			
Life Support:	Biomass	18dtons			
	Basic Civilian	200man/days			
	Extended Military	0man/days			
	Luxury Civilian	0man/days			
Nodes:	Master Node	1 Int 18 Wis 16 Cha 14 Edu 20			
	Engineering Node	11			
	Slave Node (Gunnery)	8			
	Slave Node	20			
Passengers	High:	0			
	Middle:	10			
Stateroom	36				
Small Cabin	0				
Berth	0				
Freezer Tube	0				
Fresher	0				
Autodoc	2				
Couch	0				
Sickbay	0				
Vehicle shop	0				
Laboratory	1				
Engineering Shop	1				
Cargo:	5.54dtons				
Radiation Screen:	0rads/hour				
Comm. Range:	Long Range				
Other Sensors:	Navigationl Radar				
	Advanced Life Sensors				
Small Craft:	0tons, in				
Other:					
Price:	308.37MLv				

Name:	Dark Venturer	
Class:	Tradeship	
Tech Level:	New Military	
Profile:		
	Radial:	2
	Lateral:	2
Size:	4000ton	Viscous Bio-hull
Main Computer:	N/A	
Sensor Range:		
	Active:	0hexes
	Passive:	0hexes
AC:	10	
AR:	0	
SI:	350	
Signature		
	Radial Reflected:	6
	Lateral Reflected:	6
	Radiated:	77
Screens:	Rating:	0
Streamlining:	None	
Atmospheric Speed:	Maximum	N/A
Atmospheric Agility:	N/A	
Flight Avionics:	Model 4	
Thruster Rating:	0	0
Thruster Fuel:	0dtons	HRF
	Duration	0minutes
Cargo to Low Orbit:	N/A	dtons
Cargo to High Orbit:	N/A	dtons
Stutterwarp Speed:	Loaded:	2.394ly/day
	Unloaded:	2.621ly/day
Tactical Speed:	5	
Stutterwarp Agility:	5	
Power Plant:	800EP Pentapod Thermal Plant	
Power Plant Fuel:	N/A	dtons
Solar Cells:	0 m2	Output: 0
Batteries:	EP Output:	0
	Duration:	168day
Life Support:	Biomass	1200dtons
	Basic Civilian	364man/days
	Extended Military	0man/days
	Luxury Civilian	0man/days
Crew:	Master Node	54
	Engineering Node	80
	Slave Node (Gunnery)	15
	Slave Node	0
	Medical:	9
	Stewards	3
	Maintenance:	0
	Total:	161
Passengers	High:	0
	Middle:	400
Stateroom	200	
Small Cabin	0	
Berth	0	
Freezer Tube	0	
Fresher	10	
Autodoc	4	
Couch	0	
Sickbay	2	
Vehicle shop	1	
Laboratory	4	
Engineering Shop	1	
Cargo:	948.03dtons	
Radiation Screen:	0rads/hour	
Storm Shelter:	1200rads/hour	
Comm. Range:	Very Long Range	
Other Sensors:	Navigational Radar	
	Advanced Life Sensors	
	Deep System Scanner	
Small Craft:	10x30tons, in	External Sling
Other:		
Price:	3821.42MLv	

Point Defense:	UTES?
Type 17 DC	10



## SUNG

Sung equipment is usually of high quality and light in weight. Though not as durable as comparable human items, they work well for the slither Sung. Most Sung soldiers do not wear any armor heavier than inertial armor, as they would be unable to fly effectively.

## WEAPONS

Sung infantry make considerable use of flying, most often very low level, as part of their assault tactics. To assist in this, their weapons are as light-weight as possible. Long ago, the Sung hit upon rocket-propelled weapons as being ideal, and now most Sung small arms are gyro weapons. As the round takes awhile to accelerate to full speed, gyro weapons do half damage out until the 3<sup>rd</sup> range increment, after which they do full damage.

**Jz-92 Gyrojet Rifle:** This rifle is the standard military small arm of the Akcheetoon nation, and similar designs are used by all other nations. It combines an 8.2mm gyrojet launcher with a 34.6mm rocket launcher.

Type: 8.2mm gyrojet assault rifle Country: Sung Length: 81cm (Size=Medium) Action: Single shot or bursts Ammunition: 8.2x51mm APHE rockets Muzzle Velocity: 310 mps Magazine: 55 rounds ROF: 1/3 Range: 50m Damage: 1d12 (x2) AP Bonus: +1

**TL:** 11

**Weight (Empty):** 2.1kg

**Magazine Weight:** 0.2kg

**Price:** Lv375 (Lv2 for box of 100 rounds)

**Launcher:** A pre-loaded, disposable APHE rocket launcher.

Type: 34.6mm rocket Action: Single shot Ammunition: 34.6x63mm APHE rockets Muzzle Velocity: 290 mps Magazine: 3 rounds Magazine Weight: 0.9kg ROF: 1 Range: 100m Damage: 5d10 (x2) (Lv10 per rocket).

**TL:** 10

**Price:** Lv750

**Vz-22 Gyrojet Pistol:** The 10.2mm Vz-22 is a common military sidearm, and is also in use with a number of police forces.

Type: 10.2mm gyrojet pistol Country: Sung Length: 31cm (Size=Small) Action: Single shot Ammunition: 10.2x22mm rockets Muzzle Velocity: 240 mps Magazine: 15 rounds ROF: 1 Range: 40m Damage: 1d10 (x2).

**TL:** 10

**Weight (Empty):** 0.5kg

**Magazine Weight:** 0.1kg

**Price:** Lv120 (Lv1 for box of 100 rounds)

**Vaxar Spring Pistol:** The spring pistol is an unusual

weapon. It uses a small electric motor to tightly wind a coil spring, which is used to almost soundlessly propel small darts. In Sung political wars, they are often poisoned or treated with psychotropic drugs for assassinations.

Type: 3.7mm dart pistol Country: Sung Length: 8cm (Size=Tiny) Action: Single shot Ammunition: 3.7x14mm darts Muzzle Velocity: 230 mps Magazine: 10 rounds ROF: 1 Range: 20m Damage: 1d6 (x2).

**TL:** 11

**Weight (Empty):** 0.15kg

**Magazine Weight:** 0.1kg

**Price:** N/A

## VEHICLES

Because they fly, Sung don't make much use of commuter-type vehicles, except for delivery vehicles. Nor do they have a well-developed public transportation system. By preference, as much travel as possible is by air. This has severe social ramification when a Sung is too old or infirm to fly, and many choose suicide.

**Axtek'a Lz-809 Fan Tank:** Pushing Sung engineering concepts to the limit, the fantank is more of a low-flying aircraft than an actual tank. It is relatively well armored, and quite well-armed for its size, but it is no match for a human hover tank. Armament consists of a heavy 62mm 3-barrelled ETC gun, along with two pods of two missiles each. During the Slaver War, the predecessor of this vehicle was used extensively in the limited ground fighting between the Sung and the combined Canadian-Manchurian expeditionary force. The Axtek'a is three squares wide and four squares long.

## SPACECRAFT

Within the last 20 years, the Sung have started operating their own starships. The ships themselves are designed and built by the Sung, but the stutterwarp is of human manufacture. The Sung still have a great many system craft plying the spaceways of their home system, using a mix of ion drive and magnetic sail technologies.

**Sung Brilliant Starshine-class Stutterwarp vessel:** The Brilliant Starshine-class is a wholly Sung-designed and built starship, save for the actual stutterwarp drive itself, which is purchased as a sealed unit. Using the standard Sung combination of solar panels and batteries, the design is efficient, and even rather fast for a heavy merchant. Several human merchant corporations have expressed interest in the design, which, while expensive, is economical to maintain. However, the extremely high reflected signature of the solar panels is a cause for concern in some quarters, who feel that the ship is much too visible, and vulnerable.

The Sung counter, that, under Sos-soon-atkacharr, the Human fleets are obligated to protect them, or else let them have the weapons to protect themselves.

FANTANK

Class:	Fan Tank	EP Output:	600 EP MHD Turbine	(309.43 excess)	Heavy Turret w/ 62mm ETC rotary cannon Laser Anti-missile System in cupola Anti-personnel gyro machinegun in cupola 2x decoy dispensers Armor: Front 16 Overhead: 12 Side: 8 Rear:4 Underside:4 Turret Front:12 Turret Side: 8
Price:	1976296		Agility:	5	
Tech Level:	12		Initiative:	+5	
Size:	Huge	11500 vol			
Streamlined?:	Partially		AC:	21	
Pressurized?	Yes		(Size Huge)	-2	
Climate Control?	Yes				
Drive Train:	WIGE		AR:	8	
Crew:	4		SI:	68	
Passengers:	0		Signature:	+6	
Cargo Space:	0				
Fuel:	180 vol				
Range:	1350 km	6 hours			
Speeds:					
Std. Acceleration=	45kph	Max. Acceleration=	225kph		
Very Slow (Stall)=	45kph	Slow=	113kph		
Cruising=	225kph	Fast=	338kph		
Max Speed=	450kph	Off-road=	N/A		
Visual:	2 headlights, 1 Spotlight, 4 video cameras, and 4 HUDs , With IR, LIR				
Sensors:	Radar	Range=Medium	Ladar	Range=Medium	
Comm:	Voder	2-Way Radio	Range=Long		

Other Equipment:

62mm ETC rotary cannon

Weapon	Damage	AoE	RoF	Rng	Ammo volume	Ammo cost
62mm ETC	6d12	-	10	2.6 km	3	50

Name:	Brilliant Starshine		
Class:	Cargo		
Tech Level:	12		
Profile:			
	Radial:	-2	
	Lateral:	0	
Size:	600 Ton Cylindrical Synthetic Hull		
Main Computer:	Model/4		
Sensor Range:			
	Active:	7hexes	
	Passive:	5hexes	
AC:	10		
AR:	0		
SI:	190		
Signature			
	Radial Reflected:	20	
	Lateral Reflected:	20	
	Radiated:	5/5	
Streamlining:	None		
Atmospheric Speed:	Maximum	N/A	
Atmospheric Agility:		N/A	
Flight Avionics:		Model 3	
Thruster Rating:	0	0	
Thruster Fuel:	0dtons	HRF	
	Duration	0minutes	
Cargo to Low Orbit:	N/A	dtons	
Cargo to High Orbit:	N/A	dtons	
Stutterwarp Speed:	Loaded:	1.317ly/day	
	Unloaded:	1.642ly/day	
Tactical Speed:		3	
Stutterwarp Agility:		3	
Power Plant:	0	0	
Power Plant Fuel:	N/A	dtons	
Solar Cells:	23520	m2	Output: 168
Batteries:	EP Output:	50	
	Duration:	7days	
Life Support:	Basic Civilian	576man/days	
Crew:	Bridge:	10	
	Engineering:	2	
	Gunnery:	2	
	Ship's Troops:	0	
	Medical:	0	
	Stewards	0	
	Maintenance:	0	
	Total:	14	
Passengers	High:	0	
	Middle:	0	
Stateroom		14	
Small Cabin		10	
Berth		0	
Freezer Tube		0	
Fresher		8	
Autodoc		4	
Couch		0	
Sickbay		1	
Vehicle shop		0	
Laboratory		0	
Engineering Shop		1	
Cargo:		289.87dtons	
Spin Habitat:	N/A	None	
		0G	
Radiation Screen:		400rads/hour	
Storm Shelter:		2400rads/hour	
Comm. Range:		Very Long Range	
Other Sensors:	Navigational Radar		
	Gravitational Scanner		
	Deep System Scanner		
Small Craft:		0tons, in	
Other:			
Price:		228.82MLv	

Point Defense:	UTES?	
Type 17 DC	1	N/A



## YLII

Ylii equipment tends to be very well-made, sturdy and robust. The Ylii are locked at TL 12, save for their environmental and computer technology, which are both at TL 16. Because of their advanced computer technology, Ylii stutter-warp drives operate at TL 14.

## EQUIPMENT

All Ylii equipment will be compact and built to last. Ylii do not see any value in planned obsolescence. Ylii analogs of most human equipment are available, and will be 20% lighter and smaller (if possible) than the Human equivalents. Ylii equipment is typically no more advanced than Human designs, but it is usually more refined and elegant.

**Ylii Portacomp:** The Portacomp is a recent design aimed at Human markets. It is extremely expensive, but is very powerful. It operates off of voice and manual input, and outputs via either a built-in screen or a retinal projector that sends the image right inside the viewer's eye, making it completely private.

TL: 16  
CPU: 120  
Model: B12  
Int: 2  
PP: 14/6  
Weight: 0.5kg  
Price: Lv7500

## YLII WEAPONS

The Ylii have little in the way of deadly anti-personnel weapons. Police and security forces are armed with non-lethal weapons. The neural disruptor is a Ylii development, and works on any species with a spinal cord. The neural scrambler is the only Ylii lethal weapon commonly available to security forces, and uses the same technology as the disruptor, only more powerful. It kills by using a narrow EM pulse to scramble neural pathways. These Ylii weapons formed the basis of the Human neural weapon designs in use with the occupation troops on the Kafer homeworld. Ignore AR for purposes of armor calculation when using Neural weapons.

**Ylii C'lie Neural Disrupter.** The neural disrupter is a small pistol-sized weapon, and has two power settings: stun and kill. A code must be entered on the weapon to enable the kill setting. Non-Ylii receive a +4 on the save to avoid its effects.

Effect: Stun: Target must make a Fort Save vs. DC18 or fall unconscious for 3d4 minutes. Success still means a -2 on all actions for 3d6 rounds.

Kill: Target must make a Fort Save vs. DC 16 or be killed.

Effect if the save is passed are the same as if a Stun save failed.

Type: Neural Disrupter Pistol Country: Ylii Length: 37cm  
Action: Single shot Muzzle Velocity: C Magazine: 20mj LMS cell (40 pulses) Range: 50m Damage: see below

**TL:** 14

**Weight (Empty):** 1.5kg

**Price:** Lv1250 (Lv10 for 20mj disposable LMS cell)

**Ylii G'esx Neural Scrambler** The scrambler is a rifle-sized weapon designed to overload the higher functions of the victim's nervous system. Non-Ylii receive a +4 on the save to avoid its effects.

Effect: Target must save a Fort save vs. DC 18 or suffer a permanent 1d6 loss to one of INT, WIS, or CHA

Type: Neural Scrambler Rifle Country: Ylii Length: 83cm  
Action: Single shot Muzzle Velocity: C Magazine: 40mj LMS cell (20 pulses) Range: 72m Damage: See below

**TL:** 14

**Weight (Empty):** 3.5kg

**Price:** Lv12,750 (Lv100 for 40mj disposable LMS cell)

**Neural Shield:** A neural shield is a close-knit weave of metal mesh that covers the entire body. It grounds the EM pulse from neural weapons, and so gives an AR of 6 vs. neural weapons. The shield can be layered with other armors at no penalty.

Type: Neural Shield Country: Ylii Area Protected: Full-Body AR: 0 (+4 on saves vs. Neural Weapons) Max Dex Bonus: - Armor Check Penalty: 0 Speed: -

**TL:** 14

**Weight:** 1kg

**Price:** Lv1400

## Ylii Vehicles

**Ylii Flier (Huge Aircraft):** The Ylii flier is a general purpose VTOL aircraft used by the Ylii in a variety of roles. It sees uses as everything from a VIP transport of a Search-and-Rescue vehicle. Though the standard design is unarmored, the mercenaries of the American-Australian Volunteer Force have retrofitted them with light weapons and missiles. The flier is 6 squares wide (including drive fans) and four squares long, the fuselage is only two squares wide..

**TL:** 12

**Price:** MLv 3.3

Ylii Flier					Weapons
Class:	Aircraft	EP Output:	1000EP Gas Turbine	(626.21 excess)	
Price:	MLv3.3		Agility:	8	
Tech Level:	12		Initiative:	+8	
Size:	Huge	14000 vol			
Streamlined?:	Airframe		AC:	16	
Pressurized?	Yes		(Size Huge)	-2	
Climate Control?	Yes				
Drive Train:	Jet	VTOL	AR:	0	
Crew:	2		SI:	73	
Passengers:	4		Signature:		
Cargo Space:	0		Take-Off Run:	VTOL	
Fuel:	1500vol		Landing Run:	VTOL	
Range:	12000 km	6 hours	Clearance:	20m	
Speeds:					
Std. Acceleration=200kph		Max. Acceleration=	1600kph		
Very Slow =	200kph	Slow=	500kph		
Cruising=	1000kph	Fast=	1500kph		
Max Speed=	2000kph	Off-road=	N/A		
Visual:	2 headlight(s)	1 Spotlight(s)	Video with LI, IR, 2 HUDS		
Sensors:	Ladar	Range=Long	Radar	Range = Long	
	Auditory	Range= Short	Olfactory	Range=Close	
	Tactile				
Comm:	Voder	2-Way Radio	Range=Very Long		
Other Equipment: 2 Arms Str 8 Dex 14 Str 20 Winch			Medical Kit	Electronics Kit	
Galley, Autodoc (x2)					

Ylii SPACECRAFT

Ylii spacecraft are all based on spherical hulls ranging in size from the 4m diameter Eyeball sensor drone to the 200m diameter Megaball transport (the naming of these vessels is Human). Though the drives aren't that much better than Human systems, the programming for the control software is significantly better, allowing the Ylii to get better performance out of their drives.

**Softball Courier:** The 15-meter softball is the smallest of the 'manned' Ylii vessels, and is capable of interstellar travel. The vessel is a tight design, and only has 5 days of endurance. It is very fast, however, and can reach the maximum 7.7 light year range of its stutterwarp in less than two days. It currently holds the record for fastest crewed spacecraft in known space.

TL: 12  
Price: MLv64.67

Name:	Softball		
Class:	Courier		
Tech Level:	12		
Profile:			
	Radial:	-1	
	Lateral:	-1	
Size:	120 Ton Spherical Synthetic Hull		
Main Computer:	Model/4		
Sensor Range:			
	Active:	0hexes	
	Passive:	0hexes	
AC:	22		
AR:	1		
SI:	118		
Signature			
	Radial Reflected:	4	
	Lateral Reflected:	4	
	Radiated:	4/1	
Screens:	Rating:	0	
Streamlining:	None		
Atmospheric Speed:	Maximum	N/A	
Atmospheric Agility:		N/A	
Flight Avionics:		Model 1	
Thruster Rating:	0	0	
Thruster Fuel:	0dtons	HRF	
	Duration	0minutes	
Cargo to Low Orbit:	N/A	dtons	
Cargo to High Orbit:	N/A	dtons	
Stutterwarp Speed:	Loaded:	5.342ly/day	
	Unloaded:	5.433ly/day	
Tactical Speed:		11	
Stutterwarp Agility:		11	
Power Plant:	18EP MHD Turbine		
Power Plant Fuel:	68.04dtons		
Solar Cells:	0 m2	Output:	0
Batteries:	EP Output:	0	
	Duration:	168day	
Life Support:	Basic Military	10man/days	
	Basic Civilian	0man/days	
	Extended Military	0man/days	
	Luxury Civilian	0man/days	
Crew:	Bridge:	6	
	Engineering:	7	
	Gunnery:	0	
	Ship's Troops:	0	
	Medical:	0	
	Stewards	0	
	Maintenance:	0	
	Total:	13	
Passengers	High:	0	
	Middle:	0	
Stateroom		0	
Small Cabin		4	
Berth		0	
Freezer Tube		0	
Fresher		1	
Cargo:	5.93dtons		
Radiation Screen:	150rads/hour		
Storm Shelter:	900rads/hour		
Comm. Range:	Very Long Range		
Other Sensors:	Navigational Radar		
	Deep System Scanner		
Price:	64.67MLv		



## AQUILAN TECHNOLOGY

The Aquilans were a highly advanced star-faring culture, with technology at least equal to Humanity's current level. Though much of the Aquilan's architecture is crumbling into ruins, the technology guarding them is still very capable. Indeed, one of the mysteries surrounding the Aquilans is how their equipment remains in such good shape 400 years after they abandoned it.

**Aquilan Guard Robot:** The Guard Robot is quite common in and around Aquilan facilities. One has never been captured intact, as they fight until reduced to scrap. Armament varies, but is usually energy based. These four-legged, man-sized machines will fire until they no longer can, then attempt to close with their opponent. Once they are within two meters they will self-destruct in a powerful explosion. The guard robot is one square wide and two squares long.

**TL:** 12+

**Price:** N/A

**Aquilan Sentinel:** In many ways a space-based version of the Guard Robot, the Sentinel is similar to Human designs. It is a large drone equipped with a stutterwarp drive and a large detonation laser warhead. The computer controlling it

seems to be somewhat more sophisticated than comparable Human models.

**TL:** 12+

**Price:** N/A

300

### Guard Robot

Class:	Walker	EP Output:	6.7 EP Battery (0.18 excess)	
Price:	N/A		Agility:	0
Tech Level:	12		Initiative:	0
Size:	Large	300 vol		
Streamlined?:	Humanoid		AC:	12
Pressurized?:	No		(Size Large)	-1
Climate Control?	No			
Drive Train:	Legs	4 legs	AR:	3
Crew:	1		SI:	25
Passengers:	0		Signature:	-2
Cargo Space:	0			
Fuel:	0			
Range:	200 km	10 hours		
Speeds:				
Std. Acceleration=2kph		Max. Acceleration=2kph		
Very Slow (Stall)= 2kph		Slow= 5kph		
Cruising= 10kph		Fast= 15kph		
Max Speed= 20kph		Off-road= 10kph		
Visual:		1 Spotlights	2 video cameras w/ IR, Low-light	
Sensors:		Radar	Range=Short	
		Auditory	Tactile	
Comm:	Voder	2-Way Radio	Range=Long	

Other Equipment: Laser Rifle Bomb (Damage 4d20, Blast 6 meters increment 6 meters)

Manipulator Arms Str 20 Dex 14, Robot Brain Int 10 Wis 0 Edu 10 Cha 0 Soc 0, Low Autonomous Logic, Full Verbal Command, Skills: Spot +10, Hide +8. Other Programs: Gunnery, Weapons Systems; BAB: +3

### SENTINEL CHANGES:

Speed:		5Profile:	Lateral:	-3Radial:	-4
Signature:	Reflected:	Lateral:	1Radial:	1Radiated:	-2
Sensors:	Active:	7Passive:	64Other:		
AC:		15AR:	0Agility:	3SI:	0
Warhead Type:	Detonation Laser	Size:	14Duration:	unknownPrice:	N/A
Damage:	3d10x2d12	Range:	0#Shots:	1USP:	8

## LITTLE GUYS

Scattered through the remains of their system-spanning society are relics of the Little Guys. These vary from barely functional to full capable, though the former certainly far outnumber the latter.

One interesting thing about Little Guy relics is that there seems to have been two different levels of technology involved in the war, and some of the devices found would not fit the hand of a Little Guy. Too little is known of the war to make any judgments, however.

**Warbots:** The Bayern rescued a number of Little Guys from a moon base on the farther satellite of their homeworld. They had been waging a decades-long war against a group of warbots (warrior robots).

These warbots can also be found on the surface of the homeworld, guarding what were once important facilities but are now little more than glassy ruins. These tracked robots are still quite maneuverable, and very tough. The warbot is two squares wide and two squares long.

**TL:** 11

**Price:** N/A

## MODERN LITTLE GUY TECHNOLOGY

The colonists landed from the moon base by the Bayern, along with some others rescued by a later Human expedition, enjoy a considerable technological advantage over their competitors.

Among other things, the Little Guy colonists have guns, black powder weapons that are hard-hitting and relatively

easy to use.

### Little Guy Musket

Type: 9.4mm black powder rifle Country: Little Guy colonists Weight (Empty):4.2kg Length: 141cm (Size=Medium) Action: Single shot Ammunition: 9.4mm ball Muzzle Velocity: 220 mps Magazine: 1 Ammo Weight: 0.05kg ROF: 1 Range: 36m Damage: 1d6(x2).

## MEDUSAN ARTIFACTS

Medusan technology appears to have been primarily biotechnological, like the Pentapods, but even more advanced. In addition, however, they possessed conventional technology at least on par with current Human levels.

The most notable Medusan artifact was the so-called "Memory Plant," which appears to have been some sort of log recording device. Rumors of its telepathic ability are simply that, rumors. The bio-tech device merely possessed an extremely advanced interface, which could record thoughts and impressions. The Memory Plant was able to download its recordings to a receptive Human brain, which gave Humanity the first glimpse of the long-ago war between the Medusae and the beings they called "The Enemy". Though the subject of the download was driven psychotic by the experience, he was able to give Human researchers a great deal of information as they strove to cure him.

The crater gardens of Kanata, along with Kanata's unusual flora and fauna are though to be Medusae remnants as well.

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### Warbot

Class:	Tracked AFV	EP Output:	25 EP Battery	(5.27 excess)
Price:	401,051.20	Agility:	+2	
Tech Level:	11	Initiative:	+2	
Size:	Large			
Streamlined?:	Standard	AC:	19	
Pressurized?	No	(Size Large)	-1	
Climate Control?	No			
Drive Train:	Tracked	AR:	8	
Crew:	0	SI:	32	
Passengers:	0	Signature:		
Cargo Space:	0			
Fuel:	0			
Range:	0			
Speeds:				
Std. Acceleration=	6kph	Max. Acceleration=	6kph	
Very Slow (Stall)=	6kph	Slow=	15kph	
Cruising=	30kph	Fast=	45kph	
Max Speed=	60kph	Off-road=	20kph	
Visual:	1 Spotlight(s)	3 video cameras w/IR, Low-light		
Sensors:	Radar	Range=Medium		
	Auditory	Tactile		
	Enhanced Olfactory			
Comm:	Voder	2-Way Radio	Range=Long	

Other Equipment: 2x70-01 laser rifle, 1x 32mm grenade launcher in small turret

Manipulator Arms Str 30 Dex 10, Robot Brain Int 10 Wis 0 Edu 10 Cha 0 Soc 0, Low Autonomous Logic, Full Verbal Command,

Skills: Spot +10, Hide +8. Other Programs: Gunnery, Weapons Systems; BAB: +3

**MEMORY PLANT:**

The public explanation of the Plant downplays the device's telepathic ability. It is up to individual GMs as to what is the truth in this situation.

## ENEMY ARTIFACTS

Very little is known about the Medusan's Enemy. Beyond basic body height, and to an extent shape, nothing more is known. The only technological artifact of theirs was found in an underwater pyramid on Aurore. It was a knife, stuck into a wall in the otherwise empty stone structure. The knife came out easily, and is exceptionally sharp. Even particle microscopy has failed to resolve the weapon's edge. It can cut anything, given sufficient force, and itself is next to impossible to break. Using a specially-developed wire knife, researchers were barely able to peel a small sliver off the knife for analysis. The sample rapidly deteriorated.

The Astronomischen Rechen-Institut has the knife at their facilities at the University of Heidelberg, where it is booked for years into the future by scientists wanting to examine it.



# SPACE TRAVEL

The society of 2320AD is highly technical and highly mobile, and the ultimate expression of both these traits is space travel.

Spacecraft and starships are extremely complicated pieces of engineering, yet at the same time they are quite commonplace in the 24<sup>th</sup> century. Estimates run as high as 20,000 ships engaged in commercial operations throughout Human space, though the majority of those are spaceplanes, shuttles and other small craft. There are a number of tasks and operations associated with space craft, which will be looked into further in this chapter.

## INTERFACE TRAVEL

Interface travel is the process of getting to and from orbit, and is one of the most expensive parts of space travel in 2320. On Earth, Tirane, and Beta Canum Venaticorum, there are beanstalks, orbital elevators which greatly reduce the costs associated with getting to and from orbit. However, these elevators often have long waiting times, and the time to orbit via these constructs can be upwards of five days. Other methods include spaceplanes, rotons (rotary rockets), rockets, and catapults, all of which are discussed in the following sections.

## BEANSTALK OPERATIONS

The most advanced, most comfortable, and cheapest method of getting into orbit is the space elevator, or Beanstalk, as it is often known. It is also the slowest, tak-

ing about five days to reach geosynchronous orbit. Beanstalk travel is accomplished via elevator cars that travel along the cable, pulling themselves along through a series of redundant linear-magnetic motors. The motors are typically replaced at the end of each journey to or from orbit, whereupon they would have logged 35,000 kilometers.

During the trip to orbit, the passengers will experience a fall-off in gravity. By the end of the first day of travel, gravity in the capsule is just 0.2 G, but doesn't reach 0 G until the end of the fifth day, when the capsule reaches geosynchronous orbit.

Travel on a Beanstalk carriage is usually quite luxurious, with many of the carriages designed around a 19<sup>th</sup> century rail car theme, or some other period in history.

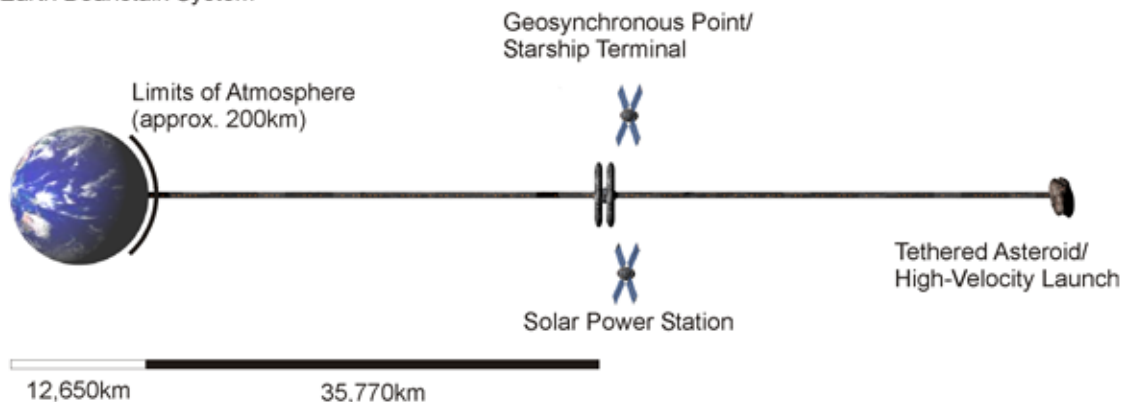
### MURDER ON THE MATAGLAP EXPRESS:

On a trip up the Indonesian Beanstalk, one of the passengers is murdered, and the PCs look like the prime suspects. Can they clear their name in the four days before the capsule reaches Mataglap station?

## SPACEPLANE OPERATIONS

The spaceplane provides a relatively luxurious flight to orbit. Smaller models are dedicated to passenger carriage, while many larger models are used exclusively for freight. The spaceplane has largely replaced the shuttle in most interface operations. In part because of its ability to maneuver, the spaceplane is also the preferred method of interface travel for the military. Newer space planes used MHD thrusters, usu-

Earth Beanstalk System



(Note: Objects are NOT to scale)

ally the hybrid air-breathing/liquid fuel variety, while older models use a scramjet/rocket engine. On high-gravity worlds, or for heavy cargos, solid-fuel boosters are sometimes required. Spaceplanes are operated in a similar fashion to 20<sup>th</sup> century airlines, though the trips are usually much shorter.

**Launch:** T/Astrogration vs. DC 10

**Flight:** Pilot vs. DC 12

**Orbital Insertion:** Pilot vs. DC 14

Requires Vessel/Small Craft Proficiency and Pilot Skill

**Skill Roll Modifiers:** Zero-gravity (0-0.4 G) +4, Low-Gravity (0.4-0.8 G) +2, Normal 0, High Gravity (1.25+) -2  
+1 per computer model number

## ROTON OPERATIONS

Far away from civilized airfields and runways, the roton can land in any clearing big enough for its wide rotors, without the environmental damage of conventional drive systems. However, its lack of atmospheric maneuvering ability restricts it to the civilian sector. Most rotons are not able to operate on high-gee worlds, as they are not designed to accepted auxiliary boosters.

**Launch:** T/Astrogration vs. DC 12

**Flight:** Pilot vs. DC 14

**Orbital Insertion:** Pilot vs. DC 14

Requires Vessel/Small Craft Proficiency and Pilot Skill

**Skill Roll Modifiers:** Zero-gravity (0-0.4 G) +4, Low-Gravity (0.4-0.8 G) +2, Normal 0, High Gravity (1.25+) -2  
+1 per computer model number

## ROCKET OPERATIONS

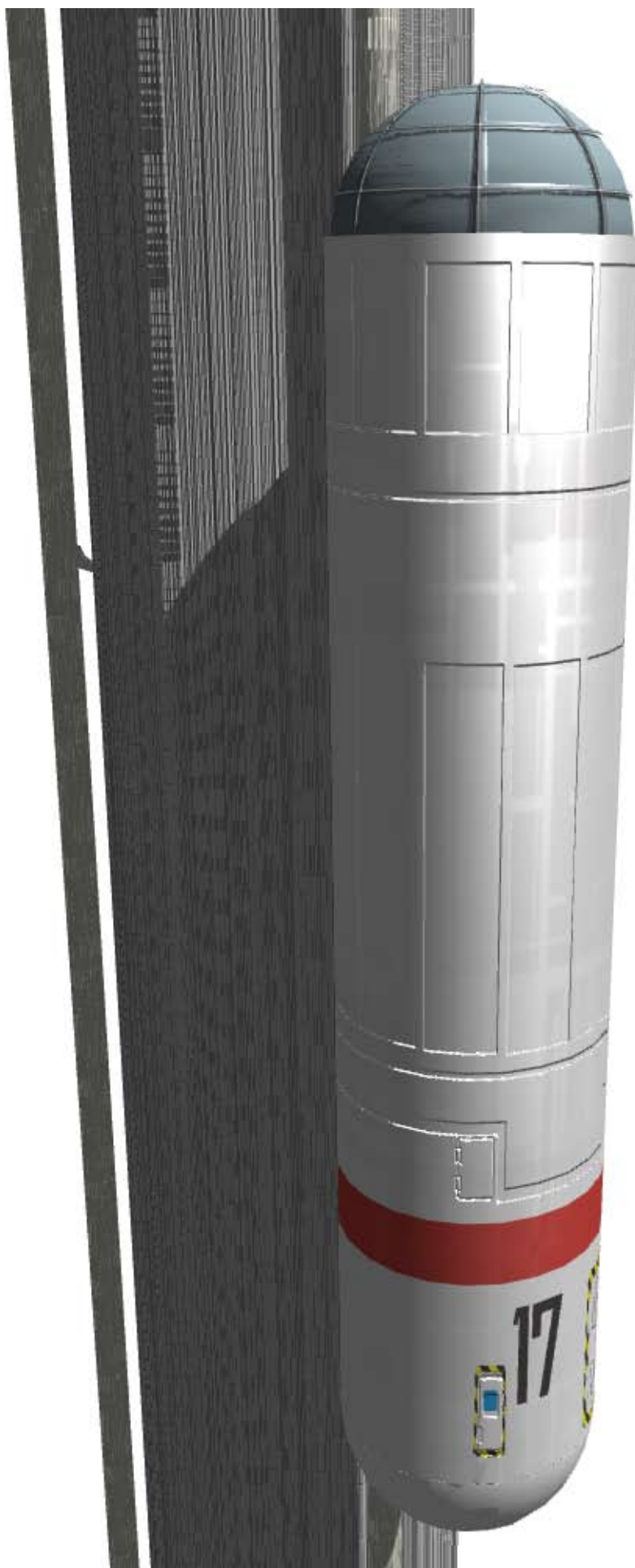
Simple, reliable and cheap, basic rockets are used to provide disposable cargo lifting to orbit. Only rarely are they used for passengers. Rockets carry fairly large payloads for their size and cost, but are not reusable.

**Launch:** T/Astrogration vs. DC 14

**Orbital Insertion:** Pilot vs. DC 16

Requires Vessel/Small Craft Proficiency and Pilot Skill. These checks can be accomplished remotely.

**Skill Roll Modifiers:** Zero-gravity (0-0.4 G) +4, Low-Gravity (0.4-0.8 G) +2, Normal 0, High Gravity (1.25+) -2  
+1 per computer model number



## CATAPULT OPERATIONS

The last method of orbital access is only suitable for inert cargo, as the heavy accelerations of the catapult render it unsuitable for live cargo. Catapult sleds are often launched with accelerations of 100 G or more. As they are powered by a ground-based system, the catapult is one of the most cost-effective forms of interface travel for durable goods. Flight time for a catapult sled is only a couple of minutes, or even less.

Only one task roll is required of an operator to place a cargo in orbit:

Astrogation vs. DC 14 (+2 DC for world gravities 1.12 or higher) (-2 DC for world gravities 0.74 or lower)

## TIME TO ORBIT

The time required for an interface vessel to reach low orbit is equal to (the square root of (2 x world gravity / space-craft acceleration)) x 10.

Time to reach high orbit is double this amount.

On a world without an atmosphere, or for non-space-plane vehicles, subtract the gravity of the world from the vehicle's acceleration calculating time-to-orbit. Spaceplanes do not subtract the world's gravity from their acceleration for purposes of this calculation. Low orbit is usually between 120 and 300 kilometers in altitude, while high orbit is between 400 and 600 kilometers in altitude.

## REENTRY AND LANDING

Landing on a planet is typically a simpler proposition than getting off of it, but there are some factors to keep in mind.

### DEAD GLIDERS

An unpowered landing can be made by any airframe vessel. The world has to have an atmosphere for this method. Most commercial spaceplanes use this method.

**Reentry:** T/Astrogation vs. DC 16

**Flight:** Pilot vs. DC 14

**Landing:** Pilot vs. DC 14

Requires Vessel/Small Craft Proficiency and Pilot Skill

**Modifiers:** Zero-gravity (0-0.4 G) +4, Low-Gravity (0.4-0.8 G) +2, Normal 0, High Gravity (1.25+) -2  
+1 per computer model number.

### POWERED LANDING (ATMOSPHERE)

Spaceplanes can make powered landings, if need be, and military landing craft use it extensively.

**Reentry:** T/Astrogation vs. DC 16

**Flight:** Pilot vs. DC 12

**Landing:** Pilot vs. DC 12

Requires Vessel/Small Craft Proficiency and Pilot Skill

**Modifiers:** Zero-gravity (0-0.4 G) +4, Low-Gravity (0.4-0.8 G) +2, Normal 0, High Gravity (1.25+) -2  
+1 per computer model number.

### POWERED LANDING (VACUUM)

Used by landers on airless worlds.

**Reentry:** N/A

**Flight:** Pilot vs. DC 14

**Landing:** Pilot vs. DC 14

Requires Vessel/Small Craft Proficiency and Pilot Skill

**Modifiers:** Zero-gravity (0-0.4 G) +4, Low-Gravity (0.4-0.8 G) +2, Normal 0, High Gravity (1.25+) -2  
+1 per computer model number.

### ROTONS

The roton is a combination of a ballistic drop coupled with a powered landing from its rotors. On a vacuum world the roton uses the same series of tasks as any vessel making a powered landing in vacuum.

**Reentry:** T/Astrogation vs. DC 16

**Flight:** Pilot vs. DC 14

**Landing:** Pilot vs. DC 12

Requires Vessel/Small Craft Proficiency and Pilot Skill

**Modifiers:** Zero-gravity (0-0.4 G) +4, Low-Gravity (0.4-0.8 G) +2, Normal 0, High Gravity (1.25+) -2  
+1 per computer model number.

### BALLISTIC DROPS

Ballistic drops use a method similar to the first manned space flights, and just drop the reentry vehicle into the atmosphere. A simple ablative heat shield and parachutes slow the vehicle down enough for it to land. After the ballistic package reenters an atmosphere it can no longer be effectively controlled.

**Reentry:** Astrogation vs. DC 16

**Flight:** N/A

**Landing:** N/A

Requires Vessel/Small Craft Proficiency and Pilot Skill

**Modifiers:** Zero-gravity (0-0.4 G) +4, Low-Gravity (0.4-0.8 G) +2, Normal 0, High Gravity (1.25+) -2  
+1 per computer model number.

Note that any of these Skill checks can be made by a remote operator or computer program.

### TRAVEL TIME

Time from orbit is based on world size, and atmosphere type, modified by whether the vehicle is a dead glider, a ballistic drop or a powered landing.

Even the powered vehicles generally glide for a good portion of their drop, largely to save fuel.



## TRAVEL TIME, FROM ORBIT

**Glider (shuttle or spaceplane):** Travel Time = 10 x square root of (2 x world gravity)

**Ballistic Drop:** Travel Time = 15 x square root of (2 x world gravity)

**Powered Landing:** Travel Time = 7 x square root of (2 x world gravity)

**Powered Landing (vacuum world):** Travel Time = 5 x square root of (2 x world gravity)

## DAMAGE AND REENTRY

Any vehicle that has taken more than 5% of its SI in damage will be unable to attempt atmospheric re-entry, as its heat shield will have been compromised. A skilled pilot may attempt to do so, but the reentry roll goes to DC 28. Failing this roll means that the vessel is destroyed on re-entry.

## SYSTEM SHIPS

Systems ships are slow, low-powered stutterwarp vessels designed for carrying cargo across interplanetary distances. Beyond the system's FTL shelf they can actually manage FTL speeds, making transport beyond the shelf very fast. Transport in the rest of the system is relatively slow, though still more effective than reaction-drive vessels. These ships use very small and inexpensive stutterwarp drives, allowing even non-star-faring nations and organizations access to interplanetary space.

### Lucky Cats:

Many merchant vessels carry a ship's cat. The Japanese will tell you this is because it has long been a tradition on Japanese vessels to carry a tortoiseshell cat for luck, and how at the end of the Twilight War, the Japanese had the world's only major merchant fleet. Other nations, the Japanese say, picked up on the idea, and spacers being a superstitious lot, continued it themselves.

The tradition of a ship's cat, however (tortoiseshell or otherwise), was common on surface ships of all nations long before the Twilight War, and it is inevitable (people being what they are), that the custom continued on space ships.

## ZERO-GRAVITY

Prolonged exposure to zero-gravity can have detrimental health effects. The OG DNA modification largely alleviates these problems, but they can still strike.

For every week in a zero-gravity environment, characters must make a Fortitude save vs. DC 12, increasing by 1 per week. If they fail, they suffer a cumulative -1 to both Str and Con due to muscle and bone degradation.

The OG DNA modification gives a +6 to all rolls to avoid stat loss.

## ARTIFICIAL GRAVITY/ SPIN HABITATS

For any sort of long-duration flight, artificial gravity is necessary to maintain the health and well-being of the crew. The low gravities generated by spin habitats do contribute, but still require stringent exercise and metabolic treatments. The psychological effects cannot be ignored; even minimal gravity allows the crew to eat, sleep, and perform other daily functions in relative comfort and ease.

Many voyages between the stars can require weeks, or even months, to reach their destinations, so some sort of artificial gravity is necessary. The only practical way to accomplish this in 2320 is through the use of spin habitats, which provide a sensation of gravity through centripetal force.

**Spun Hull:** This is the simplest, but usually largest, spin habitat type available. The hull is simply a large cylinder that spins around its axis, providing gravity along the edge of the cylinder. Due to Coriolis effects, the central part of the cylinder (within a radius of 6 meters) is unusable for crew or passengers, and is usually used for cargo, fuel and low maintenance machinery. More often the hull is built as a torus, and the central core is occupied by a non-spinning drive/power plant module. Most large space stations are constructed in this fashion.

**Double Hull:** The outer hull spins but surrounds an enclosed inner hull which does not. The design is most useful for large designs, as the enclosed central hull is at least 9 meters in radius.

**Hamster Cage:** The hamster cage is a cylindrical module that is at least 9 meters in radius, and spins to create an artificial gravity. Unlike other designs, the hamster cage is usually set at right angles to the hull, and is usually installed in counter-rotating pairs. This eliminates torque effects on the ship's attitude.

**Spin capsules:** The spin capsule system is a set of small capsules at the end of a long rotating arm. Most ships have between one and four of these capsules, though two is the most common number.

**Extendable spin capsules** The extendable spin capsule can retract against a vessel's hull, minimizing the target profile and reducing the vulnerability of the ship's life support sections in combat.

**Two-body:** Two ships of the same size can join up via a retractable tower or pylon, and spin around the common center of mass. This was common in older vessels, and still sees use in the Hercules-class tug.

All the different types of spin habitats have essentially the same effect. The perceived gravity inside the spin habitat depends on two factors: diameter of the habitat, and speed

of rotation. The larger the habitat, the slower it has to rotate to produce a certain felt gravity. The faster a spin habitat rotates, the higher the felt gravity for a certain radius.

Radius	3 RPM	2 RPM	1 RPM	<1 RPM
15m	0.15g	0.07g	0.02g	0.01g
30m	0.30g	0.13g	0.03g	0.02g
45m	0.45g	0.20g	0.05g	0.03g
60m	0.60g	0.27g	0.07g	0.04g

High RPM values can have a negative effect on balance, and can even induce nausea. Anything over 4 RPM is distinctly unhealthy, while 1-3 RPM can have negative side-effects. Civilian ships will rarely rotate at more than 1 RPM, while military ships may go up to 3 RPM.

### SPACE STATIONS:

Space stations are usually designed with a very large radius, and usually spin at rates under 1 RPM. The large space habitats only spin at about 1/3 RPM. Many large stations feature several rings or habitat zones to provide lighter or heavier gravity than normal.

The following chart contains the normal RPM values found in most ships. The Fortitude Save DC is the roll that must be made to avoid nausea and dizziness. If the roll is failed, then the effects of the next column take effect. This roll is made each week. Note that the lowered Con caused by the nausea and dizziness will reduce Fort Saves, making it less likely that the unfortunate will pass the next Save.

RPM	Fortitude Save DC	Effect if failed
3	16	-3 Dex, -2 Con
2	13	-2 Dex, -1 Con
1	10	-1 Dex

## RADIATION

There are many different sources of radiation in space. Fission and fusion power plants produce significant amounts of radiation, as do nuclear weapons and particle beam weapons. Operating stutterwarps also produce radiation, though usually in small amounts. Additionally, all stars output large amounts of radiation, and during flares and storms can put out lethal doses in a short amount of time. Any planet that has a magnetic field also possesses radiation belts, as the magnetic field captures energetic particles put out by the local star. Gas giants in particular often have extremely intense radiation belts.

Source	Severity	Rads/hour
Fission Power Plant Breach	Severe	400
Fusion Power Plant Breach	Moderate	180
Operating stutterwarp	N/A	2
Solar Radiation	Mild	50
Solar Flare	Lethal	800-1000
Radiation Belt (Terrestrial)	Moderate	200
Radiation Belt (Gas Giant)	Lethal	800-900

For protection from radiation, ships usually use a Lafarge radiation screen, an electromagnetic screen that blocks high energy charged particles. It is less effective against other types of radiation, though these can usually be blocked or at least attenuated by the hull. Nor is the radiation screen effective against particle beam weapons, as those weapons use neutral particles. However, the screen is somewhat effective against the secondary particles spalled off from a particle beam strike. (Reduce severity of radiation damage by one level, e.g. Severe to Moderate. Many survey vessels, space stations, and other long-duration vessels contain a storm cellar, a small chamber usually placed in the middle of a large tank, or series of tanks, of water.

## STUTTERWARP

The stutterwarp drive is one of the more complex technologies created by humanity, and few profess to completely understand it. It enables faster-than-light travel, giving people access to the stars. It stands out as the only watershed theoretical breakthrough which took place between the beginning of the global recovery from World War III and the present (2320 AD). This discovery was made in 2080 AD at the new large French synchrocyclotron facility at Grenoble. On August 18th of that year, a complete hydrogen molecule was induced to perform a microscopic quantum jump. Within two years the experiment had been replicated at the C.E.R.N. facility in Switzerland, and a small group of theoretical physicists had realized that mankind had finally discovered the key to the stars. However, scaling up the Jerome effect (Named for Dr. Emile Francois Jerome, 2021-2103) from moving a single hydrogen molecule to moving a large fabricated spacecraft was a long, complex, and extremely expensive proposition. It was not until 2136 AD that the first unmanned stellar probe was launched, and eight more years passed before manned survey ships were launched to the stars. These early designs were quite slow compared to modern vessels, but actually had the same range: 7.7 light years.

## THE BASICS

Stutterwarp drives operate on the same principles as the tunneling phenomenon that can occasionally be observed in some sub-atomic particles. The tunneling effect allows a physical mass to be moved from one location in space to another, instantaneously, without passing through the intervening space.

The distance that a stutterwarp vessel travels is relatively short, and depends on local gravity conditions, but in interstellar space each jump is typically several hundred meters. Stutterwarp drives cycles several hundred thousand times per second, though, depending on the rotational rate of the core, thus moving very quickly.

Objects traveling via stutterwarp do not have a true

velocity, despite appearances. If the stutterwarp drive is stopped, the vessel stops as well. While under stutterwarp, a vessel actually retains the velocity it had prior to the engagement of the drive, and will once again resume moving at that velocity when the drive stops. Though this does present some difficulties in maneuvering, most pilots are up to the task.

The most important part of the stutterwarp drive is the stutterwarp core, an intricate spiral of superconducting ceramic doped with crystalline tantalum. This core is spun at over one hundred thousand rpm in a shielded chamber at the heart of the drive mechanism.

As the core jumps it carries the vessel along with it, thanks to the superconducting field it generates.

#### CONSIDERATIONS OF STUTTERWARP TRAVEL

**The Threshold:** Stutterwarp drives exhibit a severe drop-off in efficiency when within a gravity well of 0.00011 G or greater. Stutterwarp efficiency falls off by an order of magnitude, reducing the vessel to sub-FTL speeds. The FTL Threshold is a reference to the distance from a system's star that stutterwarp performance degrades to the point where the ship drops below FTL speeds. To determine the stutterwarp shelf of any given system, use the following formula:

$$R = 2.45 \times M^{1/2} = 2.45 \times \text{Squareroot (M)}$$

Where R is the star's threshold radius measured in astronomical units, and M is the mass of the star measured in solar masses (1 solar mass =  $1.99 \times 10^{27}$  tons).

To determine the stutterwarp threshold for any given planet, use the following formula:

$$AS = (((1/(0.00011 \times G))^{1/2}) - 1) \times R$$

**G** = world gravity, in Gs

**R** = world radius, in kilometers

**AS** = Altitude of stutterwarp threshold, in kilometers

The Stutterwarp shelf would occur at roughly 35,000 km above an Earth-sized world (As long as the world in question is in unstressed space.)

**The Wall:** The Stutterwarp wall is the point at which stutterwarp efficiencies drop to the point where they end up being slower than conventional reaction drives. They are, however, still usable. This occurs within a gravity well of 0.11 G, which is also the minimum gravity well required for discharging a stutterwarp. To determine the FTL wall for any system, use the following formula:

$$R = 0.078 \times M^{1/2} = 0.078 \times \text{Squareroot (M)}$$

Where R is the star's wall radius measured in astronomical units, and M is the mass of the star measured in solar masses (1 solar mass =  $1.99 \times 10^{27}$  tons).

To determine the stutterwarp wall for any given planet, use the following formula:

$$AW = (((1/(0.11 \times G))^{1/2}) - 1) \times R$$

**G** = world gravity, in Gs

**R** = world radius, in kilometers

**AW** = Altitude of stutterwarp wall, in kilometers

The stutterwarp wall is approximately 13,500 km above Earth.

#### NAVAL TERMINOLOGY:

Many space navies are based on their wet naval ancestors. In these militaries, alternate terms are used instead of Threshold and Wall. The Deeps: The Deeps are the volume of unstressed space, where a starship can operate at FTL speeds, Deep space, in other words. The Deeps begin at the system Shelf. The Shelf: Naval term for the Stutterwarp Threshold. The Shallows: Volume of space between the system's Shelf and the Wall, defined below. FTL travel is not possible in the shallows.

**The Beach:** Naval term used for the Stutterwarp Wall. Operating too close to the edge of the Shallows might lead a vessel to accidentally lose stutterwarp headway, and become Beached.

**Orbital Transfers:** Beyond the wall, stutterwarp vessels are typically slower than reaction drives, their major advantage being that stutterwarp drives do not require any reaction mass. A stutterwarp drive can be used to maneuver from the Wall down to the low orbit range of most landers and spaceplanes. However, care must be taken to not enter an atmosphere with an operating stutterwarp, as quantum interactions will usually destroy the drive. Nor can a stutterwarp be used to land, even on an airless world, due to the risk of quantum interactions while under stutterwarp. Another issue is that the vessel has retained whatever velocity it had prior to the stutterwarp being engaged, which could present many problems. To avoid this risk, no ship will approach closer than the 0.95 G gradient, which for Earth is 165 km.

**Speeds:** A stutterwarp operates at three speeds: FTL, sub-FTL, and orbital. FTL speed is the listed speed of the vessel in light years/day. Sub-FTL speeds are used when the vessel has passed the stutterwarp shelf, and are arrived at by multiplying the listed speed (in LY/day) by 0.645 to get the speed in AU/day. Orbital speeds are used after the ship has hit the Wall, and are useful for little more than transfer orbits. Ships at orbital speed must subtract the world's surface gravity from their warp efficiency rating, and then multiply the new number by 10000 to determine their speed in kilometers per hour.

**Range:** Quantum interactions as the drive moves through space build up what some have dubbed a "gravistatic" charge on the tantalum coils of a ship's drive. This is compounded by real-space intersections with hydrogen



atoms and other bits of matter as the Sutterwarp moves along, interposing itself on each bit of space it jumps into. As the coils build up the charge, it starts to distort the crystal shape of the atoms in the drive coil. After a critical level has been reached, typically after 7.7 light years, the Tantalum drive core spontaneously decays into Hafnium, and releases an intense, lethal burst of radiation. The radiation is of Lethal Severity and the discharge usually destroys the drive room, along with the drive. The radiation burst usually kills the crew outright.

Once a ship arrives in a gravity well of at least 0.11G, the ships can discharge the drive. The gravity well attracts the "gravistatic" charge from the drive coils over the course of several hours, allowing the crystal structure of the coil to return to normal. Discharge time is a function of the distance traveled, and take about 6 hours per light year traveled. Thus a full 7.7 light year voyage would take 44.2 hours to discharge.

#### **TANTALUM Availability:**

Tantalum is a very rare element, and the isotope Ta-180 even moreso. The Ta-180 isotope is the only one that can be used in a stardrive. It has only a limited availability, and though the quantities used in the construction of a stardrive are relatively small, it is still a managed resource. This limited availability ensures that only a limited number of ships can be built per year. A tantalum-180 find of any size is enough to make its discoverers very wealthy.

**Delaying Discharge:** It is possible for a skilled Engineer to delay the discharge time by up to 24 hours. It is extremely difficult to do, and the risks are likewise extremely high.

Delay Discharge, T/Engineering DC22 (-1 DC per Computer Model number)

The intent to Delay Discharge must be declared before the vessel starts out. The above skill check is rolled for then, but the GM should keep the number a secret until the vessel passes 7.7 light years. If the roll failed, the drive core decays as above. If the roll succeeded, the ship can travel an additional day at full speed. You cannot Take 10 or Take 20 on this roll due to its extreme uncertainty, even if you possess the Professional Specialization Feat which would otherwise allow you to do so.

**Sutterwarp Communications:** The sutterwarp drive itself can be used to communicate. By flicking the drive on and off, gravitic pulses can be sent out and detected from anywhere in the system. Though these pulses are limited to light-speed, they are the most effective broadcast transmitter available. Any sutterwarp ship can transmit, but a grav scanner is required to receive the signal. Communication rate is

#### **Brazilian Tests:**

Brazil has always been interested in the technique of delaying discharge, as it can cut months off the trip to their colony at Procyon. In recent weeks, Brazil has sent out test vessels with some of the crew provided by British Exo-Space. There are even rumors of an alien being sighted boarding the Brazilian vessel. According to the rumors, the test vessel arrived at Paulo only two weeks after it departed Earth.

very slow, as each pulse takes over a second to send, so it is generally limited to short code phrases.

#### **STUTTERWARP TUGS**

Sutterwarp tugs are vessels designed to breach the 7.7 light-year limit on starship ranges. The tugs carry the vessel out 3.85 light years, half the tug's range. The tug then brings the carried vessel's drives online, and it makes the remainder of the journey, allowing the carried vessel to travel up to 11.55 light years. In order to return, there must be a tug at the other end to bring the ship a third of the way back.

Though simple in concept, the execution of Sutterwarp tug technology is difficult in practice. This likewise applies to ships using disposable Sutterwarp drives, such as the Bayern. Any Sutterwarp drive that is online as a vessel moves through space builds up a charge, as described above. It doesn't matter whether the drive is actually doing anything or not, it still builds up a charge. The only way to move a drive safely without incurring a charge is to take it off-line. For a Sutterwarp, this means despinning the drive core, turning off the electromagnetic field produced by the drive, and properly storing the core so it can be safely used again. This is relatively easy provided the drive does not have a charge. The tricky part is getting the drive core going again. Not only does it have to be brought back up to speed, but great care has to be taken to ensure that it is properly aligned, both with its housing and with the electromagnetic field of the drive, and the ship itself. This is a painstaking operation, one normally conducted inside the sutterwarp discharge limit of a gravity well where the gravity gradient provides the necessary alignment without the need for specialized equipment.

Sutterwarp tugs use newly developed technology that allows the alignment of a sutterwarp drive unit outside of a gravity well. The Bayern used a First Generation calibrator, which took a considerable volume of space on the ship. Newer tugs use a Second Generation calibrator that is much more portable, but more expensive.

A sutterwarp tug contains a portable sutterwarp alignment matrix, and uses that to bring the drives of a towed vessel back online while a ship is in deep space. The new, Second Generation calibrator technology is covered by several American and international patents, which won't run out

until 2327. Until then, Trilon and the Pioneer Society are doing their best to cover as much ground, and make as much money, as possible.

Argentina's recent entry into the tug field has both Trilon and the Pioneer Society crying foul.

### STUTTERWARP TUG VARIANT:

The Life Foundation has pioneered a variation on the stutterwarp tug technology. Their tugs are much simpler, as they don't incorporate a stutterwarp drive tuner. Instead, the tug tows a vessel to a deep-space station, which has a First Generation tuner. This station brings the towed vessel's stutterwarp drive back up, while the tug returns home. This system requires two stations, one for the journey out, and the other for the return trip.

**Brown Dwarfs:** Brown Dwarfs are massive sub-stellar objects, and are often described as failed stars. Many times more massive than Jupiter, yet considerably less massive than the sun, Brown Dwarfs are another method to break the 7.7 light year barrier on Stutterwarp travel. They serve as a convenient discharge point in deep space, and, unlike a much smaller rogue planet, are at least possible to discover.

Brown dwarfs can be found in interstellar space, though they are difficult to find, and sometimes a brown dwarf is ideally placed to provide a bridge to stars that would otherwise be out of range of a stutterwarp drive vessel. One such brown dwarf is used to make the connection to the Beta Aquilae cluster; another is part of the Back Door route to Ylii and Kafer space. The latest discovery allows passage along the Bayern corridor, with the aid of a stutterwarp tug system leased from Trilon.

### EASY SYSTEM LINK OPTIONS:

Astronomers suspect that there are many brown dwarfs and other interstellar planets out there. If you need a link to a system for your campaign, placing a brown dwarf is an easy option. Tugs and stations are harder options, but perhaps more rewarding and less of a *deus ex machina* solution.

### Appearance and Effects of Stutterwarp Travel:

From a ship traveling less than the speed of light, there is no discernable change in the view outside the vessel. However, to an external viewer, a stutterwarp vessel moving at sub-light velocities appears to be blurred, with the blurring getting more pronounced the faster the vessel goes. This is a function of quantum indeterminacy, as the vessel's position become a probability cone rather than vector. To an extent, though, the blurring effect is an optical illusion resulting from persistence of vision in the observer. Sensor systems are not so confused, but still are unable to get an absolute lock on a stutterwarp vessel's position.

Once a vessel goes faster-than-light, the visual effects

become even more spectacular. To an outside observer, the vessel is so blurred as to be practically invisible. This is an effect of both the probability cone of the vessel becoming very elongated and diffuse, and the persistence-of-vision illusion. However, as an FTL vessel comes up to an observer, and passes them, a most unusual effect occurs. Though the vessel itself is practically invisible, the images of it as it stuttered along have more-or-less solidified, and to the outside observer, as the vessel passes, he can see images of it moving away in both directions! The image moving in the direction the vessel came from is the termination image, or chaser.

To an observer on the ship, the only thing most observer see is the stars have become squiggly lines rather than points. This is an indeterminacy issue stemming from the drive. The most spectacular effect, though, is the termination image mentioned earlier. Should the ship suddenly drop out of stutterwarp, all the light from previous positions of the ship will "catch up" to the stopped vessel. The effect is as if the image is moving away, as light from the nearest points catches up first, and the image seems to recede away.

There is a subtle time distortion involved with the stutterwarp drive operation, such that clocks on the vessels are out by approximately 1 second per light year once they've finished their voyage, compared to local clocks using Sirius as an astronomical reference point. No one knows the cause of the apparent time-dilation, but apart from having to reset timepieces it doesn't cause any problems.

## STARSHIP OPERATING COSTS

Service	Core Cost	Frontier Cost
OQC Inspection	Lv1000	N/A
Fuel, per dton*	Lv2000	Lv1800
Nuclear Reactor Core	40% of reactor cost	60% of reactor cost
Reaction Mass, per dton <sup>H</sup>	Lv1000	Lv900
Annual Maintenance	Lv100/ton of ship	Lv200/ton of ship
Berthing Fees	Core Cost	Frontier Cost
Orbital	Lv100 per ton/week	Lv50 per ton/week
Surface	Lv10 per ton/week	Free
Life Support	Core Cost	Frontier Cost
Basic Military	Lv20 per man/day	Lv30 per man/day
Long-duration Military	Lv40 per man/day	Lv60 per man/day
Basic Civilian	Lv30 per man/day	Lv40 per man/day
Luxury Civilian	Lv60 per man/day	Lv80 per man/day

\*Power plant fuel is both Liquid Oxygen (LOX) and Liquid Hydrogen (L-Hyd).

<sup>H</sup>Reaction mass is liquid hydrogen, and is only used for nuclear rockets. Conventional thrusters use the same fuel as power plants.

Nuclear (fission) reactors have to have their core replaced about every five years.

## CREW SALARIES

Crew Position	Standard Rate	Expert Rate*
Pilot	Lv4000	Lv6000
Navigator	Lv3000	Lv4500
Sensor Operations	Lv3000	Lv4000
Engineer	Lv4000	Lv5500
Gunner	Lv2000	Lv3000
Small Craft Pilot	Lv3000	Lv4500
Remote Pilot	Lv3000	Lv4000
Steward	Lv2000	Lv4000
Cargo Handler	Lv1000	Lv1500
Medical	Lv4000	Lv6000

\*Character Level >10

Pay rates are per month. Crewmembers on commercial vessels can elect to take cargo space in lieu of pay, at the rate of Lv500 per 0.25 tons of cargo space. This space can be used however the crew member wants, as long as it isn't illegal and places no additional demands on the ship's systems or crew. This space is often used for personal storage, recreation or, most often, as freelance cargo space.

## CHARTER RATES

This section uses the rules on page 358 of the THB.

## INTERFACE VESSELS

Interface vessels are chartered by the hour, with a minimum of 12 hours, at a rate of Lv1000 per dton of vessel per hour. This is further modified by the surface gravity (in Gs) of the world where the vessel is being chartered with the lowest modifier possible being 0.1. So an 80 dton vessel, chartered for 20 hours on a 0.5 G world, would cost  $Lv1000 \times 80 \times 12 \times 0.5 = Lv48,000$

## STARSHIPS

Starships are chartered in blocs of 2 weeks at a time

Vessel Capability	Accommodation	Cost
<b>Interface</b>		
Includes 1 complete interface operation per 2-week bloc	Per dton of available cargo space	Lv100000
	Per Luxury Passenger accommodation available	Lv10000
	Per Economy Passenger accommodation available	Lv6000
<b>Non-Interface</b>		
All interface costs to be paid separately	Per dton of available cargo space	Lv1000
	Per Luxury Passenger accommodation available	Lv2000
	Per Economy Passenger accommodation available	Lv1000

## PASSENGERS

Passengers are available as per the table on page 357 of the THB. However, costs are different. Use the tables below to determine interface costs, per passenger, and further on

the interstellar travel costs, per person. Travel costs for system ships are usually 10-20% of the cost of interstellar vessels.

## INTERFACE COSTS

Costs to and from orbit depend on vehicle type and world size.

Vehicle Type	Passenger		Cargo (dton)	
	To Orbit	From Orbit	To Orbit	From Orbit
Spaceplane	Lv3000	Lv300	Lv30000	Lv3000
Roton	Lv3000	Lv300	Lv30000	Lv3000
Rocket	N/A	N/A	Lv15000	N/A
Catapult	N/A	N/A	Lv5000	N/A
Dead Glider	N/A	Lv400	N/A	Lv2000
Ballistic Drop	N/A	Lv160	N/A	Lv1000
Beanstalk	Lv500	Lv500	Lv5000	Lv5000

Costs for all interface transport are modified by the world's gravity. Multiply the cost from the table above by world gravity (in Gs) to get the final cost.

Worlds without an atmosphere halve the costs to orbit, and multiply costs from orbit by 5. (In other words, the cost to and from orbit is the same.) The listed cost for the beanstalk is for any of the beanstalks in Human space, whether on Earth, Tirane, or Beta Canum. Tickets for luxury class can run 2-5x higher than those listed.

## STAR TRAVEL

Many commercial vessels carry passengers as well as cargo. The cost for interstellar travel depends on the distance covered and the comfort of the accommodations. There are two general classes of interstellar passenger, luxury and economy, which correspond to the T20 classifications of High and Middle. A third type is found in 2320 which is not found in T20: steerage. Steerage accommodations are not in actual cabins, but rather in the cargo area when there is room left over. Steerage is often partly subsidized by governments, as they attempt to ship people off to the colonies. Frozen sleep roughly corresponds to T20 Low Berth, but Frozen Sleep is technically a more difficult proposition in 2320AD than in T20, and is usually only used for the bulk movement of colonists and animals, not for passengers. The costs listed below are per light year traveled.

Passage Type	Minimum Comfort	Luggage Allowance	Cost/light-year
High (Luxury)	0	0.1 dton	Lv500
Middle (Economy)	-2	0.05 dton	Lv100
Steerage	N/A	N/A	Lv50
Frozen Sleep	N/A	1 dton	Lv2000 (flat cost)
Cargo	N/A	N/A	Lv750/dton

**High Passage:** High Passage includes a single-occupancy stateroom, the best meals, and free access to all of the vessel's recreation facilities.

**Middle Passage:** Middle Passage includes either a



double occupancy stateroom or a single occupancy cabin. Includes basic meals and access to the ship's recreation facilities at a pay-per-use rate.

**Steerage:** No room is provided for steerage passengers, who must either sleep in bunks or be housed in the vessel's cargo bay. One meal a day only is provided. Steerage passenger must buy or bring food for the other meals. No access to recreation facilities.

**Frozen Sleep:** Frozen sleep is only used for shipping large numbers of people or animals at once. It isn't dangerous, but it is debilitating. Passengers in Frozen Sleep lose 1 point each of STR, DEX and CON per month in the freezer tubes. Regaining these lost points takes 1d6/2 months, per point. (So two points lost means 1d6 months to recover them all.)

Frozen sleep costs are per trip, not per light-year.

## COMFORT LEVEL

Type of Accommodation	Comfort Level
Small Cabin	-1
Stateroom	0
Berth (Bunk)	-2
Shared Accommodation	Additional -1 per person
Artificial Gravity	+2

Comfort level affects all crew operations, and is used as a modifier in all shipboard tasks.

## STARSHIP COMBAT

Starship combat in 2320AD uses the rules from Traveller D20, with a few changes, outlined below. The first section details the changes to the simple starship combat system, while the second details changes to the advanced starship combat system. At the end of the section are found new damage tables for 2320AD starships.

Starship combat in 2320AD is conceptually quite different from T20. The end result, and game play, is quite similar, however.

Stutterwarp travel introduces some interesting variables into the realm of combat. For vessels at FTL pseudo-velocities, ship-to-ship combat is effectively impossible. Targeting systems are unreliable, weapons are speed-of-light only, and a ship's probability cone is so elongated that the chances of actually hitting it, even with a long burst, are minimal.

It is at sub-FTL velocities that actual starship combat can occur. Because a stutterwarping vessel does not present a target that can be accurately pinpointed, weapons fire is against the so-called "probability cone" of a stutterwarp vessel, effectively all the points in space it could possibly appear in over a given space of time, and for a given drive performance level. This actually involves a fair degree of human intuition, which is why human crews are still required to man and fire

a ship's guns and control its missiles. Thus, all weapons fire in continuous bursts that last for most of a round, as the firing vessel attempts to blanket a hostile vessel's probability cone.

Once a hit has occurred, often the target vessel will have suffered serious damage. In particular, detonation lasers are liable to cripple or destroy smaller vessels, and seriously damage or cripple even large vessels.

## CHANGES TO BASIC STARSHIP COMBAT

Only a few things are changed in the Basic system, as it is abstracted already. This combat system is intended for actions only involving a small number of ships, either in a head-on encounter or a chase.

**Time scale:** Is changed from 20 minutes per turn to 5 minutes per turn

**Agility:** Due to the nature of their drive systems, starships in 2320AD use their Tactical Speed as their Agility Rating.

**Profile:** In most small combats, the Profile used will be the Radial Profile, as a vessel is usually chasing someone or being chased. This is used in place of Size modifiers.

**Non-stutterwarp vessels:** For the purpose of these rules, non-stutterwarp vessels are effectively standing still, have 0 Agility, attacking vessels receive a +5 bonus on all attack rolls, and all weapons do double damage.

**Missiles and Drones:** In 2320AD, missile and drones are treated just like any other vessel on the board, with the following rules: Missiles and drones always move last. Missile sensors are forward-looking only, not all-around like ships and sensor drones.

**Submunitions:** Submunitions can be fired at any time during the weapons fire phase as long as the controlling ship is within 3 hexes. Submunitions have a rate-of-fire, as designated in the design system. They can drop any number of submunitions up to the listed rate of fire, but must fire all of them at the same target.

## PILOT/DRIVER ACTIONS

**Adjust Speed:** Starships in 2320AD do not have acceleration ratings. The vessel's speed may be increased or decreased up to the vessel's maximum tactical speed..

**Adjust Range Modifiers:** For stutterwarp vessels, use the difference in tactical speed between the two vessels as a modifier. If the pursuing vessel has a higher current speed, then the modifier is negative. If the vessel being pursued has the higher speed, then the modifier is positive.

## SENSOR OPERATOR ACTIONS

**Sensor Targeting:** The sensor operator may attempt to spend the round providing improved fire control and targeting data to the gunners, hopefully increasing their chances

of hitting their targets. The sensor operator should roll 1d20 + his T/Sensors skill + the Sensor Model Number + the Signature rating of the other vessel to check for success for each vessel that is to be targeted. The DC for this task is 17 or the current Sensor Jamming rating of the target. If successful, all gunners on the vessel may add a bonus equal to the Main Computer Model Number to their attack rolls this round. This is a full round action.

## GUNNER ACTIONS

**Attack:** A gunner may attack any target within the range of the weapon system they are manning. UTES mounts may fire independently, while weapons in a TTA-controlled battery must all fire at the same target.

1d20 + Gunnery Skill + Target Profile Modifier + Weapon USP + Targeting Bonus + Range Penalty = AC hit

**Point Defense Sandcasters:** Not available in 2320AD.

**Point Defense Repulsors:** Not available in 2320AD.

**Point Defense Lasers:** Heavy Lasers and Heavy Particle Accelerators cannot be used for point defense. Point Defense is handled somewhat differently for 2320AD. Point Defense fire is resolved as normal fire against a vessel, with suitable modifiers for the missile's small size. Point Defense Clusters add +2 to their targeting rolls. Missiles are targeted using their Radial Profiles.

**Screens:** Activating the screens requires a Gunner Action. Screens add their USP ratings to the target's defense score for all attacks while the screen is up.

Screens cannot be engaged while the vessel is at all-stop, and add their rating to the ship's radiated signature. Screens are more effective against lasers than particle beam weapons, and halve their USP factor against particle beam strikes.

Defensive screens marginally degrade the effectiveness of sensors. Subtract 1 from all T/Sensor Skill rolls, including spotting and targeting, when the screens are in use.

## ENGINEER/MECHANIC ACTIONS

**Excess Power Routing:** 2320AD starships can use excess power to generate emergency Agility. There is a risk of damaging the stutterwarp drive by doing so. T/Engineering vs. DC14 to avoid damaging the drive.

**Damage Control:** If a ship has extra engineers or mechanics, they can be formed into damage control parties. For every 3 extra engineers/mechanics (or fraction thereof), the ship can have 1 damage control party. At the end of every combat round, each damage control party can attempt to repair one point of Hull SI, or 1 Critical Hit. Use the highest T/

## STARSHIPS vs. VEHICLES:

Due to the normal operating ranges and high power of starship weapons, when used at close planetary ranges, they are scaled up as normal for T20 (+5 Dice of damage) when attacking vehicles. They are also scaled up when attacking starships at these short ranges. Starship lasers have an effective rate of fire of 10, while particle beam weapons have a rate of fire of 5. However, vehicle weapons are NOT scaled down when attacking starships. Starships and spacecraft in 2320AD are notably more fragile than their T20 counterparts, and consequently suffer normal damage from vehicular weapons.

Mechanical or T/Engineering skill from each damage control party, and add +1 per member of the party.

**Hull SI Repair:** T/Mechanical, or T/Engineering DC15

**Critical Hit Repair:** T/Mechanical DC 17, or T/Engineering DC15

## DAMAGE

### STRUCTURAL INTEGRITY (SI) DAMAGE

A starship cannot simply keep taking damage until it reaches 0 SI without suffering some ill effects along the way. At 25% of the listed SI, the ship's hull suffers a Minor Breach. At 50% of the listed SI, the hull suffers a Major Breach. The consequences of these breaches are explained below.

<b>Minor Hull Breach</b>	Reduce AR by 50%
	All masking equipment stops functioning. Radiated signature goes to unmasked value.
	Add 1 to Reflected Signature.
<b>Major Hull Breach</b>	Reduce AR to 0
	Double all radiated and reflected signatures.

Otherwise, use the Damage rules of T20, substituting the following tables:

All Weapons		Radiation Weapons (Particle Accelerators and Detonation Lasers)	
1d100	Subtable	1d100	Subtable
01-23	Miscellaneous	01-45	Fire Control
24-50	Fuel	46-88	Electronics
51-72	Fire Control	89-97	Crew
73-89	Engineering	98+	Special
90-92	Screens		
93-94	Electronics	Weapon Platform	Modifier
95	Crew	Particle Gun	+5 (applies to both tables)
96+	Special	Detonation Laser	+10 (does not apply to the radiation table)

**Miscellaneous Subtable**

1d100	Specific Location
01-40	Cargo Hold
41-60	Staterooms
61-70	Small Craft
71-75	Ship's Vehicle
76-80	Engineering/Vehicle Shop
81-85	Sickbay/Lab
86-90	Ship's Locker
91-93	Magazine
94-95	Fuel Processing
96-98	Spin Machinery
99-00	Life Support

**Fuel Subtable**

1d100	Specific Location
01-20	Processing Plant or Fuel Feed Equipment
21-100	Fuel Tanks

**Fire Control Subtable**

1d100	Specific Location
01-70	Battery
71-85	TTA
86-90	Submunition Dispenser
96-100	Missile Bay

**Engineering Subtable**

1d100	Specific Location
01-29	Thruster
30-65	Stutterwarp Drive
66-100	Power Plant

**Special Subtable**

1d100	Specific Location
01-02	Ships Troops killed
03-05	Fire Control Out
06-10	Roll on the Crew sub-table
11-20	Power Plant Disabled
21-35	One Hanger/Boat Deck/Vehicle Storage
36-65	Stutterwarp Drive Disabled
66-80	One Screen Disabled
81-90	Thruster Destroyed
91-95	Computer Destroyed
96-98	Bridge Destroyed
99-00	Vessel Vaporized

**USING THE ADVANCED STARSHIP COMBAT SYSTEM****Advanced Vehicle and Starship Combat****THE COMBAT ROUND**

Each round on the Strategic Scale in 2320AD represents six hours in the game environment, while each hex is roughly equal to 6 million kilometers. On the tactical plot, each hex is equal to 300,000 kilometers, while each round represents 20 minutes of time in the game environment.

**ATTACKS OF OPPORTUNITY**

The threat area of a vessel in combat on the Tactical plot is 300,000 km, or every hex adjacent to its current position. Attacks of Opportunity are not possible on the strategic plot. Any crewmember serving as a gunner on a ship with an attack of opportunity and with a weapon capable of bearing on the target may take action. In addition, all point defense clusters may automatically make an attack of opportunity on any object that passes into the threat area, unless that object is identified as friendly, generally by some sort of recognition code.

**ADVANCED ACTIONS****Pilot/AstroGator**

Movement in 2320AD is simpler than in T20. Ships do not accelerate; they have fixed movement rating based on the efficiency of their drives. Most of the advanced Pilot actions are not available.

**Move:** A ship can move a number of hexes up to the tactical speed rating of its stutterwarp drive. This is referred to as the ship's movement points (MP).

**All-Stop:** A ship can declare an All-Stop, where it shuts down its stutterwarp drive. A ship at All-Stop halves its radiated signature, cannot use its Screens, and can change facing (at no movement point cost) to any desired facing. Vessels at All-Stop may not fire submunitions.

**Turn:** Stutterwarp vessels have a pseudo-inertia, which limits how fast they can turn. In order to turn through one hexside facing, a vessel must pay a certain number of movement points. A vessel's ability to turn is based solely on its classification: remote object, small craft or large craft. A remote object pays one MP per hexside turned, while a small craft pays two, and a large craft pays three. A vessel can turn at any point in its movement, or stand still. This is a movement action with a base DC of 0.

Accelerate, Bank, Braking Drift, Decelerate, Drift, and Maintain Course and Speed are not used.



**Spin Habitats and Combat:**

If a ship goes into combat with an operating spin habitat, it must add one to the number of MP required to make a turn. This does not apply to hamster cage designs, or any other design where the spin habs occur in counter-rotating pairs.

**SENSOR OPERATOR Tasks****Strategic Plot**

**Detect Vessel:** On the strategic plot, a vessel can only be detected if the detecting vessel has operating grav sensors. Even then, the resolution of the grav scanners is insufficient to provide targeting information or any sort of detailed information on the other vessel other than that it is using a stutterwarp, and general heading and speed.

$1d20 + T/Sensors + \text{computer model number vs. DC } 20$

**Tactical Plot**

**Detect Vessel:** On the tactical plot, things get more complicated. A vessel must be resolved and locked-on by the opposing vessel's sensors before it can be fired on. Any vessel within the auto-detect range automatically also has a lock-on. If it moves beyond the auto-detect range (explained below), then the Sensor operator has to roll to maintain the lock, as outlined below.

**Active Sensors:** A ship's active sensor range, plus the reflected signature of the target vessel, equals the auto-detect range for the target vessel. To detect a vessel beyond that range is a task:  $1d20 + T/Sensors + \text{computer model number vs. DC } 14$ , +2 DC per additional hex. So if a ship's active sensor range is 7 hexes, and the target's reflected signature is 3, then it would be automatically detected at a range of 10 hexes. To attempt to resolve it at 12 hexes, the Sensor Operator would have to roll vs. DC 18.

**Passive Sensors:** A ship's passive sensor range, plus the radiated signature of the target vessel, equal the auto-detect range for that vessel. To detect a vessel beyond that range is a task:  $1d20 + T/Sensors + \text{computer model number vs. DC } 16$ , +2 DC per additional hex.

In a similar vein, Passive Sensors can detect the operation of Active Sensors at a range of  $2 \times \text{Active Sensor Range} + \text{Passive Sensor Range}$ . So if a vessel is using a range 10 Active Sensor, a vessel with a range 3 Passive Sensors could detect him at 23 hexes.

**Maintain Target Lock:** If a target moves past the auto-detect range, the sensor operator must make a roll to maintain a lock.  $1d20 + T/Sensors + \text{computer model number} + \text{target signature vs. DC } 14$ . The DC goes up by 2 for each hex past the first. A lock can be maintained on a num-

ber of vessels equal to  $2 \times$  the computer model number of the targeting vessel. The DC also goes by 2 for each additional vessel the sensor operator is trying to maintain a lock on.

**DAMAGE**

Use the damage tables from the Basic Starship Combat Section, above.



# STARSHIPS AND SPACECRAFT

Starships and their support structures, including interface vessels and space stations, are the lifeblood of Human economy, and a literal lifeline for most colonies, which could not exist without continued interstellar travel. This chapter describes and details many of the ships in operation in Human space, but there are many more.

## STARSHIP COMPONENTS

### SENSORS

Sensors are the eyes of a starship, and come in several types: Navigational, Tactical, and Survey.

#### NAVIGATIONAL SENSORS

The basic navigation radar is in widespread usage on civilian vessels, which do not require the long range or accuracy of the military sensors. They also lack the precision required to generate the firing solution for a weapon, and are most often used as a collision-avoidance system.

Gravitational sensors are mass detectors, used for a variety of purposes, including density-mapping planets and asteroids. They can also be used to detect masses at a distance, and so are useful in system surveys. Due to the gravitational signature of an operating stutterwarp, they can likewise detect ships in operation at ranges of several light minutes, but they are sufficiently inaccurate that they cannot be used to generate a firing solution, nor get a clear idea of what they are dealing with. That is what the tactical sensors are for. All they can determine is the presence of an active stutterwarp. No other information can be generated from the gravitational sensors. Triangulating with another ship can help fix a position, but due to light speed communication delays, it is not likely to help that much.

The Deep System Scanner is a whole-sky-looking passive system, and is the primary method of navigation. It can see a planet a 1 AU and spot ships at roughly 1 light minute, which is 3 hexes on the strategic plot. This is otherwise known as “black globe range”, where an object is spotted, but no details can be discerned from it.

#### TACTICAL SENSORS

Tactical sensors are the active and passive arrays of a vessel, and are used to obtain detailed

information about a target and to generate firing solutions for a ship's weapons. This firing solution is then “handed-off” to the targeting systems controlling the weapons.

**Active Sensors:** Active sensors are a combination of phased array radar and lidar systems, and can be spotted by passive systems at very long ranges.

**Passive Sensors:** Passive sensors are a combination of multi-spectrum optical and radio telescopes and radar receivers. Passive sensors can not be detected by other vessels, but they do not have the range of active systems.

### SURVEY SENSORS

Survey sensors have no tactical value, but do have strategic value, as their usefulness is more long-term. They are employed in the survey and mapping of planets and other small bodies in space.

**Cartographic Sensors:** The basic cartographic array is a photographic mapping system, using both visible light and infrared. The Advanced cartographic sensor package adds radar mapping and deep-radar capabilities to the basic package. The values listed under Notes are the modifier these sensors grant to tasks making use of them.

**Life Sensors:** Life sensors are an add-on array of tools that extend the capabilities of the advanced cartographic sensors. They are used to look for the tell-tale signs that life may be present on a world, and range from spectrographic analyzers to advanced computer programs that hunt for patterns that would indicate the possibility of life. They cannot be used to give exact information, such as “Captain, I detect three life-forms on that alien vessel, two humanoid and one Eber.” They are not that exact, and are not designed for that purpose.

Survey Sensors	Range	Bonus
Cartographic		
Minimal	Short	+1
Standard	Medium	+2
Advanced	Long	+3
Life		
Minimal	Close	+1
Standard	Short	+2
Advanced	Medium	+3

The listed bonus is for all P/Survey Skill Checks conducted.

## TARGETING SYSTEMS

All weapons have to have some sort of targeting and tracking system. Most modern designs use some variant of the UTES mount, the Unified Targeting and Engagement System, where the required sensors are installed on each turret. This provides multiple levels of redundancy to all weapons, and provides mission flexibility by allowing batteries to be reconfigured as need be.

The Target Tracking Array is a separate mount, and provides all targeting and tracking information for the weapons in a single battery. This system is less expensive, but lacks the flexibility of the UTES mount.

Missile Directors are dedicated tight-beam laser or maser communicators for controlling missiles. Each missile in flight has to have a missile director.

## DEFENSES

**Screens:** The military protective screen consists of thousands of reflective foil strips held in a dense protective sphere around the hull by an electromagnetic field generator. These strips serve to reflect and dissipate a significant fraction of the energy directed at them. The strips are not perfectly reflective, however, and absorbing even a small portion of the energy in a laser or particle beam strike is enough to destroy the reflectivity of the foil strip, which leads to it being vaporized milliseconds after being struck. It is thus possible to burn through a protective screen, but this reduces the effectiveness of the weapon so used. Screens are more effective against lasers than particle beam weapons.

**Point Defense Clusters (PDC):** Though all energy weapons aboard a ship may be used for point defense, the point defense cluster specializes in it. A PDC is a set of rapid-firing, short-range laser weapons designed with a UTES targeting system and set to fire automatically. Anything without the proper recognition code that gets within the range of the system is fired on. The lower power of the system means that it is not very capable versus ships, but against missiles and even fighters it is very effective.

## WEAPONS

Laser weapons are rapid-pulse energy weapons, designed to fire several bursts along the probability cone of a stutterwarping target. Typical laser mounts have a rate-of-fire of between 3 and 6 shots per minute.

Particle Beam Weapons are not as fast to fire as lasers (and thus not as accurate). Particle-beam weapons do inflict more damage, along with secondary radiation effects. Like the lasers, they are fired as a series as pulses against stutterwarping targets. Typical particle-beam mounts have a rate-of-fire of between 2 and 4 shots per minute.

## WEAPON MOUNTS

**Fixed:** Fixed gun mounts are limited traverse mounts that only fire into one aspect.

**External:** External mounts are basic gun turrets, mounted on the outside of the hull.

## 17 STARSHIPS AND SPACECRAFT

**Jack:** Jack turrets are limited traverse turrets protected by the hull armor of the ship. Other weapon mounts are considered to be outside the armor belt of the ship. Any vessel designed for reentry will have its weapons in jack turrets.

**Masked:** A masked turret is constructed to minimize its reflected signature.

**Gun Towers:** Gun towers extend the weapon away from the hull, allowing it to fire into a larger arc, though the vessel thus presents a much larger target.

## SUBMUNITIONS

Submunitions are small nuclear-bomb-pumped detonation lasers, and are classified as dropped ordnance. They have no integral drive system. A starship drops the submunition, and feeds it targeting information as the vessel moves away. When the dropping vessel is safely out of blast range, the submunition explodes, firing the laser.

## Missiles

Missiles in 2320AD are all stutterwarp-driven, and come in several types: Nuclear-bomb-pumped laser missiles, remote drones armed with a conventional laser or particle-beam system, and bus missiles, which act as a delivery vehicle for several smaller warheads. Most missiles are remote-piloted vehicles, and require a dedicated communicator on the controlling vessel. Bomb-pumped missiles are quite rare, and extremely illegal for a civilian to have any. A civilian with one of these weapons usually means that someone needs to be tried for treason. Smart missiles are capable of self-targeting, but are quite inaccurate.

## DRONES

Drones are remotely-piloted space vehicles, usually used for remote sensor operations. Some models are also used as decoys, or for point defense. Aside from point-defense systems, drones are not typically armed. Drones are usually larger than missiles, and like missiles require a dedicated communicator on the controlling vessel.

## POWERPLANTS

**Fuel Cells:** Fuel cells are used for low-power applications and backup systems. The other advantage of fuel cells is that they can be made into a closed system. In this way, they recover the water exhaust from the fuel cell, and once in a target solar system can deploy a solar array to crack the water back into hydrogen and oxygen fuel. Though there is inevitably some loss in this regenerative cycle, it contributes greatly to extending the endurance of fuel-cell powered craft.

**MHD (Magnetohydrodynamic) Turbines:** The MHD turbine is a method of direct electrical conversion, using the hot exhaust of a turbine to generate a current by seeding the exhaust with charged particles. The movement of the exhaust through a set of coils creates a current, and MHD turbines are usually used in high-power, short-duration roles. They also are the most common type of power plant found in civilian short-haul vessels.



**Fusion Reactors:** Utilizing the deuterium-Helium-3 fusion reaction, modern fusion reactors are fairly compact and quite safe, though the engineering overhead on them does limit the lower end of their size. The fuel module for these reactors is sealed, and the supply of Dt/He-3 fuel is designed to last the life of the reactor, which is generally rated at 25 years.

**Fission Reactors:** Modern fission reactors are built with sealed fuel modules, which are designed to last about 5 years. Fission plants are relatively inexpensive for their power output, but are quite large and require larger crews than other power plants. Replacing the fuel core is also not a trivial job

## THRUSTERS

Ships in 2320AD require reaction drives to reach orbit from a planet's surface. Even in 2320, these systems are large, bulky and consume vast quantities of fuel. Most starships dispense with thrusters, save for station-keeping and reaction-control systems, which are included in the cost and volume of the hull. Most worlds have dedicated interface vehicles to handle surface-to-orbit traffic. Only the smallest of the ships will have any sort of landing capability.

**Thruster:** A thruster is a high-efficiency MHD-plasma rocket, designed as an add-on to an MHD turbine. It acts like an afterburner on the high-velocity exhaust of the turbine. While in operation, a thruster-equipped MHD turbine produces only minimal power for life-support and electronics. Vessels operating on thrusters cannot use active sensors or energy weapons unless they have some sort of alternate power plant.

A thruster unit requires an MHD turbine, and generates thrust based on the power output of the turbine. In addition to the fuel requirements of the turbine itself, a thruster also requires fuel.

Air-breathing thrusters use 1/3 the fuel of a standard thruster while in atmosphere, but are larger and more costly. For atmospheric-only operations, they consume thruster fuel at 5% of the normal rate. Power plant fuel may be transferred to the thruster tanks, but not generally during flight.

**Nuclear Thruster:** A nuclear thruster requires a fission or fusion power plant, and works by running the reaction mass past (or through) the extremely hot core of the reactor. Radiation can be an issue with these drives, and so they are rarely seen on modern civilian landing craft.

## ROTON

The ROTON is a high-efficiency chemical rocket of unique design. It is, in effect, a space-helicopter. Thrust from the engine, mounted on top of the vehicle, is diverted to several rotors arrayed at the top of the vehicle. The thrust of the engine causes the rotors to spin, generating additional lift, while at the same time the spinning action pumps fuel into the engine, without the weight and complexity of turbo-pumps. The efficiency of the system approaches that of a MHD thruster, without the complexity. The rotors are also used to land the craft, letting it use unprepared surfaces. The main drawback of this design is the lack of atmospheric maneuverability, and its dependence on refined hydrocarbons for fuel.

## SOLID FUEL ROCKETS

Solid fuel rockets are most often used as boosters, and are usually disposable. They consist of a thin composite or metal skin wrapped around a core of solid fuel. Unlike the solid-fuel systems of the early space-age, these rockets can be throttled back, stopped, and restarted.

## LIQUID-FUEL ROCKETS

Liquid-fuel rockets are a simpler method of moving bulk cargos into orbit. They are cheaper to build than most other types of reaction drives, though less efficient, and are often disposable.



## Explanation of Datablock

Name:	Name of the vessel
Class:	Type of Vessel
Tech Level:	Technology level of construction
Profile:	Used instead of Size for targeting purposes
	Radial: Front or Back
	Lateral: Side, Top, Bottom
Size:	Ship's size (in dtons) and hull material
Main Computer:	Model number of computer
Sensor Range:	Active: Range in tactical hexes (1 hex=1 light second)
	Passive: Range in tactical hexes (1 hex=1 light second)
AC:	Vessel's Armor Class
AR:	Vessel's Armor Rating
SI:	Structural Integrity
Signature	Used for spotting with sensors
	Radial Reflected: Front or back
	Lateral Reflected: Sides or top/bottom
	Radiated: Power plant signature Normal/Masked
Screens:	Defensive screens present and their rating
	Unstreamlined, standard and airframe Airframe further broken down into standard, lifting body and hybrid lifting body
Streamlining:	Maximum atmospheric speed at full burn
Atmospheric Speed:	Agility Rating while in an atmosphere
Atmospheric Agility:	Runway length required for takeoff on a 1G world. VTOL capability is noted here.
Take-Off Run:	Runway length required for landing on a 1G world. VTOL capability is noted here.
Landing Run:	This entry is for ROTON vessels. Also notes the number of blades in the rotor.
Rotor Diameter:	Landing space required for any VTOL vessel. This is the diameter of the clearing required.
Clearance:	Maximum cruise speed for an air-breathing thruster operating in turbofan mode.
Atmospheric Cruise:	Duration in hours.
Flight Avionics:	Level of Flight Avionics, necessary for atmospheric flight
Thruster Rating:	Maximum Acceleration and Type of thruster
Thruster Fuel:	Thruster Fuel Volume
Duration	Thruster Maximum Burn time at maximum acceleration, in minutes
	Air-breathing Thruster Maximum Burn time at maximum acceleration, in minutes
Airborne Duration	Dtons of cargo to low-orbit (approximately 200 km)
Cargo to Low Orbit:	Dtons of cargo to high-orbit (approximately 500 km)
Cargo to High Orbit:	Maximum stutterwarp speed, in light years/day
Stutterwarp Speed:	Speed in hexes per round for tactical game
Tactical Speed:	Same as speed in hexes, for tactical game
Stutterwarp Agility:	Power Plant type and output
Power Plant:	Dtons of fuel available for the power plant
Power Plant Fuel:	Area of solar cells, if present, and output
Solar Cells:	Batteries, if present, and output
Batteries:	Duration: Duration of batteries at maximum output
Life Support:	Number of man-day of life-support (food, air, water) available
	Basic Military Standard military rations and supplies for short-duration missions
	Basic Civilian Standard civilian food and supplies for middle passengers and crew
	Extended Military Standard military rations and supplies for long-duration missions
	Luxury Civilian Standard civilian food and supplies for high passengers
Crew:	Bridge: Operation and command of the
	Engineering: Run ship's drives and power plants
	Gunnery: Operate all weapons and screens
	Ship's Troops: Either defensive troops or surface operations team
	Medical: Required for large vessels and passenger vessels
	Stewards: Required for large vessels and passenger vessels
	Maintenance: Look after the and maintain the ship, aside from engineering spaces
	Total: Total crew complement

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Passengers	High: Number of luxury passengers carried
	Middle: Number of regular passengers carried
Stateroom	Large cabin, suitable for double-occupancy
Small Cabin	Small cabin, usually only suitable for a single occupant
Berth	Bunk, usually used for ship's troops or steerage passengers
Freezer Tube	Hibernation chamber, 1-person capacity
Fresher	Combination washroom/shower/laundry
Autodoc	Automated 1-person medical bed
Couch	Acceleration Couch
Sickbay	2-bed sickbay
	Dedicated workshop for carried vessels and vehicles, including drones and missiles
Vehicle shop	Scientific Laboratory
Laboratory	Dedicated workshop for ship's drives and systems
Engineering Shop	Any cargo carried
Cargo:	Spin habitat type, radius, RPM and felt gravity (if present)
Spin Habitat:	Radiation screen, if present, and strength
Radiation Screen:	Solar storm/flare shelter, if present, and strength
Strom Shelter:	Communications range, in T20 Range Bands
Comm. Range:	This includes navigational, cartographic, and life sensors
Other Sensors:	Any carried small craft or vehicles, number, and what sort of fitting.
Small Craft:	Anything else of note.
Other:	Price in MLv (millions of Livre)
Price:	

## INTERFACE VESSELS

The designation of Interface Vessel covers everything from disposable rockets to combat landers, as long as they are designed to take-off from, or land on, a planet. Most interface vessels are air-breathing spaceplanes, and the cargo shuttles of earlier years have fallen by the wayside in the face of these more efficient designs. ROTONS are often seen throughout the Frontier, and conventional rockets are still widely used as a cheap method of interface travel.

**Star Carrier XVII Cargo Rocket:** The Star Carrier is a two-stage Manchurian design that is found throughout the Frontier. Cheap, reliable and disposable, the Star Carrier is useful for putting large cargos into orbit.

Name:	Star Carrier XVIII-A		
Class:	Cargo Rocket First Stage		
Tech Level:	Old Commercial		
Profile:			
	Radial:	-3	
	Lateral:	-2	
With Second Stage	Radial:	-3	
	Lateral:	-2	
Size:	30 dton Cylindrical Metallic Hull		
Main Computer:	Model/1		
Sensor Range:			
	Active:	0	hexes
	Passive:	0	hexes
AC:	10		
AR:	0		
SI:	42		
Signature			
	Radial Reflected:	1	
	Lateral Reflected:	4	
	Radiated:	1/1	
Screens:	Rating:	0	
Streamlining:	Standard		
Atmospheric Speed:	Maximum	5300	km/h
Atmospheric Agility:	N/A		
Flight Avionics:	Model 1		
Thruster Rating:	3	G Liquid-Fuel Rocket	
Thruster Fuel:	11.25	dtons	HRF
Duration	5	minutes	
Cargo to Low Orbit:	N/A		dtons
Cargo to High Orbit:	N/A		dtons
Stutterwarp Speed:	Loaded:	0	ly/day
	Unloaded:	0	ly/day
Tactical Speed:	0		
Stutterwarp Agility:	0		

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Power Plant:	0	0
Power Plant Fuel:	N/A	dtons
Cargo:	20.41	dtons
Comm. Range:	Long Range	
Other Sensors:		
Small Craft:	20 dton upper stage	
Other:		
Cost:	0.75MLv (disposable)	





The Star Carrier Series is capable of lofting a number of upper stage designs into orbit. The cargo stage described below is the most common, but others include space defense missiles, mines, and even small manned vessels.

Name:	Star Carrier XVIII-B	
Class:	Cargo Rocket Second Stage	
Tech Level:	Old Commercial	
Profile:		
	Radial:	-3
	Lateral:	-2
Size:	20 dton Cylindrical Metallic Hull	
Main Computer:	Model/1	
Sensor Range:		
	Active:	0hexes
	Passive:	0hexes
AC:	10	
AR:	0	
SI:	80	
Signature		
	Radial Reflected:	1
	Lateral Reflected:	3
	Radiated:	11
Screens:	Rating:	0
Streamlining:	Standard	
Atmospheric Speed:	Maximum	N/A
Atmospheric Agility:	N/A	
Flight Avionics:	Model 1	
Thruster Rating:	2G Liquid-Fuel Rocket	
Thruster Fuel:	3.6dtons	HRF
	Duration	6minutes
Cargo to Low Orbit:	9.06dtons	
Cargo to High Orbit:	2.265dtons	
Stutterwarp Speed:	Loaded:	0ly/day
	Unloaded:	0ly/day
Tactical Speed:	0	
Stutterwarp Agility:	0	
Power Plant:	None	
Power Plant Fuel:	N/A	
Cargo:	9.06dtons	
Comm. Range:	Long Range	
Other Sensors:	N/A	
Cost:	0.63MLv (disposable)	

**TL:** 10

**First Example Laid Down:** 2212

**Last Example Laid Down:** In production

**Number Produced:** Unknown

**Producing Nation:** All

**Price:** MLv1.38 (both stages)

**DynaTech H50 Boosters:** The booster is designed to assist a spacecraft in taking off, either to reduce the time to orbit, or to lift the vessel against a higher-than-normal gravity. The Dynatech Booster be used as an add-on to other thrust systems, or it can be used alone. The H50 is a reusable design, though it is inexpensive enough that many operators do not bother with recovery operations.

For every 50 tons of vessel being boosted, divide thrust from the booster by 2. So a 50 ton fighter, with one booster and no thruster of its own, would develop 2.4 gees at liftoff. A 100-ton spaceplane, with a 2 G thruster and two boosters, would develop 4.4 G of thrust, more than sufficient to achieve orbit around even a world as massive as King. For dense cargos, use the tonnage/thrust modification rules in Chapter 18, page XX.

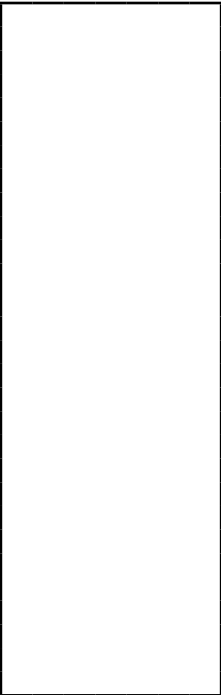
Name:	H50	
Class:	Booster	
Tech Level:	New Commercial	
Profile:		
	Radial:	-0
	Lateral:	-2
Size:	50 ton Cylindrical Metallic Hull	
Main Computer:	Model/0	
Sensor Range:		
	Active:	0hexes
	Passive:	0hexes
AC:	10	
AR:	0	
SI:	87.5	
Signature		
	Radial Reflected:	0
	Lateral Reflected:	4
	Radiated:	0/0
Screens:	Rating:	0
Streamlining:	Standard	
Atmospheric Speed:	Maximum	N/A
Atmospheric Agility:	N/A	
Flight Avionics:	None	
Thruster Rating:	12G Solid-Fuel Rocket	
Thruster Fuel:	0dtons	HRF
	Duration	0minutes
Cargo to Low Orbit:	2dtons	
Cargo to High Orbit:	0.5dtons	
Stutterwarp Speed:	Loaded:	0ly/day
	Unloaded:	0ly/day
Tactical Speed:	0	

Stutterwarp Agility:		0
Power Plant:	0	0
Power Plant Fuel:	N/A	dtons
Cargo:	2 Dton recovery package	
Comm. Range:	N/A	
Other Sensors:	N/A	
Cost:	(Includes Fuel)	1.57MLv

**TL:** 11  
**First Example Laid Down:** 2255  
**Last Example Laid Down:** In production  
**Number Produced:** Unknown  
**Producing Nation:** All  
**Price:** MLv1.57

**AB.400 Passenger Spaceplane:** The AB.400 is typical of the mid-sized thruster-powered s used for commercial interface transport all over human space. Though designed primarily to carry passengers, the AB.400 can also carry a considerable amount of cargo in the bay under the passenger section. Like many plasma-dynamic spaceplanes, the AB.400 uses plasma bled from the engines to effect a smooth airflow over the lifting surfaces, resulting in increased lift and better fuel consumption.

Name:	AB.400		
Class:	Spaceplane		
Tech Level:	11		
Profile:			
	Radial:	-2	
	Lateral:	0	
Size:	80 dton Wedge Synthetic Hull		
Main Computer:	Model/2		
Sensor Range:			
	Active:	0hexes	
	Passive:	0hexes	
AC:	10		
AR:	0		
SI:	95		
Signature			
	Radial Reflected:	3	
	Lateral Reflected:	4	
	Radiated:	1/1	
Screens:	Rating:	0	
Streamlining:	Hybrid Lifting Body		
Atmospheric Speed:	Maximum	4700 km/h	
Atmospheric Agility:		-4	
Take-Off Run:	250m	Landing Run:200m (800m on glide)	
Atmospheric Cruise:	940 km/h	Duration:175 minutes	
Flight Avionics:	Model 1		
Thruster Rating:	2G Air-Breathing MHD Thruster		
Thruster Fuel:	20.032dtons	HRF	
	Duration	20Minutes (space)	
		7Minutes (atmospheric full burn)	
Cargo to Low Orbit:	4.03dtons		
Cargo to High Orbit:	1.01dtons		
Stutterwarp Speed:	Loaded:	0ly/day	
	Unloaded:	0ly/day	
Tactical Speed:	0		
Stutterwarp Agility:	0		
Power Plant:	2EP MHD Turbine		
Power Plant Fuel:	3.36dtons	2 days	
Life Support:	Basic Civilian	64man/days	
Crew:	Bridge:	2	
	Stewards	2	
	Total:	4	

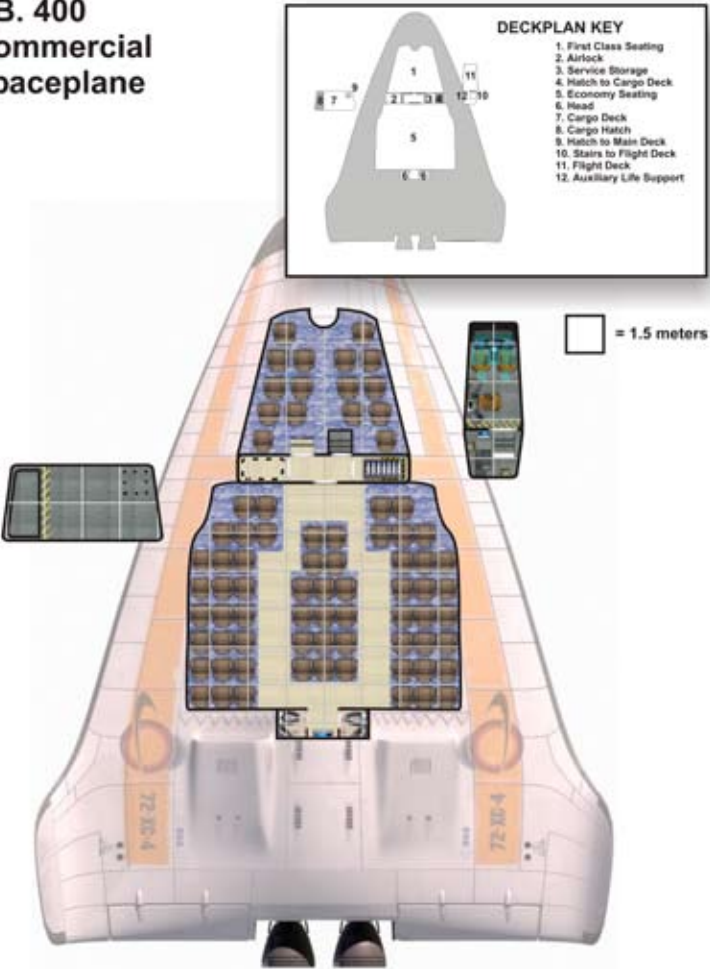


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Passengers	High:	0
	Middle:	78
Fresher		2
Couch		80
Cargo:		4.03dtons
Comm. Range:	Long Range	
Other Sensors:	Navigational Radar	
Price:	2.91MLv	

TL: 11  
First Example Laid Down: 2267  
Last Example Laid Down: 2298  
Number Produced: 1200  
Producing Nation: France  
Price: MLv2.91

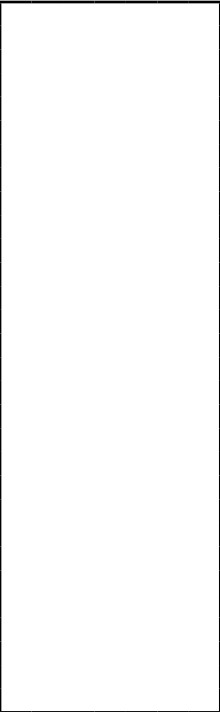
AB. 400  
Commercial  
Spaceplane





**OVL-22 Utility Roton:** The roton is one of the more flexible interface vehicles available, and inexpensive to produce, owing to the “conventional” rocket it uses. The design of the roton allows it to take-off and land vertically on its six great rotors, and it will not cause a conflagration upon landing, unlike more conventional designs. It carries a substantial amount of cargo, but lacks the atmospheric loiter time of a lander with air-breathing thrusters.

Name:	OVL-22
Class:	Utility Roton
Tech Level:	11
Profile:	
Radial:	-2
Lateral:	0
Size:	35 dton conical Synthetic Hull
Main Computer:	Model/1
Sensor Range:	
Active:	0hexes
Passive:	0hexes
AC:	10
AR:	0
SI:	83.75
Signature	
Radial Reflected:	2
Lateral Reflected:	3
Radiated:	0/0
Screens:	Rating: 0
Streamlining:	Standard
Atmospheric Speed:	Maximum 320km/h
Atmospheric Agility:	-2
Flight Avionics:	Model 1
Rotor Diameter:	20.4m Clearance:40.8m
Thruster Rating:	2G Roton 6-bladed rotor
Thruster Fuel:	12.6dtons HRF
Duration	20minutes
Cargo to Low Orbit:	10.51dtons
Cargo to High Orbit:	N/Adtons
Stutterwarp Speed:	Loaded: 0ly/day
Unloaded:	0ly/day
Tactical Speed:	0
Stutterwarp Agility:	0
Power Plant:	0 0
Power Plant Fuel:	N/A dtons
Batteries:	EP Output: 1
Duration:	1day
Life Support:	Basic Civilian 8man/days
Crew:	Bridge: 2
Total:	2
Passengers	High: 0



Middle:	2
Fresher	1
Autodoc	0
Couch	5
Cargo:	10.51dtons
Radiation Screen:	0rads/hour
Comm. Range:	Long Range
Other Sensors:	Navigational Radar
Price:	0.88MLv

**TL:** 11  
**First Example Laid Down:** 2301  
**Last Example Laid Down:** In production  
**Number Produced:** 590  
**Producing Nation:** America  
**Price:** MLv0.88

**CIT-990 Combat Lander:** The American CIT-990 design first saw use in the opening years of the Kafer War, as it was being phased in as a replacement for the older CIT-IIIa, in use with both the Marines and Army units. The CIT-990 is widely criticized for being too small, and is only able to insert a 10-man combat team and their vehicle. As such, it sees a great deal of special forces use, but has been replaced in general service by the new CIT-1002.

Combat landers are officially considered too valuable for use in ground support, and are only armed for self-defense. To meet the demands of the modern battlefield, however, they are often pressed into service as ground support craft. The CIT-990 is a VTOL craft capable of sustained atmospheric flight.

The 20 missiles are carried in two internal bays on rotary launchers, while the 30mm cannon is protected by a retractable jack turret. The jack turret and missile bays must remain closed for reentry maneuvers and for hypersonic flight.

Name:	CIT-990			Weapons	0	UTES?
Class:	Combat Lander			30mm Gatling	Jack Turret	1 N/A
Tech Level:	12			Aero-12 Missiles	Missile Bay	20 N/A
Profile:				Carries 2400 rounds for the 30mm cannon		
	Radial:	-4				
	Lateral:	-1				
Size:	60	ton	Composite Hull			
Main Computer:	Model/	1				
Sensor Range:						
	Active:	0	hexes			
	Passive:	0	hexes			
AC:	13					
AR:	3					
SI:	90					
Signature						
	Radial Reflected:	2				
	Lateral Reflected:	4				
	Radiated:	1/-1				
Screens:	Rating:	0				
Streamlining:	Lifting Body Airframe					
Atmospheric Speed:	Maximum:	5300km/h				
Atmospheric Agility:	-3					
Take-Off Run:	VTOL	Landing Run:	VTOL			
Clearance:	60m					
Atmospheric Cruise:	795 km/h	Duration:	175 minutes			
Flight Avionics:	Model 1					
Thruster Rating:	3G Air-Breathing MHD Thruster					
Thruster Fuel:	16.488dtons	HRF				
Duration	14Minutes (space)					
	6Minutes (atmosphere full-burn)					
Cargo to Low Orbit:	3.74		dtons			
Cargo to High Orbit:	0.185		dtons			
Stutterwarp Speed:	Loaded:	0	ly/day			
	Unloaded:	0	ly/day			
Tactical Speed:	0					
Stutterwarp Agility:	0					
Power Plant:	4EP MHD Turbine		24 hours			
Power Plant Fuel:	3.36dtons					

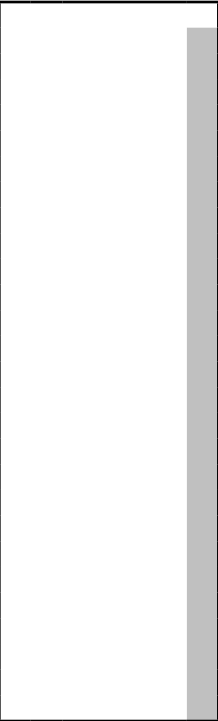
Life Support:	Basic Military	56	man/days
Crew:	Bridge:	2	
	Ship's Troops:	10	
	Total:	12	
Fresher		1	
Autodoc		2	
Couch		14	
Cargo:		3.74	dtons
Radiation Screen:		0	rads/hour
Comm. Range:	Medium Range		
Other Sensors:	Navigational Radar Minimal Cartographic		
Other:	20000vol carried vehicle in minimal hanger		
Cost:		6.04	MLv

**TL:** 12  
**First Example Laid Down:** 2298  
**Last Example Laid Down:** 2315  
**Number Produced:** 450  
**Producing Nation:** America  
**Price:** MLv6.04

**Beanstalk Passenger Capsule:** Built on a custom 120-ton hull, the beanstalk capsule is designed to carry up to 36 passengers (double occupancy) in great comfort to or from a world's surface. Thought he most comfortable way to get to orbit, the beanstalk is also the slowest, taking approximately five days to make the journey from the surface to geosynchronous orbit. The beanstalk capsule is self-propelled, though it derives its power from the beanstalk itself. In an emergency, onboard batteries can provide enough power to reach safety, though at less than half the normal speed. While most passenger capsules have a steward to attend to guests, no cooking is actually done on the vessel, though facilities are available. Instead, pre-packaged food is prepared and served automatically.

Cargo capsules are similar in size, and carry 110 dtons of cargo.

Name:	Passenger Car		
Tech Level:	New Commercial		
Profile:			
	Radial:	0	
	Lateral:	-1	
Size:	120	ton	Synthetic Hull
Main Computer:	Model/	1	
Sensor Range:			
	Active:	0	hexes
	Passive:	0	hexes
AC:	10		
AR:	0		
SI:	118		
Signature			
	Radial Reflected:	1	
	Lateral Reflected:	3	
	Radiated:	1	1
Screens:	Rating:	0	
Streamlining:	Airframe		
Atmospheric Speed:	Maximum	300 km/h	
Atmospheric Agility:	N/A		
Flight Avionics:	Model 2		
Cargo to Low Orbit:	N/A	dtons	
Cargo to High Orbit:	25.82	dtons	
Stutterwarp Speed:	Loaded:	0	ly/day
	Unloaded:	0	ly/day
Tactical Speed:	0		
Stutterwarp Agility:	0		
Power Plant:	0	0	
Power Plant Fuel:	N/A	dtons	



Solar Cells:	m2 Output:		
Batteries:	EP Output:	1	
	Duration:	72	day
Life Support:	Basic Civilian	350	man/days
	Luxury Civilian	70	man/days
Crew:			
	Stewards	0	
	Total:	4	
Passengers:	High:	2	
	Middle:	30	
Staterooms:	2		
Small Cabin	16		
Fresher	12		
Autodoc	0		
Dining Room	26 dtons		
Recreation Deck	13 dtons		
Cargo:	25.82	dtons	
Radiation Screen:	150	rads/hour	
Storm Cellar:	No		
Comm. Range:	Medium Range		
Other Sensors:	No Sensors		
Cost:	7.27	MLv	

**TL:** 12  
**First Example Laid Down:** 2275  
**Last Example Laid Down:** In Production  
**Number Produced:** 400+  
**Producing Nation:** France, Japan, Inca Republic, Freihafen, Indonesia  
**Cost:** MLv355.48



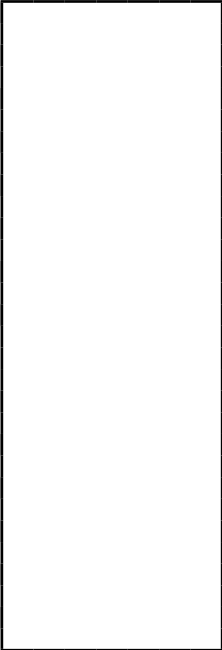
# COMMERCIAL STARSHIPS

**Thorez-class Courier:** The Thorez-class courier was originally designed for short-duration courier missions. The hull has proved to be extremely flexible, however, and variants of this design are spread all over charted space, serving as small tramp cargo vessels, couriers and even privateers. Powered by air-breathing thrusters, the Thorez can manage an unassisted takeoff from most worlds with normal gravity, but often requires the use of boosters for use on high-gravity planets. The thruster and stutterwarp cannot be run at the same time as the Thorez does not produce enough power.

The large cargo bay can be outfitted as a weapon bay, and can often be seen carrying a laser cannon in a jack turret, along with a twin-pack of missiles. Legally, only a governmentally-licensed privateer can carry bomb-pumped laser missiles, but many fell into civilian hands during the Kafer War, and most of those are as yet unaccounted for.

Despite the design's age, it remains in widespread use due to its versatility.

Name:	Thorez	
Class:	Courier	
Tech Level:	10	
Profile:		
	Radial:	-2
	Lateral:	0
Size:	220 dton Wedge Synthetic Hull	
Main Computer:	Model/2	
Sensor Range:		
	Active:	0hexes
	Passive:	0hexes
AC:	10	
AR:	0	
SI:	133	
Signature		
	Radial Reflected:	3
	Lateral Reflected:	4
	Radiated:	4/4
Streamlining:	Hybrid Lifting Body	
Atmospheric Speed:	Maximum	4700 km/h
Atmospheric Agility:	-4	
Take-Off Run:	500m (STOL)	Landing Run: 400m (STOL)
Atmospheric Cruise:	1175 km/h	Duration: 150 minutes
Flight Avionics:	Model 2	
Thruster Rating:	2G Air-Breathing MHD Thruster	
Thruster Fuel:	35.904dtons	HRF
	Duration	12Minutes Space
	6Minutes Atmospheric Full-burn	
Cargo to Low Orbit:	55.14dtons	
Cargo to High Orbit:	13.79dtons	
Stutterwarp Speed:	Loaded:	1.356ly/day
	Unloaded:	1.459ly/day
Tactical Speed:	3	
Stutterwarp Agility:	3	
Power Plant:	5EP MHD Turbine	
Power Plant Fuel:	39.4dtons	
Life Support:	Basic Civilian	56man/days
Crew:	Bridge:	6
	Engineering:	8
	Gunnery:	0
	Ship's Troops:	0



## 17 STARSHIPS AND SPACECRAFT

	Medical:	0
	Stewards	0
	Maintenance:	0
	Total:	14
Passengers	High:	0
	Middle:	4
Stateroom	0	
Small Cabin	18	
Berth	0	
Freezer Tube	0	
Fresher	2	
Cargo:	35.4dtons	
Radiation Screen:	150rads/hour	
Storm Shelter:	900rads/hour	
Comm. Range:	Long Range	
Other Sensors:	Navigational Radar	
	Deep System Scanner	
Small Craft:	0	
Other:		
Price:	11.33MLv	

**TL:** 10  
**First Example Laid Down:** 2224  
**Last Example Laid Down:** 2292  
**Number Produced:** 65+  
**Producing Nation:** France  
**Price:** MLv11.33

**Pegase-Class Cargo Hauler:** The Pegase is a basic cargo vessel in a simple, straight-forward design. Equipped with a small-diameter gravity wheel for crew comfort, the Pegase also sees some use as a basic passenger liner. This cylindrical design is manufactured all over human space, in licensed-built models and out-and-out pirated copies. The Pegase is essentially an update, with new electronics and spaceframe, of the old Anjou-class, of which an estimated 300 are still operation.

Name:	Pegase	
Class:	Medium Freighter	
Tech Level:	10	
Profile:		
	Radial:	-2
	Lateral:	0
Size:	740 dton Cylindrical Metallic Hull	
Main Computer:	Model/1	
Sensor Range:		
	Active:	0hexes
	Passive:	0hexes
AC:	12	
AR:	0	
SI:	211	
Signature		
	Radial Reflected:	5
	Lateral Reflected:	8
	Radiated:	22
Screens:	Rating:	0
Streamlining:	None	
Atmospheric Speed:	Maximum	N/A
Atmospheric Agility:		N/A
Flight Avionics:		N/A
Thruster Rating:	0	0
Thruster Fuel:	0dtons	HRF
	Duration	0minutes
Cargo to Low Orbit:	N/A	dtons
Cargo to High Orbit:	N/A	dtons
Stutterwarp Speed:	Loaded:	0.822ly/day
	Unloaded:	2.966ly/day
Tactical Speed:	2	
Stutterwarp Agility:	2	
Power Plant:	4EP MHD Turbine	
Power Plant Fuel:	23.52dtons	7 days
Solar Cells:	m2	Output:
Batteries:	Output:	
	Duration:	
Life Support:	Basic Military	0man/days



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	Basic Civilian	0man/days
	Extended Military	280man/days
	Luxury Civilian	56man/days
Crew:	Bridge:	6
	Engineering:	4
	Gunnery:	0
	Ship's Troops:	0
	Medical:	0
	Stewards	0
	Maintenance:	0
	Total:	10
Passengers	High:	0
	Middle:	10
Stateroom		20
Small Cabin		0
Berth		0
Freezer Tube		0
Fresher		0
Autodoc		0
Couch		0
Sickbay		0
Vehicle shop		0
Laboratory		0
Engineering Shop		0
Cargo:		598.43dtons
Spin Habitat:	15 meter radius	Double Hull @ 2 RPM
		0.07G
Radiation Screen:		150rads/hour
Storm Shelter:		900rads/hour
Comm. Range:		Long Range
Other Sensors:	Navigational Radar	
	Deep System Scanner	
Small Craft:	0	
Other:		
Price:		9.32MLv

**TL:** 10

**First Example Laid Down:** 2291

**Last Example Laid Down:** In production

**Number Produced:** 78+

**Producing Nation:** All

**Price:** MLv9.32

**City-class Passenger Liner:** The City-class liner is justifiably famous throughout human space. Before the Kafer War, there were 12 of these vessels on the more lucrative runs in human space, including Earth-Beta Canum, Earth-Ellis, Earth-Nibelungen, etc. When the war came, most of them were converted into troop carriers, where they could embark up to 4000 troops at a time in cramped quarters. The vessel's extensive recreation area made them popular with troops, and after the war, when the remainders were converted back to liners; they were even more popular due to their association with the war.

In addition to the passenger cabins, these ships have a small swimming pool, bowling alleys and 4 racquet ball courts, along with a fully equipped gymnasium and extensive electronic library. The two landing craft are used for a variety of purposes, including ferrying passengers and moving cargo.

Name:	City of Montevideo		Weapons
Class:	Passenger Liner		
Tech Level:	11		Point Defense:
Profile:			Type 17 DC 2
	Radial:	0	
	Lateral:	2	
Size:	4800 dton Synthetic Hull		
Main Computer:	Model/4		
Sensor Range:			
	Active:	0hexes	
	Passive:	0hexes	
AC:	12		
AR:	0		
SI:	370		
Signature			
	Radial Reflected:	6	
	Lateral Reflected:	8	
	Radiated:	5/5	
Streamlining:	Standard		
Atmospheric Speed: Maximum	N/A		
Atmospheric Agility:	N/A		
Flight Avionics:	None		
Thruster Rating:	0	0	
Thruster Fuel:	0dtons	HRF	
	Duration	0minutes	
Stutterwarp Speed: Loaded:	1.129ly/day		
	Unloaded:	1.145ly/day	
Tactical Speed:	2		
Stutterwarp Agility:	2		
Power Plant:	60EP MHD Turbine		
Power Plant Fuel:	1008dtons	20 days	
Solar Cells:	0 m2	Output:	0

## 17 STARSHIPS AND SPACECRAFT

Batteries:	EP Output:	0	
	Duration:		
Life Support:	Basic Civilian	28000man/days	
	Luxury Civilian	10000man/days	
Crew:	Bridge:	27	
	Engineering:	16	
	Gunnery:	6	
	Ship's Troops:	20	
	Medical:	22	
	Stewards	30	
	Maintenance:	14	
	Total:	135	
Passengers	High:	100	
	Middle:	500	
Stateroom		600	
Small Cabin		135	
Fresher		8	
Autodoc		4	
Couch		0	
Sickbay		1	
Engineering Shop		1	
Cargo:		274.02dtons	
Spin Habitat:	180 meter radius	Spun Hull @	1 RPM
			0.6G
Radiation Screen:			500rads/hour
Storm Shelter:			3000rads/hour
Comm. Range:		Very Long Range	
Other Sensors:	Navigational Radar		
	Gravitational Scanner		
	Deep System Scanner		
Small Craft:	200dtons, in	Standard Hanger	
Other:			
Price:		248.72MLv	

TL: 11

**First Example Laid Down:** 2278

**Last Example Laid Down:** 2292

**Number Produced:** 12

**Producing Nation:** France

**Price:** MLv248.72



## SURVEY VESSELS

**Trilon Associates C-System Special Services Vessel, SSV-21:** The SSV-21 grew out of a Trilon need for a sophisticated vessel that could handle such tasks as first contact missions and extended surveys of living worlds. Until the recent introduction of the SSV-56, the chief vehicle for these types of missions was the SSV-21. Now that it has been replaced in Trilon inventories, many of them have been sold off to other corporations, with a couple being purchased by national governments, including Wellon, and Freihafen. Even in its obsolescence, the SSV-21 is still a highly-rated vessel for its class.

The SSV-21 relies on a closed-cycle fuel cell power plant. Though fuel cells are normally used in small military vessels for their lower radiated signature, the high cost typically keeps them out of civilian vessels. A closed-cycle plant like the one found on the SSV-21 retains its fuel supply after use, and can simply deploy a solar array to crack the water exhaust back into hydrogen and oxygen. This way, it does not need to rely on bases, and need not spend a great deal of time searching for water or ice to crack into fuel. Using a closed system greatly extends the vessel's operating time, but some loss does happen with each cycle. A separate fuel refining plant is not necessary, as the fuel cell itself can simply be operated in reverse.

The vessel's active sensor array cannot be used while the ship is reprocessing water back into fuel, as the power requirements are too high. It takes a week to crack the full load of fuel using the vessel's solar array.

Name:	SSV-21	
Class:	Trilon and Associates Class C	
Tech Level:	11	
Profile:		
	Radial:	-2
	Lateral:	0
Size:	500 Dton Close Structure Synthetic Hull	
Main Computer:	Model/6	
Sensor Range:		
	Active:	5hexes
	Passive:	12hexes
AC:	10	
AR:	0	
SI:	175	
Signature		
	Radial Reflected:	13/ 6 with solar array folded
	Lateral Reflected:	13/ 6 with solar array folded
	Radiated:	4/4
Streamlining:	None	
Atmospheric Speed:	Maximum	N/A
Atmospheric Agility:	N/A	
Flight Avionics:	Model 2	
Thruster Rating:	0	0
Thruster Fuel:	0dtons	HRF
	Duration	0minutes
Cargo to Low Orbit:	N/A	dtons

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Cargo to High Orbit:	N/A	dtons
Stutterwarp Speed:	Loaded:	1.272ly/day
	Unloaded:	1.295ly/day
Tactical Speed:	3	
Stutterwarp Agility:	3	
Power Plant:	10EP Fuel Cell	
Power Plant Fuel:	42dtons	
Solar Cells:	1800 m2	Output: 10 EP
Batteries:	EP Output:	0
	Duration:	168day
Life Support:	Basic Military	0man/days
	Basic Civilian	0man/days
	Extended Military	0man/days
	Luxury Civilian	6480man/days
Crew:	Bridge:	16
	Engineering:	8
	Gunnery:	0
	Ship's Troops:	0
	Medical:	2
	Stewards	0
	Maintenance:	0
	Total:	26
Scientists	20	
Stateroom	2	
Small Cabin	34	
Fresher	8	
Autodoc	4	
Couch	0	
Sickbay	1	
Vehicle shop	1	
Laboratory	6	
Engineering Shop	1	
Cargo:	25.82dtons	
Spin Habitat:	45 meter radius	Spin Capsule @ 2 RPM
	0.2G	
Radiation Screen:	150rads/hour	
Storm Shelter:	900rads/hours	
Comm. Range:	System-Wide	
Other Sensors:	Navigational Radar	Advanced Cartographic
	Gravitational Scanner	Advanced Life Sensors
	Deep System Scanner	
Small Craft:	100dtons, in Standard Hanger	
Other:		
Cost:	146.89MLv	

**TL: 11**

**First Example Laid Down: 2285**

**Last Example Laid Down: 2305**

**Number Produced: 17**

**Producing Nation: America/Trilon**

**Cost: MLv147**

## The Landers

The SSV-21 has 100 dtons of space available for small craft, and the 50-dton SLV-50 (Scout Landing Vessel, 50 tons) is the most popular. The SLV-50 carries a heavy ATV (6 dtons) in a vehicle bay, along with an expanding base (2 dtons), a fuel station (1 dton) and a variety of stores for a ground party in its cargo bay. Many use part of the cargo capacity to carry a small multi-environment gyrocopter.

The SLV-50 itself carries a basic array of survey sensors, and can be used to extend the ground party's survey range a hundred-fold.

Name:	SLV-50		
Class:	Scout Lander		
Tech Level:	11		
Profile:			
	Radial:	-3	
	Lateral:	-3	
Size:	50 Ton Wedge Synthetic Hull		
Main Computer:	Model/2		
Sensor Range:			
	Active:	0hexes	
	Passive:	0hexes	
AC:	10		
AR:	0		
SI:	87.5		
Signature			
	Radial Reflected:	2	
	Lateral Reflected:	3	
	Radiated:	1/1	
Screens:	Rating:	0	
Streamlining:	Hybrid Lifting Body Airframe		
Atmospheric Speed:	Maximum	4700km/h	
Atmospheric Agility:	-4		
Take-Off Run:	VTOL	Landing Run:	VTOL
Clearance:	50m		
Atmospheric Cruise:	1175km/h	150 minutes	
Flight Avionics:	Model 1		
Thruster Rating:	2G Air-Breathing MHD Thruster		
Thruster Fuel:	8.16dtons	HRF	
	Duration	12minutes	
	6airborne minutes		
Cargo to Low Orbit:			5.2dtons
Cargo to High Orbit:			1.3dtons
Stutterwarp Speed:	Loaded:	0ly/day	
	Unloaded:	0ly/day	
Tactical Speed:	0		
Stutterwarp Agility:	0		
Power Plant:	2EP MHD Turbine		
Power Plant Fuel:	3.36dtons	48 hours	
Solar Cells:	0	m2	Output: 0

## 17 STARSHIPS AND SPACECRAFT

Life Support:	Basic Civilian	20man/days
Crew:	Bridge:	2
	Total:	2
Passengers	High:	0
	Middle:	0
Stateroom		0
Small Cabin		1
Fresher		1
Autodoc		0
Couch		8
Cargo:		5.2dtons
Comm. Range:	Long Range	
Other Sensors:	Navigational Radar	Minimal Cartographic
		Minimal Life Sensors
Other:	ATV in minimal hanger	
Cost:		4.55MLv

**TL:** 11

**First Example Laid Down:** 2291

**Last Example Laid Down:** 2317

**Number Produced:** 57

**Producing Nation:** America/Trilon

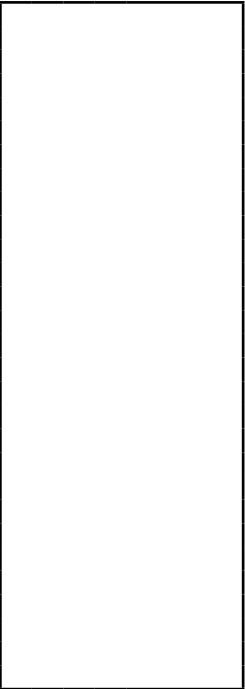
**Cost:** MLv4.55



**Darwin-class Exploratory Cutter:** The Darwin is a new design, a joint British-French venture. It is not, strictly speaking, a starship, but rather a very large landing craft, designed for long-duration missions. It is used in conjunction with vessels like the Goliath-class tug, and provides a means for smaller agencies to get access to a high quality survey vessel.

Despite its lack of stutterwarp, the Darwin is a capable spacecraft. In the large hull are two laboratories and space for a pair of surface vehicles and/or aircraft. The cargo capacity can be used for portable bases, or to bring back samples. It also has a small solar array which can be used to make fuel for both the spacecraft and its carried vehicles.

Name:	Darwin		
Class:	Survey		
Tech Level:	New Military		
Profile:			
	Radial:	-2	
	Lateral:	0	
Size:	240 dton Wedge Synthetic Hull		
Main Computer:	Model/4		
Sensor Range:			
	Active:	0hexes	
	Passive:	10hexes	
AC:	10		
AR:	0		
SI:	136		
Signature			
	Radial Reflected:	7	
	Lateral Reflected:	8	
	Radiated:	4/4	
Streamlining:	Lifting Body Airframe		
Atmospheric Speed:	Maximum	4700 km/h	
Atmospheric Agility:	-3		
Atmospheric Cruise:	615 km/h	Duration:150 minutes	
Take-off Run:	VTOL	Landing Run:VTOL	
Clearance:	240m		
Flight Avionics:	Model 3		
Thruster Rating:	2G Air-Breathing MHD Thruster		
Thruster Fuel:	39.168dtons	HRF	
	Duration	12Minutes space	
		6Minutes Atmosphere Full-burn	
Cargo to Low Orbit:	19.98dtons		
Cargo to High Orbit:	4.995dtons		
Stutterwarp Speed:	Loaded:	0ly/day	
	Unloaded:	0ly/day	
Tactical Speed:	0		
Stutterwarp Agility:	0		
Power Plant:	5EP MHD Turbine		
Power Plant Fuel:	29.4dtons		
Solar Cells:	320 m2	Output:	2



17 STARSHIPS AND SPACECRAFT

Life Support:	Luxury Civilian	3960man/days
Crew:	Bridge:	6
	Engineering:	6
	Gunnery:	0
	Ship's Troops:	0
	Medical:	0
	Stewards	0
	Maintenance:	0
	Total:	12
Passengers	High:	0
	Middle:	8
Stateroom	0	
Small Cabin	18	
Berth	0	
Freezer Tube	2	
Fresher	8	
Autodoc	4	
Couch	0	
Sickbay	1	
Vehicle shop	1	
Laboratory	2	
Engineering Shop	1	
Cargo:	13.75dtons	
Radiation Screen:	150rads/hour	
Storm Shelter:	900rads/hour	
Comm. Range:	Extreme Range	
Other Sensors:	Navigational Radar	Advanced Cartographic
	Gravitational Scanner	Advanced Life Sensors
	Deep System Scanner	
Small Craft:	0tons, in	
Other:	12000vol of vehicles in minimal hanger	
Cost:	20.24MLv	

**TL:** 12  
**First Example Laid Down:** 2305  
**Last Example Laid Down:** 2314  
**Number Produced:** 45  
**Producing Nation:** France  
**Cost:** MLv20.24



## SYSTEM SHIPS

System ships are the vessels that ply the space between worlds within star systems. Typically using very low-powered stutterwarp drives, system-ships are more economical to run for the short in-system routes.

**Astral-Class Bulk Carrier:** Using a low-powered stutterwarp drive, the Astral can transport over 1600 dtons within the confines of a solar system. The ship itself is a modular freighter, carrying its cargo externally along the cargo spine.

Most system ships are robotic vessels, and many Astrals have been converted to robotic operations, or, if crewed, operate with far fewer than the mandated crew numbers. However, some merchant concerns use these slow, lumbering system ships as training vessels, both for new hires and for experienced crew moving up into command positions. If nothing else, an Astral teaches patience.

Name:	Astral	
Class:	System Ship	
Tech Level:	10	
Profile:		
	Radial:	-1
	Lateral:	1
Size:	2000 Dton Cylindrical Metallic Hull	
Main Computer:	Model/2	
Sensor Range:		
	Active:	0hexes
	Passive:	0hexes
AC:	10	
AR:	0	
SI:	300	
Signature		
	Radial Reflected:	7
	Lateral Reflected:	11
	Radiated:	1/1
Screens:	Rating:	0
Streamlining:	None	
Thruster Rating:	0	0
Thruster Fuel:	0dtons	
	Duration	0minutes
Cargo to Low Orbit:	N/A	
Cargo to High Orbit:	N/A	
Stutterwarp Speed:	Loaded:	0.19ly/day
	Unloaded:	0.375ly/day
Tactical Speed:	0	
Stutterwarp Agility:	0	
Power Plant:	1.5EP MHD Turbine	

## 17 STARSHIPS AND SPACECRAFT

Power Plant Fuel:	151.2dtons	120 days
Solar Cells:	0 m2	Output: 0
Batteries:	EP Output:	0
	Duration:	168day
Life Support:	Basic Military	0man/days
	Basic Civilian	0man/days
	Extended Military	0man/days
	Luxury Civilian	3600man/days
Crew:	Bridge:	12
	Engineering:	3
	Gunnery:	0
	Ship's Troops:	0
	Medical:	0
	Stewards	1
	Maintenance:	0
	Total:	16
Passengers	High:	0
	Middle:	0
Stateroom	30	
Small Cabin	0	
Berth	0	
Freezer Tube	0	
Fresher	10	
Autodoc	4	
Couch	0	
Sickbay	1	
Engineering Shop	1	
Cargo:	1626.24dtons	
Spin Habitat:	60 meter radius	Spin Capsule @ 1 RPM
	0.07G	
Radiation Screen:	150rads/hour	
Storm Shelter:	900rads/hour	
Comm. Range:	System-Wide	
Other Sensors:	Navigational Radar	
	Deep System Scanner	
Small Craft:	0tons, in	
Other:		
Price:	16.1MLv	

TL: 10

**First Example Laid Down:** 2207

**Last Example Laid Down:** In Production

**Number Produced:** 220+

**Producing Nation:** France

**Price:** MLv16.1

## TUGS

There are two general types of tugs in use in Human space. The first is commonly known as a tractor, and is used to haul non-stutterwarp vessels, often across interstellar distances. The second type has received a great deal more public attention, as the stutterwarp tugs allows Humanity to surpass the 7.7 light year limit of conventional stutterwarp vessels.

**Goliath-class Tractor** The Goliath-class tractor is a perhaps the most common class of tug seen, and one of the few capable of true interstellar travel. The Goliath can carry up to a 240-dton vessel in its sling, or push a great deal more in custom hull mounts.

The 240-dton capable grapple is a unique design for the Goliath, as it is mounted on a spin arm, allowing the carried vessel to be spun to generate internal gravity. A combination water/fuel tank counterbalances the carried vessel, and the liquids can be pumped to and from a holding tank on the tug itself to allow for variable sizes of vessels to be carried. The heavily-reinforced bow of the ship can be used to push cargo as well, and up to 500 dtons can be carried this way, though the tug's performance drops to 1.85 lightyears per day. Several of these vessels can be found in independent hands along the French Arm, conducting salvage operations on vessels and installations wrecked over the course of the Kafer War.

Name:	Goliath	
Class:	Tug	
Tech Level:	New Commercial	
Profile:		
	Radial:	-1
	Lateral:	0
Size:	370 Ton Dispersed Structure Metallic Hull	
Main Computer:	Model/3	
Sensor Range:		
	Active:	0hexes
	Passive:	0hexes
AC:	15	
AR:	0	
SI:	156	
Signature		
	Radial Reflected:	6
	Lateral Reflected:	7
	Radiated:	5/5
Streamlining:	None	
Atmospheric Speed:	Maximum	N/A
Atmospheric Agility:	N/A	
Flight Avionics:	Model 3	
Thruster Rating:	0	0
Thruster Fuel:	0dtons	
	Duration	0minutes
Cargo to Low Orbit:	N/A	dtons

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Cargo to High Orbit:		N/A		dtons	
Stutterwarp Speed:	Loaded:	2.103ly/day			
	Unloaded:	2.477ly/day			
Tactical Speed:	5				
Stutterwarp Agility:	5				
Power Plant:	30EP MHD Turbine				
Power Plant Fuel:	201.6dtons				
Solar Cells:	0	m2	Output:	0	
Batteries:	EP Output:	0			
	Duration:	168day			
Life Support:	Basic Military	0man/days			
	Basic Civilian	364man/days			
	Extended Military	0man/days			
	Luxury Civilian	0man/days			
Crew:	Bridge:	6			
	Engineering:	16			
	Gunnery:	0			
	Ship's Troops:	0			
	Medical:	0			
	Stewards	0			
	Maintenance:	0			
	Total:	22			
Passengers	High:	0			
	Middle:	0			
Stateroom	14				
Small Cabin	0				
Berth	0				
Freezer Tube	0				
Fresher	4				
Autodoc	4				
Couch	0				
Sickbay	1				
Vehicle shop	0				
Laboratory	0				
Engineering Shop	1				
Cargo:	9.05dtons				
Spin Habitat:	60 meter radius	Spin Capsule @	2 RPM		
	0.04G				
Radiation Screen:	225rads/hour				
Storm Shelter:	1350rads/hour				
Comm. Range:	Very Long Range				
Other Sensors:	Navigational Radar				
Small Craft:	240dtons, in		Magnetic Sling		
Other:					
Cost:	41.98MLv				

TL: 11

First Example Laid Down: 2285

Last Example Laid Down: 2298

Number Produced: 16

Producing Nation: Nibelungen

Cost: MLv41.98

**Daedalus-class Stutterwarp Tug:** The first stutterwarp tug was a modification of an old Anjou-class hull, but the current versions are purpose-built hulls, similar in many ways to vessels like the Goliath. Stutterwarp tugs have four magnetic slings on external amounts, each rated to 1000 dtons, though the tug itself can only carry a total of 2000 dtons of vessel before its performance suffers. The drive tuner is the most critical piece of equipment on the tug, and it is stored near the slings, though in a well-armored environment.

Fully loaded with 2000 dtons of carried vessels, the *Daedalus* can still manage a warp efficiency of 1.26 lightyears per day.

Name:	Daedalus			Point Defense: Type 17 DC	2
Class:	Tug				
Tech Level:	12				
Profile:					
	Radial:	0			
	Lateral:	2			
Size:	1300 Ton Dispersed Structure Synthetic Hull				
Main Computer:	Model/3				
Sensor Range:					
	Active:	5hexes			
	Passive:	10hexes			
AC:	13				
AR:	0				
SI:	282.5				
Signature					
	Radial Reflected:	5			
	Lateral Reflected:	7			
	Radiated:	77			
Screens:	Rating:	0			
Streamlining:	None				
Atmospheric Speed:	Maximum	N/A			
Atmospheric Agility:	N/A				
Flight Avionics:	Model 3				
Thruster Rating:	0	0			
Thruster Fuel:	0dtons	HRF			
	Duration	0minutes			
Cargo to Low Orbit:	N/A	dtons			
Cargo to High Orbit:	N/A	dtons			
Stutterwarp Speed:	Loaded:	1.275ly/day			
	Unloaded:	1.749ly/day			
Tactical Speed:	3				
Stutterwarp Agility:	3				
Power Plant:	80EP Fission Reactor				
Power Plant Fuel:	0dtons				
Solar Cells:	0 m2	Output:	0		
Batteries:	EP Output:	0			

Duration:		168day
Life Support:	Basic Military	0man/days
	Basic Civilian	364man/days
	Extended Military	0man/days
	Luxury Civilian	0man/days
Crew:	Bridge:	54
	Engineering:	94
	Gunnery:	6
	Ship's Troops:	0
	Medical:	2
	Stewards	6
	Maintenance:	0
Total:		162
Passengers	High:	0
	Middle:	0
Stateroom	0	
Small Cabin	110	
Berth	0	
Freezer Tube	0	
Fresher	4	
Autodoc	4	
Couch	0	
Sickbay	1	
Vehicle shop	0	
Laboratory	0	
Engineering Shop	1	
Cargo:		17.42dtons
Spin Habitat:	60m radius	Double Hull @ 2 RPM
Radiation Screen:	500rads/hour	
Storm Shelter:	3000rads/hour	
Comm. Range:	System-Wide	
Other Sensors:	Navigational Radar	Minimal Cartographic
Deep System Scanner		
Small Craft:	2000tons, in	Magnetic Slings
Other:	Drive Tuner	
Cost:		355.48MLv

TL: 12  
First Example Laid Down: 2308  
Last Example Laid Down: In Production  
Number Produced: 11  
Producing Nation: Trilon  
Cost: MLv355.48



# MILITARY VESSELS

The long years of the Kafer War have seen a continued evolution of human warships. As the war dragged on, the general-purpose cruisers of the past gave way to purpose-built gunships, carriers and battleships. Only to the smallest of warships does the general-purpose label still apply.

**Cutter:** Used as a general-purpose small craft, the cutter is stutterwarp capable, but is not designed for interface operations. It possesses a thruster for precise orbital operations and boarding actions. It is used in ship-to-ship transfers, orbital operations and customs duties. Though relatively fast for such a small vessel, it lacks endurance, and is not suitable for interstellar journeys.

Name:	ST-56	Lasers:	EA-122	UTES?	2	Y
Class:	Cutter					
Tech Level:	12					
Profile:						
	Radial:	-1				
	Lateral:	2				
Size:	50 Dton Cylindrical Composite Hull					
Main Computer:	Model/3					
Sensor Range:						
	Active:	10hexes				
	Passive:	5hexes				
AC:	19					
AR:	5					
SI:	88					
Signature						
	Radial Reflected:	4				
	Lateral Reflected:	5				
	Radiated:	4/2				
Streamlining:	None					
Atmospheric Speed:	Maximum	N/A				
Atmospheric Agility:	N/A					
Flight Avionics:	None					
Thruster Rating:	0.1G MHD Thruster					
Thruster Fuel:	0.5dtons	HRF				
	Duration	20minutes				
Cargo to Low Orbit:	N/A					
Cargo to High Orbit:	N/A					
Stutterwarp Speed:	Loaded:	1.9ly/day				
	Unloaded:	1.922ly/day				
Tactical Speed:	4					
Stutterwarp Agility:	4					
Power Plant:	12EP MHD Turbine					
Power Plant Fuel:	25.2dtons					
Life Support:	Basic Military	100man/days				

## 17 STARSHIPS AND SPACECRAFT

	Basic Civilian	0man/days
	Extended Military	0man/days
	Luxury Civilian	0man/days
Crew:	Bridge:	3
	Engineering:	1
	Gunnery:	3
	Ship's Troops:	5
	Medical:	0
	Stewards	0
	Maintenance:	0
	Total:	12
Passengers	High:	0
	Middle:	0
Stateroom	0	
Small Cabin	0	
Berth	6	
Freezer Tube	0	
Fresher	2	
Autodoc	1	
Couch	12	
Sickbay	0	
Vehicle shop	0	
Laboratory	0	
Engineering Shop	0	
Cargo:	1.66dtons	
Radiation Screen:	150rads/hour	
Storm Shelter:	900rads/hour	
Comm. Range:	Long Range	
Other Sensors:	Navigational Radar	Minimal Life Sensors
	Deep System Scanner	
Small Craft:	0tons, in	
Other:		
Price:	18.59MLv	

**TL:** 12

**First Example Laid Down:** 2275

**Last Example Laid Down:** In production

**Number Produced:** 120+

**Producing Nation:** Various

**Price:** MLv18.59

# FIGHTERS

Fighters are small warships with limited endurance, designed to bring their weapons to close range against the enemy. They are also useful for screening operations, protecting the fleet from other fighters and from missiles. Remote vessels are steadily eroding the need for fighters, and some doubt whether they truly are useful in the face of drones like Goalkeeper and Freihafen's Machine Fighter.

**Martel:** The sturdy Martel is widely regarded as one of the best fighters in human hands. It is aggressively marketed as well, and examples and variants can be found in the hands of France, Britain and Canada (as the Harrier), Texas (as the Longhorn), and Freihafen (as the Jaeger). Most of the variants revolve around the fighter's primary armament, the two submunition dispensers. The heavily armed and armored Martel is often employed as a ship-killer, and racked up impressive kill ratios vs. Kafer capital ships. Against fighters it does not fare quite as well, as it lacks the raw speed of many other designs. Its high armor does stand it in good stead, however.

Name:	Martel	Lasers:	EA-122	Fixed	2	UTES?	Y
Class:	Heavy Fighter	Submunitions:	Grape-Shot		2		
Tech Level:	12						
Profile:							
	Radial:	0					
	Lateral:	-1					
Size:	40 Dton Close Structure Composite Hull						
Main Computer:	Model/3						
Sensor Range:							
	Active:	10hexes					
	Passive:	10hexes					
AC:	22						
AR:	12						
SI:	85						
Signature							
	Radial Reflected:	3					
	Lateral Reflected:	4					
	Radiated:	4/1					
Screens:	Rating:	0					
Streamlining:	None						
Atmospheric Speed:	Maximum	N/A					
Atmospheric Agility:		N/A					
Flight Avionics:	None						
Thruster Rating:	0	0					
Thruster Fuel:	0dtons						
	Duration	0minutes					
Cargo to Low Orbit:	N/A	dtons					
Cargo to High Orbit:	N/A	dtons					
Stutterwarp Speed:	Loaded:	3.257ly/day					
	Unloaded:	3.325ly/day					
Tactical Speed:	7						

## 17 STARSHIPS AND SPACECRAFT

Stutterwarp Agility:	7		
Power Plant:	15EP MHD Turbine		
Power Plant Fuel:	12.6dtons		
Solar Cells:	m2	Output:	
Batteries:	EP Output:	0	
	Duration:	0day	
Life Support:	Basic Military	4man/days	
	Basic Civilian	0man/days	
	Extended Military	0man/days	
	Luxury Civilian	0man/days	
Crew:	Bridge:	1	
	Engineering:	0	
	Gunnery:	1	
	Ship s Troops:	0	
	Medical:	0	
	Stewards	0	
	Maintenance:	0	
	Total:	2	
Passengers	High:	0	
	Middle:	0	
Stateroom	0		
Small Cabin	0		
Berth	1		
Freezer Tube	0		
Fresher	1		
Autodoc	0		
Couch	2		
Sickbay	0		
Vehicle shop	0		
Laboratory	0		
Engineering Shop	0		
Cargo:	2.41dtons		
Spin Habitat:	N/A	None	
	0G		
Radiation Screen:	0rads/hour		
Comm. Range:	Long Range		
	Navigation	Ra-	
Other Sensors:	dar		
Small Craft:	0		
Other:			
Price:	32.13MLv		

TL: 12

First Example Laid Down: 2285

Last Example Laid Down: In production

Number Produced: 300+

Producing Nation: France and others under license

Price: MLv32.13

# 2320AD WARSHIPS

**Myrmidon-class Intruder Corvette:** The Myrmidon is a small warship designed to be produced relatively cheaply. It can be produced by both military and civilian yards. Sternmetal Yards of Freihafen first produced the vessel in 2302, in response to Freihafen's need for an indigenous small warship. As the Kafer War started to heat up again, Sternmetal made the unusual move of releasing the design specs to any nation that wanted them. These small yet effective warships became the backbone of many small national navies and even found service with some wealthy colonies. These small vessels are staffed at civilian rather than military levels, in an effort to save costs.

With the end of the war large numbers of these vessels were decommissioned; their weapons removed, and sold off to private concerns. Most were converted to cargo vessels, but a few became the basis for a small privateer fleet operating among the devastated worlds of the French Arm.

Name:	Myrmidon		UTES?
Class:	Corvette		
Tech Level:	11		
Profile:			
	Radial:	-2	
	Lateral:	-1	
Size:	240 Dton Cylindrical Synthetic Hull		
Main Computer:	Model/2		
Sensor Range:			
	Active:	7hexes	
	Passive:	6hexes	
AC:	18		
AR:	8		
SI:	136		
Signature			
	Radial Reflected:	5	
	Lateral Reflected:	5	
	Radiated:	42	
	Habitat Stowed:	4	
Streamlining:	None		
Atmospheric Speed:	Maximum	N/A	
Atmospheric Agility:	N/A		
Flight Avionics:	None		
Thruster Rating:	0	0	
Thruster Fuel:	0dtons	HRF	
	Duration	0minutes	
Cargo to Low Orbit:	N/A	dtons	
Cargo to High Orbit:	N/A	dtons	
Stutterwarp Speed:	Loaded:	1.66ly/day	

Missile Controllers	1	UTES?
Lasers:	0	
LL-98 Laser	2	Y
Submunitions:		
Big Clip	2	
Missiles:		
Ritage-2	4	

## 17 STARSHIPS AND SPACECRAFT

	Unloaded:	1.697ly/day
Tactical Speed:	3	
Stutterwarp Agility:	3	
Power Plant:	16EP MHD Turbine	
Power Plant Fuel:	94.08dtons	
Solar Cells:	:	
Batteries:	EP Output:	0
	Duration:	1 day
Life Support:	Basic Military	1800man/days
	Basic Civilian	0man/days
	Extended Military	0man/days
	Luxury Civilian	0man/days
Crew:	Bridge:	6
	Engineering:	6
	Gunnery:	6
	Ship's Troops:	6
	Medical:	0
	Stewards	0
	Maintenance:	0
	Total:	24
Passengers	High:	0
	Middle:	0
Stateroom	11	
Small Cabin	2	
Berth	0	
Fresher	2	
Autodoc	1	
Cargo:	30.31dtons	
Radiation Screen:	150rads/hour	
Storm Shelter:	900rads/hour	
Comm. Range:	Long Range	
Other Sensors:	Navigational Radar	
	Deep System Scanner	
Small Craft:		
Other:		
Price:	29.68MLv	

TL: 11

First Example Laid Down: 2302

Last Example Laid Down: 2312

Number Produced: 80+

Producing Nation: Freihafen, various others

Price: MLv29.68

**John F. Kennedy-class Fast Missile Cruiser, bloc II:** The American philosophy in war-ship design is “Get in fast, strike hard, get out fast” which has led to the development of the Kennedy-class fast missile cruiser and her big sister, the Columbia-class battleship. Both vessels are heavy on their missile complement, but to achieve the high speed the vessel is known for, the Kennedy-class has to accept some trade-offs, most notably in her lack of armor, screens and substantial gun armament. This latest refit adds a dedicated point defense system to the vessel’s weapons mix, at the expense of two of her conventional laser turrets. Kennedys run at a power deficit, meaning that the guns and the point defense systems cannot all fire at the same time, unless power is routed from the stutterwarp drive to the weapons.

Name:	Kennedy	TTAs	0	UTES?
Class:	Fast Missile Cruiser	Missile Controllers	4	
Tech Level:	12	Point Defense:		
Profile:		Type 29 DC	2	
	Radial:	-1	Lasers:	0
	Lateral:	1	EAS-1000 Laser	6 Dbl turrets 12
Size:	900 Dton Conical Synthetic Hull	Missiles:	16	Y
Main Computer:	Model/5			
Sensor Range:				
	Active:	15hexes		
	Passive:	10hexes		
AC:	10			
AR:	0			
SI:	235			
Signature				
	Radial Reflected:	6		
	Lateral Reflected:	7		
	Radiated:	74		
	Habitat Stowed:	6		
Screens:	Rating:	0		
Streamlining:	None			
Atmospheric Speed: Maximum	N/A			
Atmospheric Agility:	N/A			
Flight Avionics:	None			
Thruster Rating:	0	0		
Thruster Fuel:	0dtons	HRF		
	Duration	0minutes		
Cargo to Low Orbit:	N/A	dtons		
Cargo to High Orbit:	N/A	dtons		
Stutterwarp Speed: Loaded:	5.991ly/day			
	Unloaded:	6.146ly/day		
Tactical Speed:	12			
Stutterwarp Agility:	12			
Power Plant:	EP Fusion Reactor			
	300			

## 17 STARSHIPS AND SPACECRAFT

Power Plant Fuel:	N/A	dtons
Solar Cells:		m2 Output:
Batteries:	EP Output:	0
	Duration:	1day
Life Support:	Basic Military	0man/days
	Basic Civilian	0man/days
	Extended Military	103680man/days
	Luxury Civilian	0man/days
Crew:	Bridge:	27
	Engineering:	89
	Gunnery:	25
	Ship's Troops:	0
	Medical:	2
	Stewards	8
	Maintenance:	0
	Total:	178
Passengers	High:	0
	Middle:	0
Stateroom		43
Small Cabin		2
Berth		0
Freezer Tube		0
Fresher		30
Autodoc		10
Couch		0
Sickbay		2
Vehicle shop		1
Laboratory		0
Engineering Shop		1
Cargo:		74.58dtons
Spin Habitat:	30 meter radius	Extendable Spin Capsule @ 3 RPM
		0.3G
Radiation Screen:		400rads/hour
Storm Shelter:		2400rads/hour
Comm. Range:		Extreme Range
Other Sensors:	Navigational Radar	
	Gravitational Scanner	
	Deep System Scanner	
Small Craft:		40dtons, in Minimal Internal Hanger
Other:		
Price:		148.93MLv

TL: 12

**First Example Laid Down:** 2285**Last Example Laid Down:** 2316**Number Produced:** 18 (**Producing Nation:** America**Price:** MLv148.93



**NAMES of Kennedy-class Cruisers:**

USS John F. Kennedy, USS Thomas Jefferson, USS Ronald Reagan (lost 2307), USS Jane Kostek, USS Abraham Lincoln, USS Colin Powell, USS Gordon Miller, USS George Washington, USS Jennifer Marlowe, USS Ernest White, USS Foxx Travis, USS Julia Pemberton (lost 2305), USS Calvin Morrison (lost 2309), USS John Bighorn, USS Franklin D. Roosevelt (lost 2305), USS Chakra Bindi, USS Alison Chandra

## MISSILES AND DRONES

All missiles and drones require the Pilot Remote Objects Feat, along with the Pilot Skill.

### MISSILES

**American SIM-14 IIC:** The SIM-14 IIC is a bloc upgrade of the older SIM-14, the famous “Definite Kill” missile. The IIC upgrade is even faster, with a slighter more powerful warhead, built on the same missile bus as the older model. This allowed upgrades to happen in place, without rebuilding the missile bays. By 2318, almost all American forces had received the upgrade, and the upgrade package was made available to American allies.

Speed:	8	Profile:	Lateral:	-4	Radial:	-4	
Signature:	Reflected:	Lateral:	1	Radial:	1	Radiated:	1
Sensors:	Active:	-Passive:	10	Other:			
AC:	18	AR:	0	Agility:	8	SI:	13
Warhead Type:	Detonation Laser	Size:	1.3	Duration:	6 hours	Price:	0.6 MLV
Damage:	2d10 x 1d12	Range:	0	#Shots:	1	USP:	6

**British Space Sparrow SSM-9-B:** The current missile in service with British, Australian and Canadian forces, the Space Sparrow is a modification of the French Ritage-2, largely in the weapon's electronics. The active sensor suite makes the missile more accurate and even allows it to be used as a makeshift sensor drone if need be. It is somewhat larger than the Ritage-2 however, and so cannot use the same bays as the older weapon.

Speed:		6	Profile:	Lateral:	-4	Radial:	-4	
Signature:	Reflected:		Lateral:	1	Radial:	1	Radiated:	1
Sensors:	Active:		0	Passive:	10	Other:		
AC:		16	AR:	0	Agility:	6	SI:	13
Warhead Type:	Detonation Laser	Size:	1.2	Duration:	6 Hours	Price:	0.5	MLV
Damage:	2d10 x 1d10	Range:	0	#Shots:	1	USP:	5	

**French Ritage-3 Missile** Recognizing the possibilities of a remote fighter as opposed to a disposable missile, the French military was nonetheless dissatisfied with the performance of the old Ritage-1 remote fighter, and ordered a new model. The Ritage-3 mounts a particle gun instead of the laser of the older model, and it is somewhat larger. It remains to be seen if the concept has any value, however.

Speed:		6	Profile:	Lateral:	-4	Radial:	-4		
Signature:	Reflected:	Lateral:	1		Radial:	1	Radiated:	1	
Sensors:	Active:	-Passive:			0			Other:	
AC:	16		AR:	0		Agility:	6	SI:	13
Warhead Type:	Particle Beam	Size:	1.35		6 hours		Price:	0.7	
		Duration:						MLv	
Damage:	1d12	Range:	2		#Shots:	5		USP:	1

**French Ritage-4 Missile** Though the Ritage-4 is not as powerful as some missiles, it is more accurate, and that makes it a dangerous weapon in modern space combat. The Ritage-4 is a replacement for the older Ritage-2, and fits into the same bays, which was one of the weapon's design goals.

Speed:	7Profile:		Lateral:	-4Radial:	-4	
Signature:	Reflected:	Lateral:		1Radial:	1Radiated:	1
Sensors:	Active:	0Passive:		13Other:		
AC:	17AR:		0Agility:		7SI:	13
Warhead Type:	Detonation Laser	Size:	1.2Duration:	6Price:	0.5 MLv	
Damage:	1d10 x 1d12	Range:	0#Shots:	1USP:	6	

### SENSOR DRONES

**American HD-11 “Super-Scout” Sensor Drone** The HD-11 is the current American sensor drone, and is designed to be as cheap and disposable as possible.

Speed:	8	Profile:	Lateral:	-3	Radial:	-4	
Signature:	Reflected:	Lateral:	2	Radial:	2	Radiated:	2
Sensors:	Active:	13	Passive:	13	Other:		
AC:	18	AR:	0	Agility:	8	SI:	19
Warhead Type:	0	Size:	11	Duration:	24	Price:	2.155 MLv

**French Voir Sensor Drone** The Voir Sensor drone is one of the fastest vessels ever created by man. The Voir is designed to pass through a military formation too fast for any weapons to get a bead on it, as it is quite fragile.

Speed:	11		Profile:	Lateral:	-3	Radial:	-4	
Signature:	Reflected:	Lateral:	1		Radial:	1	Radiated:	4
Sensors:	Active:	7			Passive:	13		Other:
AC:	21	AR:	0		Agility:	11	SI:	20
Warhead Type:	N/A	Size:	13		Duration:	12	Price:	4.22 MLv

### OTHER DRONES

**D-23 Decoy Drone:** The D-23 is a commercially-available decoy drone designed to simulate

ships up to 1000 tons in displacement, or down to 100 tons. These are quite popular with merchant vessels moving through hostile territory.

Speed:	8Profile:		Lateral:	-3Radial:	-4	
Signature:	Reflected:	Lateral:	1Radial:		1Radiated:	2
Sensors:	Active:	0Passive:		3Other:		
AC:	18AR:		0Agility:	8SI:	0	
Warhead Type:	0Size:	10Duration:		12Price:	2.39	

The listed values for Profile and Signature are for the drone when it is in standard mode. In decoy mode, the Profile and Signature become the same as the vessel it is supposed to emulating.

**Goalkeeper Point Defense Drone:** The Goalkeeper is a new design, only out in quantity since 2315. Developed by British Exospace in response to a tender from the Royal Navy, the Goalkeeper drone is designed to intercept missiles at a safe distance from the controlling vessel and destroy them with its point-defense cluster.

Speed:	7Profile:		Lateral:	-3Radial:	-4	
Signature:	Reflected:	Lateral:	1Radial:		1Radiated:	3
Sensors:	Active:	3Passive:		13Other:		
AC:	23AR:		6Agility:		7SI:	16
Warhead Type:	PD Cluster	Size:	5.5 tonsDuration:	6 hoursPrice:	2.17 MLv	
Damage:	1d6	Range:	0#Shots:	UnliitedUSP:	6	

**Sentinel Mine:** The Sentinel Mine was first used during the Kafer War, as a static mine armed with a detonation laser and a long-duration power supply, along with good sensors and a powerful controlling computer. Its task was to sit still and observe traffic moving in the volume of the system it was in. If a hostile vessel came close enough, the Sentinel would detonate. Current versions are mobile, but otherwise the same as the war-era systems.

Speed:	3Profile: Lateral:		-3Radial:		-4
Signature:	Reflected:	Lateral:	1Radial:	1Radiated:	-2
Sensors:	Active:	7Passive:		64Other:	
AC:	13AR:		0Agility:	3SI:	0
Warhead Type:	Detonation Laser	Size:	10Duration:	40 daysPrice:	1.4 MLV
Damage:	3d10 x 1d12	Range:	0#Shots:	1USP:	6



SPACE STATIONS

There are almost as many types of space stations as there are worlds that they orbit. They fall into two general types, however. The first is the modular station, quite common as the orbital terminal for new colonies or serving as small workshacks or research stations. These stations are made up of a number of small 30-dton modules connected together with integral connectors.

The other type of station is usually custom-built, and consists of the classic wheel-type stations and larger facilities all the way up to the massive O'Neill-style habitats.

MODULAR SPACE STATION

Modular Space Stations are common over all Human space. New colonies use them as orbital terminals, while more established worlds use them as laboratories, quarantine facilities, or micro-factories.

The three modules presented here are the most common types, with others largely being variations on them. For example, a lab module is identical to the operations module, save that it replaces the workshop with another laboratory; while a quarantine module is identical to a living module, save that the doors cannot be opened from the inside.

Modular stations typically use a modified habitation module as a storm shelter. Each module does not have a storm shelter built-in.

**Operations Module:** The operations module has a 3EP power deficit which must be met by an external power source.

Name:	Operations Module	
Class:	Station Module	
Tech Level:	11	
Profile:		
	Radial:	-2
	Lateral:	-1
Size:	30 Ton cylindrical Synthetic Hull	
Main Computer:	Model/3	
Sensor Range:		
	Active:	0hexes
	Passive:	0hexes
AC:	10	
AR:	0	
SI:	82.5	
Signature		
	Radial Reflected:	3
	Lateral Reflected:	4
	Radiated:	2/2
Screens:	Rating:	0
Streamlining:	None	
Atmospheric Speed:	Maximum	N/A
Atmospheric Agility:		N/A
Flight Avionics:	None	

Thruster Rating:		0		0	
Thruster Fuel:		0dtons		HRF	
Duration		0minutes			
Cargo to Low Orbit:		N/A		dtons	
Cargo to High Orbit:		N/A		dtons	
Stutterwarp Speed:	Loaded:				0ly/day
	Unloaded:				0ly/day
Tactical Speed:		0			
Stutterwarp Agility:		0			
Power Plant:		0		0	
Power Plant Fuel:		N/A		dtons	
Solar Cells:		0	m2	Output:	0
Batteries:	EP Output:	0			
	Duration:	168day			
Life Support:	Basic Military		0man/days		
	Basic Civilian		90man/days		
	Extended Military		0man/days		
	Luxury Civilian		0man/days		
Crew:	Bridge:		2		
	Engineering:		0		
	Gunnery:		0		
	Ship's Troops:		0		
	Medical:		0		
	Stewards		0		
	Maintenance:		0		
	Total:		2		
Passengers	High:		0		
	Middle:		0		
Stateroom		0			
Small Cabin		0			
Berth		0			
Freezer Tube		0			
Fresher		2			
Autodoc		0			
Couch		6			
Sickbay		0			
Vehicle shop		0			
Laboratory		1			
Engineering Shop		1			
Cargo:		2.71dtons			
Spin Habitat:	N/A	None		<1 RPM	
				0G	
Radiation Screen:		225rads/hour			
Comm. Range:		Medium Range			
Other Sensors:	Navigational Radar				
Small Craft:		0			
Other:					
Price:		5.18MLv			

**Habitation Module:** The habitation module has a 2EP power deficit which must be met by an outside source.

Name:	Habitation Module	
Class:	Station Module	
Tech Level:	New Commercial	
Profile:		
	Radial:	-2
	Lateral:	-1
Size:	30 dton Cylindrical Synthetic Hull	
Main Computer:	0	
Sensor Range:		
	Active:	0hexes
	Passive:	0hexes
AC:	10	
AR:	0	
SI:	82.5	
Signature		
	Radial Reflected:	0
	Lateral Reflected:	3
	Radiated:	11
Screens:	Rating:	0
Streamlining:	None	
Atmospheric Speed:	Maximum	N/A
Atmospheric Agility:	N/A	
Flight Avionics:	None	
Thruster Rating:	0	0
Thruster Fuel:	0dtons	HRF
	Duration	0minutes
Cargo to Low Orbit:	N/A	dtons
Cargo to High Orbit:	N/A	dtons
Stutterwarp Speed:	Loaded:	0ly/day
	Unloaded:	0ly/day
Tactical Speed:	0	
Stutterwarp Agility:	0	
Power Plant:	0	0
Power Plant Fuel:	N/A	dtons
Solar Cells:	0m2	Output: 0
Batteries:	EP Output:	0
	Duration:	168day
Life Support:	Basic Military	0man/days
	Basic Civilian	90man/days
	Extended Military	0man/days
	Luxury Civilian	0man/days
Crew:	Bridge:	2
	Engineering:	0

Gunnery:	0	
Ship's Troops:	0	
Medical:	0	
Stewards	0	
Maintenance:	0	
Total:	2	
Passengers	High:	0
	Middle:	0
Stateroom	0	
Small Cabin	6	
Berth	0	
Freezer Tube	0	
Fresher	2	
Autodoc	0	
Couch	0	
Sickbay	0	
Vehicle shop	0	
Laboratory	1	
Engineering Shop	0	
Cargo:	0.95dtons	
Spin Habitat:	N/A	None
	0G	
Radiation Screen:	225rads/hour	
Storm Shelter:	(If used as a storm shelter) 1350	rads/hour
Comm. Range:	0	
Price:	(Standard Hab Module)	2.82MLv
Price:	(Storm Shelter Module)	3.82MLv



**Power Module:** Power modules, naturally, do not have energy deficits.

Name:	Power Module	
Class:	Station Module	
Tech Level:	11	
Profile:		
	Radial:	-2
	Lateral:	-1
Size:	30 Dton Cylindrical Synthetic Hull	
Main Computer:	Model/0	
Sensor Range:		
	Active:	0hexes
	Passive:	0hexes
AC:	10	
AR:	0	
SI:	82.5	
Signature		
	Radial Reflected:	13
	Lateral Reflected:	14
	Radiated:	11
Screens:	Rating:	0
Streamlining:	None	
Atmospheric Speed:	Maximum	N/A
Atmospheric Agility:	N/A	
Flight Avionics:	None	
Thruster Rating:	0	0
Thruster Fuel:	0dtons	HRF
	Duration	0minutes
Cargo to Low Orbit:	N/A	dtons
Cargo to High Orbit:	N/A	dtons
Stutterwarp Speed:	Loaded:	0ly/day
	Unloaded:	0ly/day
Tactical Speed:	0	
Stutterwarp Agility:	0	
Power Plant:	0	0
Power Plant Fuel:	N/A	dtons
Solar Cells:	2700 m2	Output: 15
Batteries:	EP Output:	0
	Duration:	168day
Life Support:	Basic Military	0man/days
	Basic Civilian	90man/days
	Extended Military	0man/days
	Luxury Civilian	0man/days
Crew:	Bridge:	0
	Engineering:	0
	Gunnery:	0

	Ship's Troops:	0
	Medical:	0
	Stewards	0
	Maintenance:	0
	Total:	0
Passengers	High:	0
	Middle:	0
Stateroom		0
Small Cabin		0
Berth		0
Freezer Tube		0
Fresher		1
Autodoc		0
Couch		0
Sickbay		0
Vehicle shop		0
Laboratory		0
Engineering Shop		1
Cargo:		0.45dtons
Spin Habitat:	N/A	None
		<1 RPM
		0G
Radiation Screen:		225rads/hour
Comm. Range:		N/A
Other Sensors:		
Small Craft:		0
Other:		
Price:		7.65MLv

STATION EXAMPLES

**Fort Gibraltar:** Originally built to protect British interests in the Alpha Centauri system, Fort Gibraltar was rebuilt in the 2270s, shortly before the referendum that saw Wellon declare independence.

The station was sold to Wellon in 2296, shortly after the first encounter with Kafers, but before they actually attacked, and the Wellonese upgraded the fort to its present level.

A squadron of 20 Harrier fighters operates out of the station, which is the primary Wellonese naval installation.

Name:	Fort Gibraltar	Weapon	Mount	UTES?
Class:	Orbital Defense Installation			20
Tech Level:	11	Point Defense:		4
Profile:		Type 17 DC		
	Radial: 2	Lasers:		
	Lateral: 2	EAS-1000 Laser	Surface	20 y
Size:	5000dton	Particle Beam Weapons		
		ALS-22	Surface	10 y
Main Computer:	Model/5	Heavy Lasers		
		Darlan LH220	Heavy Tower	4 y
Sensor Range:		Missiles:		
	Active: 16hexes	Space Sparrow		50
	Passive: 12hexes			
AC:	22			
AR:	12			
SI:	375			
Signature				
	Radial Reflected: 13			
	Lateral Reflected: 13			
	Radiated: 77			
Screens:	Rating: 0			
Streamlining:	None			
Atmospheric Speed:	Maximum N/A			
Atmospheric Agility:	N/A			
Flight Avionics:	None			
Thruster Rating:	0 0			
Thruster Fuel:	0dtons HRF			
	Duration 10minutes			
Cargo to Low Orbit:	N/A dtons			
Cargo to High Orbit:	N/A dtons			
Stutterwarp Speed:	Loaded: 0ly/day			
	Unloaded: 0ly/day			
Tactical Speed:	0			
Stutterwarp Agility:	0			
Power Plant:	400EP Fusion Reactor			
Power Plant Fuel:	0dtons			
Solar Cells:	m2 Output:			

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Batteries:	EP Output:	0
	Duration:	1 day
Life Support:	Basic Military	0man/days
	Basic Civilian	0man/days
	Extended Military	108000man/days
	Luxury Civilian	0man/days
Crew:	Bridge:	85
	Engineering:	43
	Gunnery:	83
	Ship's Troops:	20
	Medical:	4
	Stewards	9
	Maintenance:	15
	Total:	259
Passengers	High:	0
	Middle:	0
Stateroom		25
Small Cabin		510
Berth		0
Freezer Tube		0
Fresher		20
Autodoc		10
Couch		0
Sickbay		2
Vehicle shop		4
Laboratory		1
Engineering Shop		2
Cargo:		243.95dtons
Spin Habitat:	60 meter radius	Spun Hull @ 3 RPM
		0.6G
Radiation Screen:		400rads/hour
Storm Shelter:		2400rads/hour
Comm. Range:		System-Wide
Other Sensors:	Navigational Radar	
	Gravitational Scanner	
	Deep System Scanner	
Small Craft:	20 x 50 dton fighter	In Standard Hanger
Other:		
Price:		907.4MLv

TL: 11  
Laid Down: 2212  
Producing Nation: Great Britain  
Cost: MLv907.4

# STARSHIP ENCOUNTERS

Encountering another starship, or any facility, in the depths of space can be an opportunity for adventure. Whether it is a market tip exchanged with an old Libertine friend, or a chance boarding by bored customs officials, starship encounters are a good occasion for the GM to move things along, or introduce something new.

Encounters also help to define a star-system. The Core worlds of Earth and Tirane are teeming with starships, system ships and space stations, while the Frontier worlds see considerably less traffic in comparison. The encounter charts reflect this, along with reflecting the differences between the three Arms of exploration. The encounter charts are organized into several sections, one for the Core worlds and another for each of the Arms of space, along with separate charts for the human-occupied portion of the Kafer sphere, and Pentapod space.

## Inner System Encounters

1-8	Naval patrol
9	asteroidal debris
10	artificial debris
11-15	inbound freighter
16-19	outbound freighter
20	system ship

**Main world Encounters:** Main world is considered to be all orbital space of a main world, out to the orbit of its farthest moon, including any orbital habitats.

## Main world Encounters

01-04	OQC
04-06	workshack
07-08	station
09	habitat
10-12	inbound freighter
13-15	outbound freighter
16-17	patrol
18	OTV
19	Power satellite
20	system ship

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## CORE ENCOUNTERS

Core Encounters are used for both the Sol system and the Alpha Centauri system. Encounters are rolled once for every 4 hours in the outer system, once every two hours in the inner system, and every hour in the vicinity of the main world. Unlike Frontier worlds, which roll a chance of an encounter, in the Core system transiting ships will have a noteworthy encounter on a regular basis.

## OUTER SYSTEM ENCOUNTERS

The outer system denotes everything from the FTL shelf inward to 0.5 AU out from the main world

### Outer System Encounters

1-3	Naval patrol
4-5	Asteroidal debris
6	Artificial debris
7-10	inbound freighter
11-14	outbound freighter
15-16	system ship
17-18	mining vessel
19	telescope array
20	pirate

## INNER SYSTEM ENCOUNTERS

The Inner System covers all traffic within 0.5 AU of Earth or Tirane.

## EXPLANATION OF ENCOUNTERS

**Artificial Debris:** This could be anything from jettisoned garbage to the remains of a 20<sup>th</sup> century space probe. Likely worthless, but a probe would be priceless.

**Asteroidal Debris:** This is typical space junk, and should not present a hazard to a stutterwarping vessel. A vessel travelling in realspace, however, would have to be careful.

**Freighter:** This indicates a brief encounter with a freighter, either transiting into or out of the system.

### Freighter

1-8	Light
9-14	Medium
15-20	Heavy

A light freighter is a small courier, like a *Thorez* or other small, quick mercantile vessels. Medium size is an *Anjou* or its ilk, while Heavy is a super-freighter, like the *Mammoth*.

**Freighter Ownership:** Freighter ownership helps determine what sort of reaction they will have to incoming vessels, and also gives the encounter some flavor. Corporate and

governmental vessels are not likely going to want to talk, but Foundation vessels and independents may. Note that Libertine traders do not do business at the Core worlds.

d20	Ownership
1-9	Corporate Vessel
10-15	Government Cargo Vessel
16-19	Foundation Vessel
20	Independent (Non-Libertine)

**Habitat:** This is an extremely large space station, ranging from torii of about 1 km in diameter all the way up to massive 6 km diameter by 40 kilometer long O'Neill Island 3 habitats. Even in Earth orbit, habitats of this size are very rare, with most relegated to the L1, L4 and L5 points. Only Mataglap and Gateway at Earth, and Freihafen Orbital at Tirane, approach this sort of titanic size outside of the LaGrange points.

**Mining Vessel:** These long-haul mining vessels work the asteroid belt and planetary ring systems. They are often good sources of trade, in particular for luxury items. Most mining vessels are modified cargo vessels, though there are a few purpose-built vessels, like the ungainly *Dalton*, the spindly *OMS Andrew Carnegie* class, and other more specialized vessels.

**Naval Patrol:** A Naval Patrol consists of a number of vessels. Most of the time, they will leave civilian traffic alone, or just do a flyby and scan as they check for pirates. If boarding is required a boarding team will consist of 6-12 Marines in vacuum combat dress, armed with lasers, along with a couple of naval officers.

Naval Patrol	#
1-7	Fighters 2d6
8-10	Frigate 1d4
11-13	Destroyer 1d4
14-16	Cruiser 1d4/2
17-20	Battle group (Roll three times on this table)

The reactions of a naval task force to ships they encounter depends on many factors, but nationality is one of the most important ones. Determine the nationality of the naval vessels, and compare them with the list of national rivals in the Background Chapter.

d20	Naval Patrol Reaction
-9-2	Hostile; Fires warning shot and requires ship to heave to and prepare to be boarded
3-5	Requires inspection before ship may proceed
6-9	Requires transponder codes and manifests
10-16	None
17-21	Offers formal greeting and advisory
22+	Offers friendly greeting

Situation	Modifier
Ship is from rival nation	-10
Ship is from same nation	+10
Ship is from allied nation	+5
Ship from other nation	0

**OQC Encounters:** An OQC encounter indicates a meeting with Orbital Quarantine Command. Fighters will do a quick scan, along with typical radio chatter and interrogation: Where are you going? What is your cargo? How many passengers, names, destinations, and other questions of that sort. An encounter with a cutter or a frigate indicates that the vessel will be boarded by an OQC search team, who will be very thorough in their scans and checks of the ship and its cargo. OQC search teams consist of 6 OQC Marines, along with 1-2 Inspection Officers.

OQC encounter	#
1-12	Fighters 2d4
13-17	Cutter 1d4
18-20	Frigate 1d4/2

**Pirates:** Pirates are extremely rare in the Core systems. Naval forces are particularly ruthless about eliminating armed threats in the Core. Any pirates encountered will have to be determined or desperate, or both.

Pirate/Raider	
1-9	Fighters w/freighter
10-17	Armed Freighter
18-20	Frigate

Pirates will attempt to disable attacked vessels, and force a surrender. Boarding parties will consist of at least half the pirate's crew, all in p-suits and heavily armed. If they get what they want, they will generally leave a crew unmolested, but any resistance, or a lack of booty, will lead them to take out their frustrations on the captured vessel's crew.

**Space Station:** A space station is a larger facility than a workshack, and are usually large-diameter toroidal stations, spinning to produce internal gravity. These stations act as housing for orbital workers, warehouses and orbital terminals. These can be destinations for arriving traffic, or departure points for outgoing traffic.

**System Ship:** A system ship is a low-power stutterwarp vessel, usually some sort of large bulk hauler. Tankers carrying fuel and chemicals from the outer planets are the most common type of these vessels.

**Telescope Array:** Far away from polluting electromagnetic sources, these vast optical and radio telescopes scan the stars. These long-baseline array telescopes are extremely sensitive, and it is against the law to approach them without express permission.

**Workshack:** A workshack is a small, modular space station, usually housing a small laboratory or zero-gee factory.



## Nationality of Space Traffic or Space Station

Terran System	
1d20 Roll	Nationality
1-4	French
5-7	British
8-9	American
10-11	German
12-14	Manchurian
15-16	Russian
17-20	Other

Tirane System	
1d20 Roll	Nationality
1-4	French
5-7	British
8-9	American
10-11	Freihafener
12-14	Manchurian
15-16	Wellon
17-20	Other

## FRONTIER ENCOUNTERS

The chance of an encounter in a system on the Frontier is based on the UPP Population digit for the main world. This number or higher must be rolled on a d10 for an encounter to occur, modified by the table below.

Encounter Situation	Modifiers
Naval Base in System	+2
Class A Starport	+2
Class B Starport	+1
Class D Starport	-1
Chinese Arm	-1
American Arm	-1

## SYSTEM ENCOUNTERS

Check every 6 hours for a system encounter. System encounters in the Frontier are all locations outside the immediate volume of space around a system's main world.

French Arm		Chinese Arm	
d20	System Encounters	d20	System Encounters
1-5	Inbound Freighter	1-6	Inbound Freighter
6-10	Outbound Freighter	7-12	Outbound Freighter
11-12	System Ship	13	System Ship
13-15	Naval Patrol	14-16	Naval Patrol
16-17	Pirate/Raider	17-18	Pirate/Raider
18	Pentapod Merchant	19	Sung Explorer/Trader
19	Kafer Raider	20	Asteroidal Debris
20	Asteroidal Debris		

American Arm	
d20	System Encounters
1-6	Inbound Freighter
7-12	Outbound Freighter
13-15	System Ship
16-18	Naval Patrol
19	Pirate/Raider
20	Asteroidal Debris

**Main World Encounters:** Check for an encounter every two hours in main world orbit. Main world orbit is defined as within the orbit of the planet's furthest moon, or else the planet's stationary orbit should it lack moons.

French Arm		Chinese Arm	
d20	Main world Encounters	d20	Main world Encounters
1-3	Workshack	1-7	Inbound Freighter
4-6	Orbital Terminal	8-14	Outbound Freighter
5-7	Inbound Freighter	15-16	System Ship
8-11	Outbound Freighter	17-18	Naval Patrol
12-13	System Ship	19	Pirate/Raider
14-15	Naval Patrol	20	Sung Explorer/Trader
16	Pirate/Raider		
17-19	Pentapod Merchant		
20	Kafer Raider		

American Arm	
d20	Main world Encounters
1-7	Inbound Freighter
8-14	Outbound Freighter
15-17	System Ship
18-19	Naval Patrol
20	Pirate/Raider

## EXPLANATION OF ENCOUNTERS

**Asteroidal Debris:** See above (p. 345).

**Freighter:** As above (p. 345), but use the table below.

French Arm		Chinese Arm		American Arm	
d20	Freighter	d20	Freighter	d20	Freighter
1-6	Light	1-4	Light	1-8	Light
7-15	Medium	5-14	Medium	9-14	Medium
16-20	Heavy	15-20	Heavy	15-20	Heavy

**Freighter Ownership:** Freighter ownership helps determine what sort of reaction they will have to incoming vessels, and also gives the encounter some flavor. Corporate and governmental vessels are not likely going to want to talk, but Foundation vessels and independents may. Libertines will only talk on a quid pro quo basis, nothing for nothing. However, they can be good sources of information.

**Ship Ownership:** Roll on this table to determine the ownership of any encountered commercial vessel.

French Arm		Chinese Arm	
d20	Ownership	d20	Ownership
1-6	Corporate Vessel	1-5	Corporate Vessel
7-11	Government Vessel	6-12	Government Vessel
12-14	Foundation Vessel	13-15	Foundation Vessel
15-18	Libertine Trader	16-19	Libertine Trader
19-20	Independent	20	Independent

American Arm		
d20	Ownership	
1-8	Corporate Vessel	
9-12	Government Vessel	
13-14	Foundation Vessel	
15-18	Libertine Trader	
19-20	Independent	

**Naval Patrol:** Naval Patrols are usually involved in their own duties, and are not likely to bother small vessels. There is a possibility, however. On a 1d10 roll of 8+, they will make a roll on the reaction table to determine their response. If boarding is required a boarding team will consist of 6-12 Marines in vacuum combat dress, armed with lasers, along with a couple of naval officers.

French Arm			Chinese Arm		
d20	Naval Patrol	#	d20	Naval Patrol	#
1-5	Fighters	2d4	1-8	Fighters	2d4
6-9	Frigate	1d6	9-14	Frigate	1d4
10-14	Destroyer	1d4	15-17	Destroyer	1d4
15-17	Cruiser	1d4/2	18-19	Cruiser	1d4/2
18-20	Battle group	20	20	Battle group	

American Arm		
d20	Naval Patrol	#
1-10	Fighters	2d6
11-13	Frigate	1d6
14-17	Destroyer	1d4
18-19	Cruiser	1d4/2
20	Battle group	

If a battle group is rolled, consult the following table, and roll the appropriate die. That is the number of time you roll on the naval patrol table, above, to determine the size of the task force. The largest vessel in the task force is also the flagship, carrying an admiral aboard.

Battle groups	Number of times to roll on table
French Arm	1d8
Chinese Arm	1d4
American Arm	1d6

The reactions of a naval task force to ships they encounter depends on many factors, but nationality is one of the most important. Determine the nationality of the naval vessels, and compare them with the list of national rivals in Chapter 2.

d20	Naval Patrol Reaction
-9-2	Hostile; Fires warning shot and requires ship to heave to and prepare to be boarded
3-5	Requires Inspection before ship may proceed
6-9	Requires transponder codes and manifests
10-16	None
17-21	Offers formal greeting and advisory
22+	Offers friendly greeting

Situation	Modifier
Ship is from rival nation	-10
Ship is from same nation	+10
Ship is from allied nation	+5
Ship from other nation	0
French Arm	-2
American Arm	+2

**Kafer Raiders:** Kafer raiders cruise up and down the French Arm with the primary goal of disrupting traffic and sowing chaos. They will attack civilian shipping, and will even occasionally conduct a surprise attack on an isolated settlement using one of their landing-capable raiders. Kafers conduct boarding operations to secure supplies, and will usually kill the crew of any merchant vessel they encounter. Kafer Raiders only occur on the French Arm.

Kafer Raiders		
	#	
1-11	Raider	1d4
12-15	Fighters	1d6
16-18	Cruiser	1d4/2
19-20	Raid Group	(Roll 1d4 times on this table)

**Pentapod Trader:** A Pentapod trade vessel is a *Star-whale*-class vessel, accompanied by several landing craft. They will often have a guard unit with them (1-4 on a d10) of 1-3 (1d6/2) Voidsharks. They are willing to stop and trade with just about anyone. Pentapod Vessels are only encountered on the French Arm.

**Pirates and Raiders:** Pirates and raiders are forces to be feared for most merchant vessels, but are no match for any military force. Warships possessed by these groups are likely to be decades-old Manchurian or Indonesian surplus, with a leavening of French vessels for variety.

French Arm		Chinese Arm	
d20	Pirate/Raider	d20	Pirate/Raider
1-8	Armed Freighter	1-12	Armed Freighter
9-15	Fighters w/freighter	13-18	Fighters w/freighter
16-20	Frigate	19-20	Frigate

American Arm	
d20	Pirate/Raider
1-15	Armed Freighter
16-18	Fighters w/freighter
19-20	Frigate

Pirates and raiders will almost always try to force vessels to surrender, and see no profit in wholesale destruction. Though a starship is likely more valuable than its cargo, it is also harder to hide, and there is also the problem of captives. Most pirates would rather avoid killing prisoners, not out of humanitarianism, but to avoid the inevitable naval crackdown that such activities engender.

Pirates are more concerned with attacking spacecraft, while raiders use their capabilities to raid planets and out-

posts for their booty.

Both types will eventually end up using troops, one to board and confiscate any valuables, and the other to land on a planet and do much the same thing. Boarding and landing troops use either the corsair or mercenary troops from the NPC section of this book.

**Sung Trader/Explorer:** The alien Sung have only recently been permitted to construct their own starships, using drives leased from the Manchurians or the Canadians. Sung vessels are eager to stop and conduct trade, or even to just talk. They will offer information freely, and will often press for tours of human vessels, and by extension, are very proud of their own designs, and enjoy showing them off, especially to Humans. Only one vessel will be encountered, the *Brilliant Starshine* type. This encounter only occurs in the Chinese Arm

**System Ship:** A system ship is a low-power stutter-warp vessel, usually some sort of mining or prospecting vessel.

**Workshack:** A workshack is a small, modular space station, often serving as an orbital terminal for smaller worlds, or a laboratory involved in the colonization effort.

**Nationality of Space Traffic or Station:** Roll on this table to determine the nationality of any encountered vessel in Frontier space.

French Arm	
d20	Nationality
1-5	French
6-8	German
9-11	British
12-13	Japanese
14	Freihafen
15	Nibelungen
16	Elysian
17	Ukrainian
18-19	American
20	Other

Chinese Arm	
d20	Nationality
1-5	Manchurian
6	Life Foundation
7-8	Mexican
9	Brazilian
10-11	Argentinean
11-13	Canadian
14	Scandinavian Union
15-16	Texan
17	Cantonese
18	UAR
19	Arabian
20	Heidelsheimat

American Arm	
d20	Nationality
1-9	American
10-14	Australian
15-17	Trilon
18	Nigerian
19-20	British

# NPCs AND ANIMALS

## NON-PLAYER CHARACTERS

Non-Player Characters (NPCs) are the rest of the inhabitants of the game universe, from the people just strolling down to the street to the augmented assassin hunting his target. They are there to provide opportunities for interaction, whether that is to provide information, or combat, or just background color.

### SECTION 1: CIVILIANS

**Bandits/Guerrillas:** Bandits represent the average foot soldiers in gangs of rural robbers or the troops serving revolutionary causes throughout the various colonies. They are not well-trained or highly disciplined, and do not engage in stand-up fights with regular troops.

Regular Bandit		Colonist 3/Rogue 2				TL	9+		ST	30	LB	11			
Grav	N	Core/Frontier					Frontier			Body	Normal				
Str	10	Dex	11	Con	10	Int	10	Wis	10	Cha	10	Edu	10	Soc	5
Init	+0	AC	14	AR	4	Spd	9	Fort	3	Ref	4	Will	2	SZ	M
Attacks	Fist +3 (1d4/20). Machete +2 (1d6/19). SG-77 +2 (1d12/x2), range 45m, ROF 1/3/10.														
Feats	Armor Proficiency (Light, Medium), Weapon Proficiency (Combat Rifleman, Marksman, Swordsman), Vessel (Wheeled), Barter, Brawling, Far Shot, First Aid, Point Blank Shot, Stealthy, Tracker, Toughness.														
Skills	Appraise 3, Bluff 6, Driving 3, Handle Animal 3, Hide 6, Knowledge (Homeworld) 6, Move Silently 6, Ride (Horse) 3, Spot 6, Survival 6, T/Mechanical 6, T/Computer 0														
Equipment	Machete, SG-77 assault rifle, non-rigid vest, rations, radio														

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**Bureaucrat:** All across Human space, there are bureaucrats and functionaries who interact with player characters, often in adversarial roles.

Bureaucrat		Professional 5				TL	9+		ST	20	LB	10			
Grav		N	Core/Frontier				Core				Body	Normal			
Str	10	Dex	10	Con	10	Int	10	Wis	10	Cha	10	Edu	11	Soc	10
Init	0	AC	10	AR	0	Spd	9	Fort	1	Ref	1	Will	4	SZ	M
Attacks	Fist +1 (1d3/20). Hancock "Nine-Twenty-Three" pistol –3 (1d8/20), range 30m, ROF 1.														
Feats	Armor Proficiency (Light), Vessel (Wheeled), Carousing, Connections (Homeworld Bureaucracy), Hobby (Gather Information, Innuendo), Legal Eagle, Professional Specialty (P/Admin), Skill Focus (Liaison, P/Admin), Trustworthy.														
Skills	Driving 4, Gather Information 10 (12 dealing with Homeworld Bureaucracy), Innuendo 8, K/Homeworld 4, K/Interstellar Law 8 (10 when Legal Eagle applies), Liaison 12, P/Admin 10 (12 when Legal Eagle applies), P/Knowledge Related (choose) 8, T/Computer 4, Trader 4														
Equipment	Suit, Briefcase, portacomp, link phone, (Hancock "Nine-Twenty-Three" pistol – non-proficient)														

**Colonist:** This represents a typical second- or third-generation colonist from the American Arm. Well-supplied and equipped, he is also a rugged individualist determined to make it far away from the prying government eyes of Earth.

Colonist	Colonist 5					TL	(9)	ST	26	LB	10				
Grav	N	Core/Frontier					Frontier		Body		Normal				
Str	10	Dex	10	Con	11	Int	10	Wis	10	Cha	10	Edu	10	Soc	10
Init	+0	AC	10	AR	0	Spd	9m	Fort	4	Ref	1	Will	3	SZ	M
Attacks	Fist +3 (1d4/x2). Guiscard FC-70 rifle +2 (1d12x2), range 72m, ROF 1.														
Feats	Armor Proficiency (Light), Weapon Proficiency (Marksman, Swordsman), Vessel (Wheeled), Barter, Brawling, First Aid, Iron Will, Jury Rig, Natural Compass, Point Blank Shot, Self-Reliance, Tracker, Trapping														
Skills	Appraise 2, Driving 4, K/Homeworld 4, K/Farming 8, Navigation 4, Ride 4, Spot 4, Survival 8, Swim 2 (cross class), T/Computer 2, T/Mechanical 8, Trader 4														
Equipment	Vehicle (Mule Corp Farm Master Tractor/ATV) , Biomonitor, Goggles, Water Purifier, Backpack, Binoculars, Vehicle Maintenance Tools, Power Hand Tools, Basic Tool Kit, Excavation Tools, Construction Tools, Portable Fabricator, Link Phone, Backpack Communicator, Fuel Station, Machete, Guiscard FC-70 rifle, and/or Traylor Model 10 shotgun														



**Scientist:** The field scientist (geologist shown) is often encountered on frontier worlds, and may even serve as a patron for a group of player characters. Of course, a scientist may be on the opposite side, working to thwart the players using her resources and those of her hired hands.

Competent Scientist (Geologist)		Academic 6				TL	11		ST	16	LB	10			
Grav	N	Core/Frontier				Core				Body		Normal			
Str	10	Dex	10	Con	10	Int	14	Wis	10	Cha	10	Edu	16	Soc	10
Init	+0	AC	10	AR	0	Spd	9m	Fort	2	Ref	3	Will	3	SZ	M
Attacks	Fist +1 (1d3/x2).														
Feats	Vessel (Hovercraft, Tracked, Wheeled), Hobby (P/Admin), Advanced Knowledge (K/Geology), Advanced Research, Geological Survey, Mental Discipline, Research (K/Geology), Skill Focus (K/Geology, P/Prospecting, P/Survey)														
Skills	Speak (Native Tongue, French, German, Mandarin, Russian), Read/Write (Native Tongue, French, German, Mandarin, Russian), Driving 4, Gather Information 9 (Advanced Research may add +4 synergy), Innuendo 0, Intuit Direction 1 (cross class), K/Homeworld 3, K/Geology 17, K/Mining 7, Leader 2 (cross class), Liaison 2 (cross class), Navigation 7, P/Admin 9, P/Prospecting 11, P/Survey 11, Spot 2 (cross class), Survival 2 (cross class), T/Communications 5, T/Computer 12, T/Mechanical 5, T/Medical 5, T/Sensors/5.														
Equipment	Portacomp, Med Kit, Sampling Kit, Hand Communicator, Uplink Communicator, and all the assorted camping gear and surveying tools needed for a geological survey on a frontier world. Vehicle: Explorer ATV.														

**Guard:** This guard is typical of the better-trained corporate guards, and not just a thug off the street.

Guard	Mercenary 4			TL	9+	ST	26	LB	10						
Grav	N			Core/Frontier	Frontier	Body			Normal						
Str	12	Dex	11	Con	10	Int	10	Wis	10	Cha	10	Edu	10	Soc	10
Init	+0	AC	15	AR	5	Spd	6m	Fort	4	Ref	1	Will	2	SZ	M
Attacks	Fist +4 (1d3/x2). Shock glove +4 (1d8/x2 electrical to stamina) (special damage see Ch 12). AS-3 sonic stunner +4 or +2/+2 (special damage see Ch 12), range 10m, ROF 1, +1 to hit within 10m. M-97 PDW +5 or +3/+3 (1d10+2/x2), range 45m, ROF 1/4, +1 to hit within 10m.														
Feats	Armor Proficiency (Light, Medium, Vac Suit), Weapon Proficiency (Marksman, Combat Rifleman), Vessel (Wheeled), First Aid, Point Blank Shot, Precise Shot, Quick Draw, Rapid Shot, Weapon Focus (SMG), Weapon Specialization (SMG).														
Skills	Driving 7, Intimidate 7, K/Homeworld 0, Spot 7, T/Computer 0, T/Mechanical 0														
Equipment	AS-3 sonic stunner or M-97 PDW, uniform, inertial armor vest (armor check -1), handcuffs, shock gloves														

**Street Thugs:** These are the basic goons who serve and protect the crime lords and form the bulk of urban gangs. They can also be used for corporate enforcers and bodyguards, but lack the discipline of trained troops or guards.

Regular Thug		Rogue 4				TL	11		ST	25	LB	12			
Grav	N	Core/Frontier				Core		Body		Mesomorph					
Str	14	Dex	9	Con	12	Int	10	Wis	10	Cha	10	Edu	10	Soc	7
Init	+3	AC	13	AR	4	Spd	9	Fort	2	Ref	3	Will	1	SZ	M
Attacks	Fist +3 (1d4+2/x2). Knife +2 (1d4+2/x2). Traylor Model 57 pistol +2 (1d10/x2), range 45m, ROF 1.														
Feats	Armor Proficiency (Light, Medium), Weapon Proficiency (Marksman, Swordsman), Vessel (Wheeled), Brawling, Fast Talk, Fence Stolen Goods, Improved Initiative, Improved Unarmed Combat, Spot Trouble														
Skills	Bluff 7, Driving 4, Innuendo 2, Intimidate 5, K/Homeworld 0, Search 5, Spot 5, T/Computer 0, Trader 5														
Equipment	Motorbike, Portacomp, Knife, Traylor Model 57 pistol, Armored Long Coat (check -1), Link Phone														

**Spaceport Worker:** Throughout the many small and large spaceports of Human space, these workers will always be there, usually in the background, going about their jobs and duties.

Average Starport Worker	Professional 5					TL	11	ST	20	LB	10				
Grav	N	Core/Frontier					Frontier	Body			Normal				
Str	10	Dex	10	Con	10	Int	10	Wis	10	Chr	10	Edu	11	Soc	10
Init	+0	AC	10	AR	0	Spd	9m	Fort	1	Ref	1	Will	4	SZ	M
Attacks	Fist +1(1d3/x2)														
Feats	Armor Proficiency (Light, Vac Suit), Weapon Proficiency (Marksman), Vessel (Wheeled, Tracked), Professional Specialty (T/Engineering or choose from T/P), First Aid, Gearhead, Jury Rig, Miracle Worker, Skill Focus (T/Engineering or choose), Zero-G/Low-G Adaptation + Improved Zero-G/Low-G Adaptation.														
Skills	Driving 4, K/Homeworld 0, K/Shipping Operations 8, Liaison 4, P/Admin 4, Speak Language (choose two foreign languages), T/Communications 4, T/Computer 8, T/Electronics 8, T/Engineering 8, T/Mechanical 8, T/Medical 2, T/Sensors 4.														
Equipment	Overalls, toolkit, passkey														

**Terrorists:** Throughout Human space there are terrorists, groups who are trying to effect political change through violence and the threat of violence. ProVolution and the Coyfederacy are the two most prominent groups, but there are dozens more.

Regular Terrorist	Academic 1/Rogue 4					TL	10+	ST	22	LB	10				
Grav	N	Core/Frontier					Core		Body		Normal				
Str	10	Dex	10	Con	10	Int	12	Wis	10	Chr	10	Edu	15	Soc	10
Init	+0	AC	12	AR	2	Spd	9m	Fort	1	Ref	5	Will	2	SZ	M
Attacks	Fist +3 (1d3/x2). Traylor Model 57 +3 (1d10/x2), range 45m, ROF 1.														
Feats	Armor Proficiency (Light, Medium), Weapon Proficiency (Combat Rifleman, Marksman, Swordsman), Vessel (Wheeled), Alertness, Assassin, Fast Talk, Hacker, Hobby (Liaison), Mental Discipline, Research (K/Political Science), Skill Focus (K/Political Science), Trustworthy														
Skills	Bluff 6, Disguise 4, Driving 4, Forgery 5, Gather Information 10, Innuendo 6, K/Homeworld 2, K/Political Science 8, K/History 6, K/Memetics 6, Liaison 6, Listen 2, P/Admin 2 (cross-class), P/Journalist 4, Spot 6, T/Computer 4 (6 if Hacker applies), Speak & Read/Write Language (choose 2 non-native)														
Equipment	Protective Vest, Traylor Model 57 pistol, Long Coat, 4 grenades, ceramic knife, portacomp, link phone, list of demands														

The Augmented Terrorist:

Provolution often makes use of cybernetically-augmented operatives. Add the following bionics/implants to the standard terrorist NPC:

- Cybernetic right arm with concealed 9mm pistol
- Supercharger (+Endurance Feat)
- Neural Sheathing (+Lightning Reflexes)
- Cybernetic eye with lowlight option
- Neural Jack
- Implanted bio-laser in left arm

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SECTION 2: STARSHIP CREWS

This sections details the typical sorts of NPCs that are likely to be encountered aboard space craft, including military and pirates.

**Belters:** Though not common, there are Belter communities throughout human space, though the largest is still in the Sol system. Most Belters will be armed, though the weapons will not be immediately obvious. They tend to be clannish and stick together.

Regular Belter	Belter 5					TL	10+	ST	20	LB	10				
Grav	Z	Core/Frontier					Frontier		Body		Ectomorph				
Str	7	Dex	12	Con	9	Int	10	Wis	10	Chr	10	Edu	10	Soc	10
Init	+1	AC	13	AR	2	Spd	6m	Fort	0	Ref	2	Will	4	SZ	M
Attacks	Fist +3 (1d3-2/x2). Luce-7B laser rifle + 3 (2d12/x2), range 72m, ROF 1.														
Feats	Armor Proficiency (Light, Vac Suit), Weapon Proficiency (Lasers, Marksman), Vessel (Ship's Boat), First Aid, Junkyard Dog, Midas Touch, Self Reliance, Skill Focus (P/Prospecting), Zero-G/Low-G Adaptation & Improved Zero-G/Low-G Adaptation														
Skills	Demolitions 5, K/Homeworld 0, K/Geology 4, K/Geology 4, K/Mining 4, Pilot 5, P/Prospecting 10, P/Survey 4, T/Astrogation 4, T/Communications 4, T/Computer 4, T/Electronics 4, T/Mechanical 4, T/Medical 4, T/Sensors 4														
Equipment	P-suit, sampling kit, Luce-7B laser rifle, rock drill, plastic explosives														

**Pirates:** Though rare at the moment, these brigands of the space ways are becoming more common, especially in the relatively lawless far reaches of the French Arm. Corsairs will try to capture vessels without bloodshed, but are not above extreme violence if necessary.

Regular Pirate				Rogue 5		TL	10+		ST	26	LB	10			
Grav	N			Core/Frontier			Frontier			Body		Normal			
Str	10	Dex	11	Con	10	Int	10	Wis	10	Chr	10	Edu	10	Soc	6
Init	+0	AC	12	AR	2	Spd	9m	Fort	1	Ref	4	Will	1	SZ	M
Attacks	Fist +3 (1d4/x2). Wire Knife +3 (1d10/x2 AP+1). Lk-1 Laser Rifle (2d12/x2), range 72m, ROF1, also launches 30mm grenades.														
Feats	Armor Proficiency (Light, Medium, Vac Suit), Weapon Proficiency (Lasers, Marksman, Swordsman), Vessel (Wheeled), Fence Stolen Goods, First Aid, Smuggling, Spot Trouble. Zero-G/Low-G Adaptation & Improved Zero-G/Low-G Adaptation														
Skills	Bluff 5, Bribery 5, Gather Information 5, Hide 4 (6 if Smuggling applies), Intimidate 5, Search 5, Sense Motive 5, Spot 5														
Equipment	Pressure Suit, Lk-1 Laser Rifle, Wire Knife														

**Merchant Crew:** This represents a merchant crew on the ground, wary, but not equipped to repel an attack. Merchants set to repel boarders will have light pressure suits and shotguns. Libertine crews in particular will stick together and be wary of strangers.

Regular Merchant				Merchant 5		TL	9+		ST	20	LB	10			
Grav	N			Core/Frontier			Frontier			Body		Normal			
Str	10	Dex	10	Con	10	Int	10	Wis	10	Chr	10	Edu	11	Soc	10
Init	+0	AC	12	AR	2	Spd	9m	Fort	3	Ref	1	Will	3	SZ	M
Attacks	Fist +1 (1d3/x2). Traylor Model 57 pistol +1 (1d10/x2), range 45m, ROF1.														
Feats	Armor Proficiency (Light, Vac Suit), Weapon Proficiency (Combat Rifleman, Marksman), Vessel (Wheeled), Barter, Calculating Eye, Connections (Merchants), Legal Eagle, Trustworthy, Zero-G/Low-G Adaptation														
Skills	Appraise 8, Broker 10, Gather Information 10 (12 if Connections (Merchants) applies), K/Homeworld +0, K/Interstellar Law 8 (10 if Legal Eagle applies), Liaison 10, P/Admin 8 (10 if Legal Eagle applies), T/Computer 8, Trader 10														
Equipment	Protective Vest, Traylor Model 57 pistol, portacomp, link phone														

**OQC Crew:** This represents most of the crew of an OQC boarding and inspection team. Such teams consist of 4-6 individuals plus an officer, and often a couple of civilian technicians. They will be wary, but not poised to attack.

OQC trooper				Marine 8		TL	9+		ST	48	LB	10			
Grav	N			Core/Frontier			Frontier			Body		Normal			
Str	10	Dex	12	Con	10	Int	10	Wis	10	Chr	10	Edu	10	Soc	10
Init	+1	AC	19	AR	*	Spd	6m	Fort	6	Ref	3	Will	4	SZ	M
Attacks	Fist +9/+4 (1d3/x2). Rorttmann Lk-1a4 Laser Rifle used with HUD: attacks +12/+7 or rapid shot +10/+5/+10, +1 within 10m; damage 2d12/x2, +2 within 10m; range 72m; ROF 1; also launches programmable 30mm grenades.														
* Armor	AR: Head 7 (Rigid), Torso 8 (Rigid), Limbs 5 (Inertial)														
Feats	Armor Proficiency (Light, Medium, Heavy, Vac Suit), Weapon Proficiency (Combat Rifleman, Lasers, Marksman, Swordsman), Vessel (Wheeled), First Aid, Point Blank Shot, Rapid Shot, Weapon Focus (Gauss Rifle, Laser Rifle), Weapon Specialization (Laser Rifle), Zero-G/Low-G Adaptation & Improved Zero-G/Low-G Adaptation, Zero-G Combat														
Skills	Gambling 11, K/Homeworld 0, Sense Motive 11, Spot 11, T/Computer 0, T/Mechanical 0														
Equipment	Rorttmann Lk-1a4 Laser Rifle, Combat Vacuum Suit with HUD system (+2 to hit)														

**Naval Crew:** This represents a naval crew ready to deal with hostiles, whether as a boarding party or defending their own ship. This can also be used to represent some of the small number of space-based mercenaries. There is no "typical" navy crewman, they're teams of cooperating specialists, so pick and choose from the skills.

Naval Crew				Navy 6		TL	9+		ST	23	LB	10			
Grav	N			Core/Frontier			Frontier			Body		Normal			
Str	10	Dex	12	Con	10	Int	12	Wis	10	Chr	10	Edu	11	Soc	10
Init	+1	AC	19	AR	*	Spd	6m	Fort	2	Ref	3	Will	5	SZ	M
Attacks	Fist +5 (1d4/x2). Laser rifle with HUD +6 (2d12/x2), range 72m, ROF 1 (or adjust to match selected model).														
* Armor Rating	Head: AR 7 (Rigid), Torso AR 8 (Rigid), Limbs: AR 5 (Inertial). Check -2.														
Feats	Armor Proficiency (Light, Medium, Vac Suit), Weapon Proficiency (Lasers, Marksman, Ship's Weapons, Swordsman), Vessel (Wheeled), Brawling, Damage Control, First Aid, Zero-G/Low-G Adaptation & Improved Zero-G/Low-G Adaptation + Skill Focus (any skill with 5+ ranks) + Primary MOS (same skill)														
Skills	Driving 5, Gambling 5, K/Homeworld 0, Liaison 4, P/Admin 4, T/Computer 0, T/Mechanical 0 + Any six from: Forward Observer 9, Gunnery 8, Leader 9, Navigation 8, Pilot 9, Survival 8, T/Astrogration 8, T/Communications 8, T/Computer 8, T/Electronics 8, T/Engineering 8, T/Mechanical 8, T/Medical 8, T/Sensors 8														
Equipment	Combat Vac Suit with HUD system (+2 to hit), Laser Rifle e.g. Rorttmann LK-1a4 (or choose to suit nationality)														

**Marine Boarding Party:** Marines, primed for an assault into a hostile space vessel. In addition to the team described here, they will often be accompanied by 1-2 troopers in combat walkers to provide heavy support.

Green Marine				Marine 3		TL	11		ST	20	LB	10			
Grav	N			Core/Frontier			Core			Body		Normal			
Str	10	Dex	10	Con	10	Int	10	Wis	10	Chr	10	Edu	10	Soc	10
Init	+0	AC	18	AR	*	Spd	6m	Fort	3	Ref	1	Will	2	SZ	M
Attacks	Fist +3 (1d3/x2). Laser rifle with HUD +6 (2d12/x2 or 2d12+2/x2 within 10m), range 72m, ROF1 (or adjust to match selected model).														
* Armor	AR: Head 7 (rigid), Torso 8 (Rigid), Limbs 5 (Inertial)														
Feats	Armor Proficiency (Light, Medium, Vac Suit), Weapon Proficiency (Combat Rifleman, Lasers, Marksman, Swordsman), Vessel (Wheeled), First Aid, Weapon Focus (Gauss Rifle, Laser Rifle), Weapon Specialization (Laser Rifle), Zero-G/Low-G Adaptation & Improved Zero-G/Low-G Adaptation, Zero-G Combat														
Skills	Gambling 6, K/Homeworld 0, Sense Motive 6, Spot 6, T/Computer 0, T/Mechanical 0														
Equipment	Combat Vac Suit with HUD system (+2 to hit), Laser Rifle e.g. Rorttmann LK-1a4 (or choose to suit nationality)														

## SECTION 3: MILITARY

This section deals with the members of organized ground combat forces, including aerospace and wet navy forces.

**Infantry:** This represents the pure infantryman, the nearest thing to a “standard soldier”, on patrol on foot. The army will also have specialists trained to operate vehicles, heavy weapons, electronic warfare systems, and the like; those will need modified character designs with the appropriate feats and skills swapped in.

Regular Army				Army Level 5		TL	9+		ST	32	LB	10			
Grav	N			Core/Frontier			Frontier			Body		Normal			
Str	10	Dex	11	Con	10	Int	10	Wis	10	Chr	10	Edu	10	Soc	10
Init	+4	AC		AR	*	Spd		Fort	1	Ref	4	Will	1	SZ	M
Attacks	Fist +4 (1d4/x2). Traylor Arms M4A3 with HUD system: +6 (2d12/x2), +2 damage within 10m, range 96m, ROF 1/4/10, also launches programmable 30mm grenades.														
* Armor Rating	Head: High Threat Combat Helmet AR 8 (Rigid). Chest: Inertial Armor Vest AR 5 (Inertial) plus Vedette Half Armor AR 7 (Rigid), AR 9 total (armor check -1, max Dex bonus +8). Remainder: Full Body Inertial Armor AR 3 (Inertial). Overall armor check: -1.														
Feats	Armor Proficiency (Light, Medium, Vac Suit), Weapon Proficiency (Combat Rifleman, Marksman, High Energy Weapons), Vessel (Wheeled), Alertness, Brawling, First Aid, Improved Initiative, Stealthy, Weapon Focus (Automatic Rifle), Weapon Specialization (Automatic Rifle)														
Skills	Driving 4, Forward Observer 4, Hide 3 <sup>123</sup> , K/Homeworld 0, Listen 4 <sup>13</sup> , Move Silently 3 <sup>123</sup> , Search 2 <sup>1</sup> , Spot 10 <sup>3</sup> , Survival 4, T/Computer 0, T/Mechanical 0, T/Medical 4. [1: cross class skill. 2: armor check penalty applied. 3: feats applied.]														
Equipment	Inertial armor vest with Vedette Half Plate, Full Body Inertial Armor, Traylor Arms M4A3 assault rifle, 4 frag grenades, High Threat Combat Helmet with HUD system														

**Combat Walker Pilot:** Ectomorphs make excellent walker crews – their dexterity helps operate the vehicles precisely, and their lack of muscle and durability do not matter so much when the walker can do the job with its mighty powered arms.

The term “pilot” is traditional. This NPC is actually a driver in 2320AD game terms – the Combat Walker is a vehicle with a “legs” drive train, not a suit of armor, and you’ll find it in the Vehicles chapter rather than with the Equipment.

Pilot (Dismounted)				Army 8		TL	12		ST	39	LB	10			
Grav	N			Core/Frontier			Frontier			Body		Ectomorph			
Str	7	Dex	12	Con	8	Int	10	Wis	12	Chr	10	Edu	10	Soc	10
Init	+5	AC	16	AR	5	Spd	9m	Fort	2	Ref	6	Will	2	SZ	M
Attacks	Fist +7/+2 (1d3-2/x2). Stracher MP-67 PDW +7/+2 (1d10/x2), range 45m, ROF 1/4.														
* Armor Rating	Head: AR 8 (Rigid). Chest: AR 5 (Inertial). Other: AR 3 (Inertial).														
Feats	Armor Proficiency (Light, Medium, Vac Suit), Weapon Proficiency (Combat Rifleman, High Energy Weapons, Marksman, Vehicular Weapons), Vessel (Combat Walker, Wheeled), First Aid, Improved Initiative, PMOS (Gunnery), Skill Focus (Drive, Gunnery), Tactics I, Vessel Specialization (BH-24 Combat Walker)														
Skills	Driving 14 (16 in BH-24), Gunnery 14, K/Homeworld 0, Spot 12, T/Communications 6, T/Computer 0, T/Mechanical 5, T/Sensors 11														
Equipment	Stracher MP-67 PDW, High Threat Combat Helmet, Full Body Inertial Armor														



## The lanky pilot takes on a whole new aspect in the BH-24:

Pilot in BH-24 Combat Walker	TL	12	SI	27
Grav	N			
Str	24	Dex 10		
Init	+5	AC 18	AR 8	Spd 15kph
Attacks	Gunnery 14 applied to mounted weapons, e.g.: PGCW-Mk3A4: damage 3d12 vehicle scale, AoE 0, ROF1, range 450m DunArmCo M-600 Rotary Gun: damage 2d12/x2 personal scale, ROF 0/20/100, range 400m, AP +1		SZ	L
Feats	(as above)			
Skills	(as above)			
Equipment	(as above)			

**Air Crew:** The pilots and crew of atmospheric fighter, bomber, and support craft. They also represent the pilots and crew of close-support aircraft, even if they are under the control of the Army. This particular example is the solo "fighter jock" archetype, larger crews will be formed of cooperating specialists with a variety of skills.

Fighter Jock	Flyer Level 7	TL	12	ST	28	LB	10		
Grav	N	Core/Frontier	Frontier	Body	Ectomorph				
Str	10	Dex 10	Con 10	Int 13	Wis 10	Chr 10	Edu 10	Soc 10	
Init	+4	AC 15	AR *	Spd 9m	Fort 2	Ref 7	Will 2	SZ	M
Attacks	Fist +3 (1d3/x2). Rapier wit unquantifiable.								
*	Chest: AR 5 (Inertial). Other: AR 3 (Inertial).								
Feats	Armor Proficiency (Light, Vac Suit), Weapon Proficiency (Combat Rifleman, Marksman, Vehicular Weapons), Vessel (Aircraft, Hovercraft), Defensive Maneuver, Dogfight, First Aid, Improved Initiative, Lightning Reflexes, PMOS (Pilot), Skill Focus (Pilot), Vessel Specialization (choose a particular aircraft), Zero-G/Low-G Adaptation								
Skills	Driving 5, Gambling 6, Gunnery 10, Innuendo 5 (cross class), K/Homeworld 0, Liaison 0, Pilot 13 (15 in specialized aircraft), Sense Motive 10, Spot 10, Survival 5, T/Communications 10, T/Mechanical/0, T/Medical/0, T/Sensors 10								
Equipment	Pack of cards, new motorcycle, service issue gear and aircraft. Flight suit (full-body inertial armor and vest).								

**Tank Crew:** This represents an experienced member of a tank crew, likely a veteran of the Kafer War. Like many tankers, this character has an Endomorph Body Type, and his stats reflect this. This particular example is a driver; a crew would also probably include a gunner, a sensors/EW tech, and a commander who also handles communications. Each would have appropriate skills and feats.

Tanker	Army Level 7	TL	(9)	ST	45	LB	13		
Grav	N	Core/Frontier	Core	Body	Endomorph				
Str	11	Dex 10	Con 12	Int 10	Wis 10	Chr 10	Edu 10	Soc 10	
Init	+0	AC 15	AR *	Spd 9m	Fort 3	Ref 5	Will 2	SZ	M
Attacks	Fist +6 (1d4/x2). Stracher MP-67 PDW +5 (1d10/x2), range 45m, ROF 1/4.								
*	Head: AR 8 (Rigid). Chest: AR 5 (Inertial). Other: AR 3 (Inertial).								
Feats	Armor Proficiency (Light, Medium, Vac Suit), Weapon Proficiency (Combat Rifleman, Marksman), Vessel (Hovercraft, Tracked, Wheeled), Hobby (Entertain (Harmonica), Navigation), Brawling, Endurance, Jury Rig, PMOS (Driving), Skill Focus (Driving), Toughness								
Skills	Driving 12, Entertain (Harmonica) 10, Innuendo 0, K/Homeworld 0, Navigation 10, Spot 10, T/Computer 0, T/Mechanical 10								
Equipment	Biomonitor, Goggles (photo-sensitive), Backpack, Respirator, Mul-T-Tool, 5 green Stik-kits, FarSeer, Subdermatalk, Subdermawatch, Subdermacomp w Low-Res Virtual Display and Keyboard, Military Artillery Computer/Communicator, Knife, Stracher MP-67 PDW, High Threat Combat Helmet, Full Body Inertial Armor								

**Ship's Crew:** These are the crew of wet navy vessels, either surface ships or submarines. They are equipped for boarding actions or ship defence. This represents an average able seaman, though it should be noted that most crew are specialists in one area or another. Remote Pilots, weapons operators, E/W and sonar crew are all other types of crew that may be seen on a modern wet naval warship.

Regular Sailors	Sailor 5	TL	9+	ST	20	LB	10		
Grav	N	Core/Frontier	Frontier	Body	Normal				
Str	10	Dex 10	Con 10	Int 10	Wis 10	Chr 10	Edu 10	Soc 10	
Init	+0	AC 15	AR *	Spd 9m	Fort 3	Ref 3	Will 1	SZ	M
Attacks	Fist +3 (1d4/x2). Stracher MP-67 +2 (1d10/x2), range 45m, ROF 1/4. DunArmCo Close Assault Gun +2 (3d6/x2), range 6m, ROF 1/3.								
*Armor Rating	Head: AR 8 (Rigid). Chest: AR 5 (Inertial). Other: AR 3 (Inertial).								
Feats	Armor Proficiency (Light, Medium, Vac), Weapon Proficiency (Combat Rifleman, Marksman), Vessel (Hovercraft, Small Boat, Wheeled), Brawling, Endurance, Jury Rig, PMOS (choose one), Sea Dog, Skill Focus (choose one)								
Skills	Driving 8, Gambling 4, K/Homeworld 0, Liaison 4, Navigation 8, P/Admin 4, Survival 4, Swim 8, T/Communications 4, T/Computer 4, T/Mechanical 8								
Equipment	Full-body inertial armor, Stracher MP-67 or DunArmCo Close Assault Gun, Radio, stunstick								

**Mercenaries:** Most professional mercenaries are veterans of a national military, though a few started their career with a mercenary force. They represent typical mercenary forces found on many colony worlds, either in the employ of a government unable to raise and train its own army, or occasionally in the employ of revolutionary groups who require professional support.

At the low end of the mercenary spectrum is the peasant farmer, recruited to serve in a colonial mercenary company. Their careers are often tragically short.

Peasant Merc				Mercenary 4		TL	10		ST	26	LB	10			
Grav	N			Core/Frontier			Frontier			Body		Normal			
Str	10	Dex	11	Con	10	Int	10	Wis	10	Chr	10	Edu	10	Soc	10
Init	+4	AC	15	AR	*	Spd	9m	Fort	4	Ref	1	Will	2	SZ	M
Attacks	Fist +5 (1d4/x2). Stracher MP-67 PDW +5 (1d10/x2), range 45m, ROF 1/4.														
* Armor Rating	Head: AR 0. Chest: AR 5 (Inertial). Remainder: AR 2 (Non-Rigid). Armor Check -1.														
Feats	Armor Proficiency (Light, Medium, Vac Suit), Weapon Proficiency (Combat Rifleman, Marksman), Vessel (Wheeled), Brawling, Defensive Roll, Evasion, First Aid, Improved Initiative, Stealthy, Weapon Focus (SMG)														
Skills	Hide 8, Move Silently 8, Spot 7														
Equipment	Inertial Armor Vest, Full Body Non-Rigid Armor, MP-67, rest of equipment as provided by mercenary unit														

At the top end of the spectrum is the elite mercenary, often in the long-term employ of a colonial government that is unwilling or unable to raise its own troops locally. Though often despised by regular citizens and colonial militias, the elite mercenary tends to live a fairly comfortable life.

Elite Merc	Mercenary 8					TL	10		ST	37	LB	10			
Grav	N	Core/Frontier					Frontier			Body		Normal			
Str	10	Dex	12	Con	10	Int	10	Wis	10	Chr	10	Edu	10	Soc	10
Init	+5	AC	20	AR	*	Spd	9m	Fort	6	Ref	2	Will	4	SZ	M
Attacks	Fist +10/+5 (1d4/x2).														
	FAM-90bis: attack +10/+5 or +8/+3/+8, extra +1 on 4 round bursts; damage 2d12/x2, +2 within 10m, AP bonus +1; range 112m, ROF 1/4/10, also launches 30mm grenades.														
* Armor Rating	Head: AR 6 (Rigid). Chest: AR 5 layered with AR 7 giving AR 9. Elsewhere: AR 5. Overall armor check −2.														
Feats	Armor Proficiency (Light, Medium, Vac Suit), Weapon Proficiency (Combat Rifleman, Marksman), Vessel (Wheeled), Brawling, Defensive Roll, Evasion, First Aid, Improved Initiative, Point Blank Shot, Rapid Shot, Stealthy, Weapon Focus (Gauss Rifle), Weapon Specialization (Gauss Rifle)														
Skills	Hide 12, Move Silently 12, Spot 11														
Equipment	Inertial armor vest with vedette half plate, full-body inertial armor, FAM-90bis gauss rifle, P-11 pistol, 4 frag grenades, rigid helmet														

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ANIMALS

In addition to the intelligent creatures of the 2320AD universe, there are a wide variety of animals to be found on the various worlds. What follows is only a small selection of the enormous biodiversity to be found throughout the colonies and outposts of Humanity.

**Horse:** The horse is ubiquitous on new colonies, as a (more or less) self-repairing, self-replicating mode of transportation. Though they are often superseded by mechanized transport after a generation or so, rural areas still make use of them.

Horse										
Size	L (800 kg)	Type	Herbivore	ST	21	LB	17	Init	+2	
Attack		Flee		Speed	20m	AC	10	AR	1	
Attacks	2 Hooves +4	Melee Bite -1	Melee	Damage	Hoof 1d4+3; bite 1d3-1					
Saves	Fort	+6	Ref	+4	Will	+2				
Str	16	Dex	13	Con	17	Int	2	Wis	13	
Skills	Spot +7									
Feats	N/A									
Special Abilities	None									
Climate/Terrain	Any Land									
Organization	Domesticated									

**NeoDog:** The neo is a genetically-altered dog, usually a German Shepard or similar breed. The alterations are subtle, mostly enhancing the animal's intelligence and sense of smell. A neo-dog can understand about 400 words, and can be trained far quicker than an unaugmented animal. They are a little unstable, however, and require a careful, empathetic trainer and handler.

#### NeoDog

Size	M (50kg)	Type	Carnivore	ST	14	LB	11	Init	+2
Attack	+4	Flee	+4	Speed	15m	AC	12	AR	0
Attacks	10			Damage	1d6 bite, 1d2-1 claws				
Saves	Fort	+2	Ref	+6	Will	0			
Str	8	Dex	13	Con	11	Int	3	Wis	2
Skills	Spot +10, Intuit Direction +2, Move Silently +4, Tumble +3								
Feats	Alertness, Improved Initiative, Run, Spring Attack								
Special Abilities	Scent								
Climate/Terrain	Any Land								
Organization	Domesticated								

**Burrowvarg:** This small, dog-like animal originally hails from Beta Canum, but can be found on several worlds. The main issue with owning these animals is their different (levo-amino acid) biochemistry, which means they require special food. They are generally not seen on worlds that can't natively support them.

#### Burrowvarg

Size	S (12kg)	Type	Carnivore	ST	8	LB	9	Init	+3
Attack	A2	Flee	F12	Speed	12m	AC	14	AR	0
Attacks	Bite +8 Melee			Damage	Bite 1d4				
Saves	Fort	+3	Ref	+6	Will	+3			
Str	4	Dex	13	Con	8	Int	4	Wis	3
Skills	Spot +6								
Feats	Tracker								
Special Abilities	Scent								
Climate/Terrain	All								
Organization	Domestic								

**White Wing:** This large, winged predator from Hermes is feared and respected by the inhabitants of Hermes, its native world. Large and powerful, it is often the subject of hunts, both photographic and trophy. Sometimes the hunters do not return. The white wing will hunt day or night, and can use its sonar to broadcast a tremendous, terrifying scream.

#### White Wing

Size	M (50kg)	Type	Carnivore	ST	21	LB	11	Init	+3
Attack	AP	Flee	F16	Speed	24m Flyer	AC	14	AR	1
Attacks	Bite +8 Melee, Claws +14 Melee			Damage	Bite 1d8; Claws 1d4				
Saves	Fort	+2	Ref	+4	Will	+2			
Str	11	Dex	17	Con	11	Int	3	Wis	4
Skills	Spot +12								
Feats									
Special Abilities	Improved Grab (Claws), Blindsight (sonar), Fear (Scream)								
Climate/Terrain	Open Plains								
Organization	Solitary								

**Dragonbat:** The Dragonbat is a large and deservedly feared predator of the mountainous regions of Beowulf. This fearless flyer is capable of taking off with prey of up to 20 kilograms in its sharp claws, and can kill or injure animals several times larger.

#### Dragonbat

Size	L (120kg)	Type	Carnivore	ST	16	LB	16	Init	+4
Attack	A12	Flee	FS	Speed	30m Fly	AC	14	AR	0
Attacks	Bite +5 Melee Claws +1 Melee			Damage	Bite 1d6+2; Claws 1d3+1				
Saves	Fort	+7	Ref	+10	Will	+6			
Str	14	Dex	18	Con	16	Int	2	Wis	14
Skills	Stealth +12, Spot +11								
Feats									
Special Abilities	Improved Grab (Claws)								
Climate/Terrain	Temperate/Mountainous								
Organization	Solitary								

**Ameisenhund (ant-dog):** The floor of the canyon on Freisland is home to many colonies of this large social animal. The structure of these communities is very similar to Terran social insect, in particular the ants and termites. The **Ameisenhund** is much larger than any terrestrial counterpart, however, being the size of a large dog. These eight-limbed creatures feed on the fecund vegetation of the canyon floor, and are very territorial. Their exact social structure is unknown, as not even remotes have been able to penetrate to the heart of their massive nests. Within 500 meters of its nest, an **Ameisenhund** will always attack an intruder.

#### Ameisenhund

Size	S (24kg)	Type	Omnivore	ST	12	LB	8	Init	+1
Attack	A12	Flee	F8	Speed	6m	AC	16	AR	3
Attacks	Bite +10 Melee, Sting +12 Melee			Damage	Bite 1d6, Sting 1d3 + Weak Poison				
Saves	Fort	+1	Ref	+4	Will	+2			
Str	8	Dex	12	Con	8	Int	2	Wis	6
Skills	Spot +8, Listen +12,								
Feats	Alertness								
Special Abilities	Tremorsense, blindsight, Poison (weak)								
Climate/Terrain	Desert/Plains								
Organization	Group 2-12								

**Hummers (Pterodeimos var.):** A vicious plains-hunter native to Vogelheim (Adlerhorst). This flightless bird-analog can reach speeds of up to 80 km/h in the open. It prefers to strike from concealment and quickly runs its prey down. Heavy rifles or handguns are required to take this creature down.

#### Hummer

Size	L (500kg)	Type	Carnivore	ST	52	LB	15	Init	+7
Attack		Flee		Speed	20m	AC	15	AR	3
Attacks	Bite	Melee +8		Damage	1d8+6				
Saves	Fort	+7	Ref	+8	Will	+4			
Str	19	Dex	17	Con	15	Int	2	Wis	14
Skills	Hide +8, Listen +4, Move Silently +7, Spot +4								
Feats	Alertness, Improved Initiative, Skill Focus (Hide)								
Special Abilities	Low-light vision, Improved Grab								
Climate/Terrain	Forest, hill, or plains								
Organization	Solitary or pack (3-6 (1d4+2))								

**Gatinnhos de Seva:** A cunning and capable hunter, native to Brazilian world of Paulo, the **gatinnhos** runs in packs, taking shifts as they chase down their prey, eventually falling upon the exhausted animal. They are also known to use some devious tactics, including ambush and surprise.

#### Gatinnhos de Seva

Size	L(200kg)	Type	Carnivore	ST	60	LB	21	Init	0
Attack	A+	Flee	F18	Speed	12m	AC	12	AR	3
Attacks	Bite +12 Melee			Damage	1d8+12 Bite				
Saves	Fort	+8	Ref	+5	Will	+6			
Str	27	Dex	10	Con	17	Int	2	Wis	13
Skills	Spot +10, Hide +8, Listen +8								
Feats	Stealthy, Tough (x2)								
Special Abilities									
Climate/Terrain	Forest								
Organization	Solitary or Pack (2-12)								

**Zururyu ("Clever Dragon"):** This lizard-like animal, native to Joi, may very well be on the verge of sentience. It is judged to be smarter than a terrestrial gorilla, and some expert state that they have developed a language. Any Japanese colonist of Joi would attest to their intelligence, especially after a well-protected and fenced garden had been raided by a troop of these creatures. Oddly enough, they tend to leave the carefully tended Zen gardens alone. The Japanese often also refer to them as **Chibigoji** ("little Godzilla"), especially after one of their garden raids.



## Zururyu

Size	M (40kg)	Type	Omnivore	ST	14	LB	11	Init	+1
Attack	A20	Flee	F4	Speed	9m	AC	11	AR	0
Attacks	Fists Melee +4			Damage	1d3				
Saves	Fort	+2	Ref	+3	Will	+5			
Str	9	Dex	13	Con	9	Int	8	Wis	12
Skills	Spot +12, Listen +12, Hide +14, Climb +12. Move Silently +8								
Feats	Stealthy, Lightning Reflexes								
Special Abilities									
Climate/Terrain	Forest								
Organization	Solitary or Pack (3d6)								

**Hellshark:** This creature is the greatest fear of the deep-oceanic workers and harvesters on Haifeng. A full-grown Hellshark is in excess of 100 meters long, with a gaping maw studded with 2-meter-long teeth. The maw has 2 clusters of tentacles, 1 on either side, 8-12 per cluster depending on species, which grab prey and shove them into the maw to be torn apart by the teeth. Though there are larger creatures on Haifeng, none are as aggressive as the hellshark.

## Hellshark

Size	G (300 tons)	Type	Carnivore	ST	180	LB	192	Init	+2
Attack	AP	Flee	F20	Speed	20m Swim	AC	16	AR	12
Attacks	Bite +12 Melee, Tentacle Rake +10 Melee			Damage	Bite (3d20), Rake (4d6) x8				
Saves	Fort	+18	Ref	+12	Will	+8			
Str	31	Dex	15	Con	24	Int	2	Wis	12
Skills	Spot +6, Hide -10, Listen +6, Swim +18								
Feats									
Special Abilities	Frightening Presence, Improved Grab (tentacles), Swallow whole								
Climate/Terrain	Ocean (Haifeng)								
Organization	Pack (1d4+1)								

**Nightmare:** Nightmares are the descendants of ancient Eber-designed macro-biological weapons. They inhabit remote areas of Kormoran, with a life-cycle more like Earth's communal insects than anything else. There are several different varieties of Nightmare, but all seem to be very tough, fierce, and truly horrific in appearance. Once they attack, Nightmares do not flee unless they have taken more than 50% losses.

## Nightmare (swarm)

Size	T (1kg)	Type	Carnivore	ST	4	LB	4	Init	+3
Attack	AP	Flee	0	Speed	12m	AC	20	AR	2
Attacks	Claw +8, Sting +4			Damage	Claw 1d3, Sting 1d2-1				
Saves	Fort	0	Ref	+3	Will	0			
Str	1	Dex	18	Con	4	Int	2	Wis	2
Skills	Spot +7								
Feats									
Special Abilities	Frightening Presence, Weak Poison								
Climate/Terrain	Desert (Kormoran)								
Organization	Swarm								

**Cold Mountain:** The ferocity of the native life on Han Shan (Cold Mountain) is legendary. The words for demon and animal have become interchangeable on that colony world. The Flying Blind is the best known of them.

**Flying Blinds:** Flat, airborne creatures which resemble a Chinese kite or the slats from a Venetian blind; each "blind" edge is razor sharp, and they attack by swooping into prey edge-on. The "blinds" are held together by a tether of edge material which snaps when the creature reproduces by splitting.

The following statistics are for an average-size creature. Smaller and much larger specimens have been noted.

## Flying Blind

Size	M (40kg)	Type	Flyer	ST	14	LB	8	Init	5
Attack	AP	Flee	-	Speed	15m	AC	20	AR	1
Attacks	+4 blades			Damage	1d10/19				
Saves	Fort	+1	Ref	+5	Will	-3			
Str	9	Dex	19	Con	12	Int	1	Wis	1
Skills	Spot +2								
Feats	Tough								
Special Abilities	Evasion, Blindsight, Improved grab, Fast Healing, Flyby Attack								
Climate/Terrain	All								
Organization	Solitary								

# GM GUIDE

This chapter provides some additional guidelines and ideas for 2320AD, including sections on possible campaign types, goals and motivations, and sources of conflict in the 2320 AD universe.

This section also provides guidelines for using D20 Modern and D20 Future for 2320AD games, either as a replacement for the Traveller D20 rules, or (recommended) as an addition to the T20 rules. There are also guidelines for using existing 2300AD products and converting them to 2320AD and the D20 rules, including conversion for characters and creatures.

2320AD is a game of hard-science fiction in the not-too-distant future. This should be kept in mind as new adventures are being planned. There are no energy swords, giant robots, or psionic madmen in the 2320AD universe. A good source for inspiration for 2320AD games is the day's news, which can provide plot hooks, atmosphere, and ideas for many types of campaigns.

## CAMPAIGN TYPES

The universe of 2320AD, though not as wide-open as the Imperium of T20, is still a vast amount of space and a large number of worlds to explore. In addition to the worlds already settled by humanity, there are alien home worlds, unexplored star systems, and new worlds waiting to be explored.

Any theme can be explored as part of 2320AD, but there are several that define the game universe.

## EXPLORATION AND ALIEN CONTACT

The universe of 2320AD is a big place, and there is a great deal to discover. Whether it's investigating Aquilan traps or scouting out a new home for refugees, the Exploration campaign is a central premise of 2320AD. Exploration campaigns take a great deal of preparation. New systems have to be described and planned out, worlds mapped, alien societies and cultures created. With this sort of campaign, though, there is a feeling of accomplishment at the end of a session. New things were found, new puzzles solved. These campaigns are less focused on action and more on adventure, so they require greater work to establish atmosphere and provide challenges. There are several areas of 2320 space ideal for an explora-

tion-style campaign: The Frontiers of the French Arm, the Beta Aquilae Cluster, and the Bayern Corridor. Of the three, the Frontiers are the most accessible for exploration. The Bayern Corridor is distant, but is truly wide open, as the Bayern did little more than scratch the surface of the star systems along its route. The Beta Aquila cluster represents a different kind of exploratory campaign, more gothic in feel, with its dark ruins full of traps, and the lure of alien artifacts.

Examples of Exploration Adventures would include:

The characters are hired by an offshoot branch of the Academia del Lincei to travel to an uninhabited system on the Chinese Arm, where they suspect are some ancient Eber ruins on an airless world. The characters will have to search the system for possible sites, but at one of the moons of a gas giant their ground-search radar picks up the regular outlines of an artificial structure. It could be the ancient Eber base, or it could just be a mining camp, or even a hidden pirate base.

The Pioneer Society has managed to get their hands on an ISV-5, an extremely fast survey vessel, and want to send a crew through the Delta Aquilae system. It is hoped that the ISV-5's speed will keep it safe from the system's automated defenses.

Freiland is a rare find, an inhabitable world just off the regular travel lanes in the Frontier of the French Arm. The habitable area of the Grossartige Senke is so small, however, that the government of Wellon wants a survey done of a large depression on the other side of the world. Though the air pressure at the bottom of the depression is less than half that of the Grossartige Senke, it could still be usable.

Campaign Type: Exploration

Appropriate Characters: Scouts, Academics, Mercenaries (guards), Professionals, Journalists

Prestige Classes: Troubleshooter, Alien Cultural and Technology Expert

Vehicles/Equipment: Access to a ship, ground vehicle for exploration

NPCs required: Ship Crew, others as required to round out expedition staff

Goals/Rewards: Explore, find new life and new riches; mineral claims, money, adventure.

## GROUND COMBAT

Ground Combat in 2320AD can involve low-intensity warfare against colonial rebels, high-intensity conflict against Kafers, or high-intensity combat versus other human nations. The first is the most common, and has a great deal of opportunity for small-unit (mercenary) operations.

The Kafers are a convenient enemy for this kind of game, but care must be taken not to overuse them, or they lose their uniqueness and just become "orcs" to be slaughtered out of hand.

This kind of game is popular, as it has a great deal of action, but it can become repetitive. It is wise to intersperse the combat with some other sort of action, like an investigation in barracks, or other types of missions. Changing the enemy and the mission fairly often also helps to keep things fresh.

The T20 character generation system assumes that all generated characters have mustered out of whatever service they were in and are now in the private sector. However, to have a military-based campaign, simply do not run the characters through the mustering-out process, and keep them in service. They would be supplied with weapons and equipment as appropriate for their service branch and nationality. In-service campaigns are quite easy to run, as they characters can simply be ordered to go somewhere and do something, but the long lines of communication in 2320AD mean that they will generally be given a great deal of leeway in how they accomplish their task.

Examples of Ground Military Adventures would include:

On the world of Heidelshemat, the Texan colony and the new nation of Heidelshemat are involved in a territorial dispute over the series of islands between the two, which up until the discovery of oil had been unclaimed by any group on the planet. Texas sees the oil as the solution for their over-extended economy, and a way to make the Heidelshemat colony pay for itself. In a similar vein, Heidelshemat sees the oil resources as key to their own survival as an independent nation. Both nations are advancing their claims, and Texas has begun active recruiting to beef up the limited number of Department of Public Safety troops currently available on the world. Heidelshemat has recently hired Manchurian mercenaries, along with their combat walkers and support equipment. Players could be hired on either side, and war could be imminent.

Brazil and Argentina have gone to war again, and both sides need troops experienced in protected environments, which is to say, outposts and space stations. Brazil in particular is looking to move the conflict offworld where her greater weight of warships could give them a decisive victory, or at least make Argentina divide her forces. All Argentinean stations, ships, and outposts are

considered fair game.

On the Human-occupied world of Gamma Serpentis, the Human forces are not just occupied with protecting their own bases, but also have to provide succor for the Kafers. This typically consists of large convoys heading out to an area distant from a fort and dropping off supplies. Most of the soldiers at these bases ignore the behavior of the Kafers outside their walls, or attribute it to the complete breakdown of their society. A few have noticed that something is wrong, and are starting to raise concerns back on Earth. The secret of the Pentapod Revenge is about to break loose. Players can be soldiers who have noticed the problem, or just members of their unit. The cabal that released the weapon can't yet afford to have it become public knowledge, so they start assigning the player's unit more and more difficult tasks, taking them further and further away from the forts, until one day they are effectively abandoned in the Kafer outback, and must make their way back.

Campaign Type: Ground Military

Appropriate Characters: Mercenaries, Professionals, Martial Artists, Engineers, Merchants, Medics, Travellers (Army or Marines if in service)

Prestige Classes: Special Forces

Vehicles/Equipment: Personal Weapons and armor; ground or air vehicle for transport

NPCs required: Support types, mercenaries to fill out unit

Goals/Rewards: Accomplish the mission and get paid. Often the action is another sort of reward. Payment is usually money, weapons, or equipment, or all three.

Complications: Betrayed by employer, crisis of conscience (working for wrong side), facing overwhelming odds, poor equipment, clashing with "allied" units

## SPACE COMBAT

Space combat enters a campaign in two different ways. In most campaigns, it will just be another sort of encounter, played through as the players journey to the real goal of the campaign. This type of space combat is best done with the basic space combat rules. In the Space Military campaign, however, space combat is the focus of the game. Players will be crew aboard a vessel, or each player could take on the role of a ship's captain, commanding a vessel in an ongoing campaign.

This second type of campaign is more of a running wargame, and would require the GM to come up with rules for resupply and repair. Note should be taken of traditional allies and rivals when deciding what nations will reprovision a ship. Typically, a colony has to be at least Tech Level 11 (B) and possess Heavy Industry to be able to manufacture and supply

parts for a warship. Major repairs (over 50% of SI in damage taken) require the use of a military shipyard.

Note that just like under Ground Military, above, characters can still be in service at the start of play, even though the T20 character generation system assumes otherwise.

Some examples of space combat adventures:

A small group of pirates is preying on commercial shipping in the volume of space between the colony of Cold Mountain and the colony on Chengdu, and Manchurian authorities have offered a bounty on the pirates.

Kafer vessels have been spotted in the lightly-defended volume of space on the French Arm called the Frontiers, and several allied vessels have been ordered in to find them.

The American Space Force has decided to move in and clean up the Sentinels in one of the systems of the Aquilae cluster. The remote weapons get more and more sophisticated as the squadron approaches the mainworld, and losses mount.

Campaign Type: Space combat

Appropriate Characters: Navy, Mercenary, Professional, Engineer, Medic, Traveller

Prestige Classes: None

Vehicles/Equipment: Armed starship, frigate-class or better

NPCs required: Fill-out crew positions, crew of other vessels, enemy crews and boarding parties

Goals/Rewards: Follow orders, protect civilian lives; money, career advancement, action,

Complications: Betrayal, running out of ordnance, crew casualties, capture, hostile actions from other Human militaries

## TROUBLESHOOTING CAMPAIGN

Troubleshooting campaigns often revolve around a combination of mystery and violence. Troubleshooters are hired to solve problems, often corporate in nature, but troubleshooting adventures can encompass just about any sort of job. These problems can be professional in nature, and involve underworld skills, or just about anything. Usually set on a Frontier world, a troubleshooting game requires a strong mix of skills and abilities. Though troubleshooters can often draw on the resources of the nation, corporation, or foundation that hired them, they still have to exercise discretion and be able to operate on their own resources if necessary.

Examples of troubleshooting jobs would include:

Parts are going missing at an orbital shipyard, and outside consultants are brought in by the head office to investigate.

A corporation is having union troubles on a distant min-

ing outpost, and the investigators are brought in to get the dirt on the union leaders.

A Foundation is concerned by unusual reports coming in from a distant science outpost located on a sparsely-populated colony. The troubleshooters are hired to travel to the outpost and find out what, if anything, is going on.

Campaign Type: Troubleshooting

Appropriate Characters: Professionals, Rogues, Academics, Law Enforcement, Martial Artist, Mercenary, Medic, Journalist, Colonist, Scout

Prestige Classes: Troubleshooter, Alien Cultural and Technologies Expert

Vehicles/Equipment: Surveillance and investigative equipment, personal weapons

NPCs required: Contacts, informants, opponents (including goons, guards, underlings and the mastermind)

Goals/Rewards: Solve the mystery, survive the mission, get paid the big bucks

Complications: Betrayal, lack of information, false information, lack of cooperation from locals

## TRADE AND COMMERCE

Though it is a staple of Traveller, the Trade and Commerce campaign is more difficult to implement for 2320AD, as it is more marginal. Most of the larger shipping concerns are actually subsidized by the national governments, allowing them to turn a profit. Interface costs in particular are often partly or even wholly underwritten by governments.

Most Libertine traders do the larger portion of their business with orbital stations and asteroid bases, where interface costs are negligible to none.

Examples of Merchant Adventures would include:

The ship is hired to transport emergency supplies to Kimanjano, and will be paid well for the task. The cargo consists of food and medical supplies, which would otherwise be unprofitable to ship. Because of the refugee situation on Kimanjano, the French Imperial government is chartering vessels to run the supplies in.

The ship is one of several in a British-sponsored convoy from Aurore to the Kafer homeworld of Gamma Serpentis III. In addition to supplies and ammunition for the occupation forces, the ships also carry replacement troops and several containers of coffins. On the return trip the ship will carry nothing but 78 refrigerated coffins, casualties from the last 120 days of low-level fighting on Gamma Serpentis III.

The characters are crew aboard the Libertine transport Star of Gabriel, enroute up the Chinese Arm to Paulo. Along the way it takes on passengers who are part of the



Interstellar Circus, who got abandoned by the circus fleet when they ended up in jail after a particularly raucous, and alcoholic, binge. The 7 performers are a mixture of clowns and carnies, and are liable to be quite the handful.

Campaign Type: Trade and Commerce

Appropriate Characters: Professionals, Rogues, Merchants, Scouts, Academics,

Prestige Classes: Troubleshooter

Vehicles/Equipment: Personal equipment, weapons, and likely a small ship (Thorez or Pegase would be appropriate)

NPCs required: Contacts, customers, NPCs as required to fill out crew positions

Goals/Rewards: Make the big deal, make the lots of little deals, fuel the ship, keep flying

Complications: Markets downturns, false information, ship troubles, mutiny, hijacking

## COUNTERTERRORIST

The counterterrorist game is a hard, dark game to play, as it delves into the ultra-violent world of 2320AD terrorism, with its unwilling cyborgs and casual disregard for human life. The terrorists of 2320AD are advocates of a variety of causes, from ultra-environmentalists to nihilistic religious cults, ProVolution and its augmented agents to the Daughters of Mao and their knives. All share the common characteristic of being utterly devoted to their cause, and the belief that it is the best thing for Humanity.

Counterterrorist operations are not just concerned with killing terrorists. The individual terrorists are not as dangerous as the support networks that these organizations create, and the primary goal of counter-terrorist operations is the discovery and neutralization of these networks.

Examples of Counter-terrorist adventures include:

ProVolution has announced that they have let loose a walking nuclear bomb in Tokyo. Authorities have 12 hours to find the bomb, and neutralize it, or else a 100-kiloton device will go off somewhere in Tokyo. Thing is, the carrier of the bomb doesn't even know it. ProVolution kidnapped him off the street, drugged him, implanted the device, and turned him loose.

Terrorists have taken hostages at the offices of the Trilon corporation, and are demanding the usual (freedom of prisoners, withdrawal of troops), but no one knows who exactly they are. This adventure could go two ways: Investigate the group, or go in and try to take them down. Investigation will reveal that the group in question does not exist, and are simply being used as a blind to confuse the authorities while the "terrorists" (actually spies for a rival firm) go through Trilon's files and vaults and steal

whatever they can.

ProVolution has seized a spaceplane, grabbing it just before takeoff. They managed to get implanted weapons through the spaceport's security grid, and are now threatening to kill a hostage an hour until their demands are met. They want the American and Canadian governments to release all records on the King DNA modification project, which are still sealed even after more than 100 years.

Campaign Type: Counterterrorist

Appropriate Characters: Professionals, Rogues, Martial Artists, Mercenaries, Scouts, Law Enforcement, (Army, Marines, Sailor, Flyer if in active service)

Prestige Classes: Troubleshooter, Special Forces

Vehicles/Equipment: Surveillance and investigative equipment, personal weapons

NPCs required: Contacts, informants, opponents

Goals/Rewards: Find the terrorists, rescue the hostages, get information on terrorist group, survive an ambush

Complications: Betrayal, lack of information, false information, lack of cooperation from locals, hostages, booby-traps, unwitting cyborgs with implanted bombs and other weapons.

## CHARACTER GOALS AND MOTIVATIONS

### SOURCES OF CONFLICT IN 2320AD

There are several general themes of conflict in the 2320AD universe, all of which can be used as underlying basis for many adventures:

#### CORE vs. FRONTIER

The Frontier challenges the Core, with the oft-repeated charge that the Core is out of touch with the rapidly changing events on the Frontier. Often the goals of the Core-based governments, Foundations and corporations are at odds with the reality on the Frontier. At the same time, the Frontier doesn't realize what a balancing act maintaining the extra-solar colonies is, as the Core worlds have to allocate a limited tax base not only to the population at home, where the majority of the votes come from, but also a disproportionate amount which goes to maintaining the colonies. Recent opinion polls in many of the colonizing nations reflect a growing disillusionment with colonies, and a desire to see the colonies pay more of their own way.

#### ORGANIZATIONS vs. INDEPENDENTS

There are many organizations in 2320AD that strive to exert control over individuals, colonies and nations. Foremost of these are the various nations themselves. Though their in-

fluence is waning in the face of the other organizations, nations still maintain the lion's share of power in 2320AD, and their citizens are subject to the exercise of that power, whether for good or ill. Foundations are another level of organization, usually devoted to fulfilling a national agenda, but becoming increasingly independent, and increasingly focused on their own goals. Finally, as a counter-balance to national control, we have the multi-national corporations, which are becoming as powerful as nations, and in the case of Trilon and a few others, have actually become independent nations in their own right.

All of these groups seeks the attention and loyalty of others, and seek to exert control over people for the purpose of fulfilling their goals. For many people, this is exactly what they want, a place to belong. For others, however, the reality is different. They don't fit in, and largely don't want to. These independents resist the encroachment of the establishment onto their turf, often forcibly.

## HUMAN vs. ALIENS

This is not necessarily active conflict, but the interests of Humans and the various alien races often clash. Individual aliens may or may not share their race's overarching goals, but it is rare (though possible) to find one that will advance humanity's goals ahead of their own race's. Examples of the issues facing Human-Alien interaction include:

**Pentapod Factionalism:** There are as many Pentapod factions as there are Pentapod gods, as the gods never really learned to work together. There are, however, several axes in Pentapod society that the various factions tend to align themselves with. Pro-human, which are in favor of continued good relations with humanity. Anti-human, which favor, at the least, breaking off contact with Humanity, and include gods who favor using Pentapod biotechnology to "remake" Humans in a more useful form. The large percentage of Pentapod factions are neutral, with little interest in humanity at all.

**Sung Demands under Sos-Soon-Atkacharr:** Though the Slaver War ended over 60 years ago, the Sung still have not been brought up to as advanced a level as they feel they are entitled to under the provisions of the treaties signed with Human forces, and by the rules governing conduct under Sos-Soon-Atkacharr. They have started to agitate for an increased rate of technology transfers, while at the same time protesting over how little Humanity has made them work for their new benefits.

**Kafer War:** Despite the premature announcements by Core politicians, the Kafer War is not over. Kafer raider vessels slip past the blockade at Gamma Serpenteis on a weekly basis, and there is little Human forces can do to stop them. Of course, Human scout vessels often make forays into Kafer space in an attempt to discover what the remaining Kafer

worlds are up to.

## TRANSHUMANISTS vs. "NORMALS"

ProVolution is simply the violent end of the spectrum which encompasses the so-called TransHumanists. They believe that humanity now has the tools to overcome its limitations, and they want to make use of these tools. Cybernetics, genetics, DNA modification and artificial intelligence are all seen as enabling technologies, and the TransHumanists want to see restrictions on these technologies lifted, and new research initiated as well.

The majority of people are afraid of the TransHumanist ideals, and the idea that Humanity can (or should) be transformed by these technologies into something more. Most people simply don't want to be made obsolete, and oppose the lifting of restrictions.

Most of the TransHumanists protest peaceably, and make their plans and grandiose predictions, while some few plot to bring down the old order and remake it in their favor. TransHumanists have a tendency to embrace new technologies, and many have cybernetics or implants of some kind, even illegal implants, though usually not weapons. Of any major extra-governmental organization, the Life Foundation in particular seems to attract many TransHumanists.

## NATIONAL RIVALRIES

Despite the chaos and destruction of the Kafer War, national rivalries and conflicts continue to dominate Human affairs. The current war between Argentina and Brazil is a good (and long-running) example of this. The many nations of Earth still struggle for dominance, and the practice of dividing up the nations into Tiers further exacerbates the conflicts, as Tier 3 and Tier 4 nations struggle to prove that they are better than their ranking. The national rivalries listed in Chapter 2: Background form a good starting point, but any world shared by two or more nations can often spark a struggle. Witness the escalating tensions on Heideisheimat between the Bavarian and Texan colonists over mineral resources, or on Beowulf between the French and the British over fishing rights, or even between the Australians and Japanese on Tirane over disputed borders. National conflict appears to be inevitable.

## GOALS AND MOTIVATIONS

It is important to keep goals and motivations in mind when designing adventures. Both the goals of the characters and the goals of the players are important. Why are they playing the game? What do they want to get out of it? As for characters, why are they doing what they are doing? What do they want to accomplish?

The goals of the players are up to each gaming group to decide, but some rewards have to be built into the system.

Leveling-up is a big part of the reward structure in any D20 Game, and 2320AD is no exception. XP should be awarded not just for combat, but also for problem-solving, staying in character, or for any action that contributed to the enjoyment of the game for all involved. These XP awards need not be large, but players should be able to see progress from game-to-game.

Similarly, the goals of the characters are up to each player. Goals should be clearly defined before the game begins, if possible, and can be something as complex as: "Find the ship that killed my family when I was a child, find the captain, and bring him to justice", or as simple as: "Fuel the ship, protect the crew, and keep flying." Character goals and motivations should have an effect on the campaign, and even if they don't direct the overall story, they should direct the day-to-day actions of the crew. A GM can use these goals to motivate the characters (and players) by crafting adventures that play to these goals, even if the end result is different.

## 2320AD ALTERNATIVES

### TECHNOLOGY

2320AD is a hard-science setting, with fairly realistic technological assumptions. Some of those assumptions may be a little too generous, in particular interface travel. Increasing fuel consumption/decreasing payload to orbit will alter those effects. On the other hand, the technological assumptions may be a little too conservative for some. 2320AD definitely errs on the conservative side when it comes to such technologies as artificial intelligence, nanotechnology, and genetic engineering. Another area where 2320AD is very conservative is in the application of gravitic technologies, like the anti-gravity lift and generated gravity so favored by most science fiction movies and television programs, not to mention Traveller itself.

It is quite possible to use the setting and background of 2320AD with these advanced technologies, and not cause a serious break with the continuity.

### NANOTECHNOLOGY

2320AD has nanotechnology, but it is used solely in materials manufacturing. The nanotech found in D20 Future could easily be assimilated into the 2320AD setting.

### STARSHIPS

While the starship technology of 2320AD is quite realistic (once you allow for stutterwarp drives) it could still go further.

One of the issues that 2320AD (and 2300 before it) fails to address in its starships is the issue of waste heat. All components of a vessel, from the drives to the electronics to the crew, produce waste heat, which can only be disposed of

through hull-mounted radiators. 2320AD assumes some hull area devoted to radiators, while the rest of a vessel's waste heat is taken care of by the stutterwarp drive acting as an energy sink. If you wish to model a more realistic heat dispersal model, you have to provide for much larger radiators. Large enough that most starships wouldn't have sufficient hull area for them, unless they are radiator fins extending away from the hull. MHD turbine-powered vessels do not need extra hull-mounted radiators, as much of their waste heat is disposed of in the vessel's exhaust, and what's left can be handled by conventional hull-mounted panels.

To model fins, add 1 to a ship's profile and reflected signature (both aspects) for every 100 EP of power generated by the power plant. This simulates the large size of the radiator panels. For warships, you would want to retract those panels in combat, both to protect them and to lower the ship's reflected signature. A vessel can operate without the additional panels for a number of rounds equal to the vessel's size in dttons divided by the power plant output, in EP, multiplied by 10. After that the vessel will begin taking damage at the rate of 1 SI point per 20-minute round. So a 980 ton vessel with a 300EP fusion plant could go for 32 combat rounds before starting to suffer damage.

On the other hand, 2320AD's drives could be said to be too realistic, what with the fuel requirements for thrusters and rockets, and the lack of artificial gravity (save in spin habitats). Changing these assumptions would have a strong effect on the setting, as interface costs would be reduced markedly. The availability of such technology would have changed the patterns of colonization, and would make interstellar commerce much more viable, and thus colonies less-likely to be self-sufficient. If you want this technology, however, you would have to gloss over these effects, or else postulate that gravitic technology is a very recent, but widely-adopted, innovation.

### OTHER RULES

Though 2320AD is designed to be used with the Traveller D20 rules, it is possible to use it with such alternative rule sets as D20 Modern / D20 Future. These rules integrate fairly easily into 2320AD. In regards to character generation, use the 2320AD Quick Character Generation system to determine the amount of XP a character has, and use that to generate a character. During character generation, you can multi-class freely between any of the core D20M classes (Strong, Quick, Tough, Smart, Dedicated, Charismatic), and with the GM's permission you can select any advanced character class from the following list:

### D20 MODERN ADVANCED CHARACTER CLASSES

Soldier, Martial Artist, Gunslinger, Infiltrator, Daredevil, Bodyguard, Field Scientist, Techie, Field Medic, Investigator,

Negotiator

## D20 FUTURE ADVANCED CHARACTER CLASSES

Engineer, Explorer, Field Officer, Space Monkey, Swindler, Technosavant, Tracer, and Xenophile

(If the campaign features advanced genetic engineering, then the Dreadnought and the Helix Warrior are available as well).

At each turning point, a character can select a new background career, to reflect the change in their circumstances.

## MODIFICATIONS TO D20M/D20F SKILLS AND FEATS

### WEALTH

2320AD uses actual pricing for all the weapons and equipment, including vehicles and starships. Use the following rules to simulate the use of the D20 Wealth Check in 2320AD:

**Personal Equipment:** Use cost in Livre divided by 20 to get the Wealth Check DC. So Vehicle Maintenance Tools, cost Lv150, would have a Wealth Check DC of 7.5, rounded to 8.

**Personal Weapons:** All rifles and pistols would use the cost in Livre divided by 20 to get the wealth check DC, adding 2 to the final total for all military-style weapons (assault rifles, storm guns, lasers).

**Heavy Weapons:** All heavy weapons, including plasma guns, use the cost in Livre divided by 30 to get the Wealth Check DC.

**Armor:** All Armors use cost in Livre divided by 10 to get the Wealth Check DC.

**Vehicles:** All vehicles, including robots, drones, and combat walkers, use cost in Livre divided by 100 to get the Wealth Check DC.

**Cybernetics and DNA Modifications:** Use cost in Livre divided by 50 to get the Wealth Check DC.

**Starships and Spacecraft:** Use the cost in Livre divided by 500,000 to get the Wealth Check DC.

## D20 FUTURE SPACE COMBAT

The stutterwarp drive of 2320AD is far faster than any of the drives mentioned in D20 Future, and as a result the scale of combat must be changed. Each square in space combat, rather than being 500 feet, is 600,000 kilometers.

The items in the changes below are described in chapters 16 and 17 of this book.

### Modifications

**Attack Roll:** 1d20 + gunner's ranged attack bonus + range penalty + weapon USP number + targeting system's equipment bonus + size modifier

**Defense:** 10 + screen USP + agility + size modifier

**Starship Armor:** A ship's Hardness is equal to its 2320AD Armor Rating (AR)

**Hit Points and Structural Integrity (SI):** A ship's Hit Points are equal to its 2320AD SI.

**Weapon Damage:** Use the weapon damages and ranges from 2320AD, rather than D20 Future. The different technology assumptions, largely due to the stutterwarp drive, render D20F weapons largely useless in any case, with their sharply limited ranges.

## 2300AD TO 2320AD CONVERSIONS

This section deals primarily with how to convert characters and creatures from 2300AD to 2320AD. It will not deal with weapons, vehicles, or ships. This section will allow a player to bring forward a favored character or effective alien creature from their 2300AD game to the new 2320AD version.

## CHARACTER CONVERSIONS

### CHARACTERISTICS (STATISTICS)

The mapping of characteristics is relatively straight-forward.

2300AD Characteristic	2320AD Characteristic
Strength	STR
Dexterity	DEX
Endurance	CON
Intelligence	INT
Determination	WIS
Eloquence	CHA
Education	EDU
2d6 + 2300AD's Renown	SOC

Generate Soc for all characters, or else assign one based on how the character has been played.

2300AD used a range of 0-20 for all characteristics, plus modifiers for body type and homeworld gravity. To convert 2300AD character to 2320AD, subtract out the body type and gravity modifiers, and compare the result to the table below.

2320 Characteristic	2320AD Characteristic
0	3
1	3
2	3
3	4
4	4
5	5
6	6
7	7
8	8
9	9
10	10
11	11
12	12



13	13
14	14
15	15
16	16
17	17
18	17
19	18
20	18

Now add the 2320AD modifiers for body type and home-world gravity.

### Skill levels

To convert 2300AD skill levels to 2320AD, multiply all skills by two.

### CAREERS AND Class

2300 Career	2320AD Class	2320AD Alternate Class
Ground Military	Army	Mercenary
Sea Military	Sailor	Army
Interface Military	Flyer	Navy
Space Military	Navy	Marines
Scout	Scout	Professional
Contact	Scout	Professional
Academic	Academic	Professional
Colonist	Colonist	
Troubleshooter	Professional	Troubleshooter PrC
Core	Professional	Academic
Administrator	Professional	Academic
Field Agent	Rogue	Mercenary
Law Enforcement	Law Enforcement	Mercenary
Journalist	Journalist	
Trader	Merchant	Professional
Ship Crew	Professional	Traveller
Thief	Rogue	
Smuggler/Pirate	Rogue	Corsair

### Levels and XP

This is a difficult area to assess, as the two systems are completely different here. A quick guide would be to take the highest skill level (after conversion to 2320AD) and subtract 3. That would equal the Character Level. Use the amount of XP this level would possess to determine any multi-class levels. These levels would be used to calculate the character's Stamina.

### Lifeblood

As normal for 2320AD, and T20, Lifeblood is equal to the CON characteristic for all Humans.

### CREATURE CONVERSION

There are a great many creatures detailed in many of the old 2300/2300AD adventures. The section provides a guideline for converting those creatures into 2320AD.

2300 Armor	2320 Armor Rating (AR)
0	0
0.1	0
0.2	1
0.3	1
0.4	2
0.5	2
0.6	3
0.7	3
0.8	4
0.9	4
1.0	5

2300AD Hit Category	2320AD BAB
Easy	8
Routine	6
Difficult	4
Formidable	2
Impossible	0

### Other 2320AD characteristics:

Use the table on p. 395 of the THB to derive Str, Dex, and Con from animal size, along with any special abilities the animal may have.

2300AD Animal Characteristic	Corresponding 2320AD Characteristic	Conversion notes
Size	Size	2300AD Size is rated in kilograms. Use the table p.395 of the THB to get size from mass
Speed	Speed	Divide 2300AD speed by 4 to get 2320AD speed
Armor	AR, AC	See chart below for AR. AC = 10+ A R + Size mod + Dex mod
Wound	-	-
Consciousness	Stamina	
Life Level	Lifeblood	Lifeblood = Con
DPV	Damage	Use the armor table below to match 2300AD DPV to Armor Rating, which can be used as the number of d8s of damage done.
Signature	N/A	
Hit	BAB	See below for chart on Hit vs. BAB
Initiative	Initiative	
Number Appearing		

## Skills and Feats

2300AD Skill	2320AD Skill	2320AD Feat	Alternate 2320AD Feat
Aircraft Pilot		Vessel/Air	
Anthropology	K/ Anthropology		
Appraisal	Appraise		
Astronomy	K/ Astronomy		
Bargain	Broker		
Bureaucracy	K/Administration		
Chemistry	Chemistry		
Combat Rifleman		Weapon Proficiency (Combat Rifle- Weapon Proficiency (Marksman man)	
Combat Walker		Armor Proficiency (Combat Walk-er)	
Communications	T/Communications		
Computer	T/Computer		
Demolitions	Demolitions		
Disguise	Disguise		
Electronic	T/Electronics		
Engineering	T/Engineering		
First Aid		First Aid	
Forgery	Forgery		
Forward Observer	Forward Observer		
Geology	K/Geology		
Ground Vehicle	Drive	Vessel/Ground	
Gunner	Gunnery		
Heavy Equipment	Drive (Heavy Equipment)		
Heavy Weapons		Weapon Proficiency (Heavy Weap-ons)	
History	K/History		
Hunting	P/Hunting		
Imaging	Entertain (Photography)		
Information Gathering	Information Gathering		
Interviewing	Liaison		
Leader	Leader		
Linguistics	K/Linguistics		
LTA Vehicle		Vessel/Air	
Mechanical	T/Mechanical		
Medical	T/Medical	Surgery	
Melee		Brawling	Weapon Proficiency (Swordsman)
Physics	K/Physics		
Pilot	Pilot	Vessel/(Appropriate Type)	
Prospecting	P/Prospecting		
P-suit		Armor Proficiency (Vac Suit)	
Psychology	K/Psychology		
Reconnaissance			
Remote Pilot		Vessel/Remote Object	
Riding	Ride		
Sea Vehicle		Vessel/Water	
Security Systems	T/Electronics		
Sensors	T/Sensors		
Ship Drive Engineering	Engineering		
Sidearm		Weapon Proficiency (Marksman)	
Stealth		Stealthy	
Streetwise	Survival (Urban)		
Survival	Survival		
Swim	Swim		
Tactics		Tactics	Fleet Tactics
Theoretical Sciences	K/Theoretical Sciences		
Thrown Weapons		Weapon Proficiency (Armsman)	
Tracking	P/Hunting		
Trader	Trader		

Some skills from 2300AD translate into 2320AD Feats, most notably all the weapon skills. The alternate Feats column is provided in case the first column of Feats doesn't match the character.

# Bibliography

## 2300AD Bibliography

### Main Rules

Traveller:2300 Boxed set  
2300AD boxed set

### Sourcebooks

Kafer Sourcebook  
Aurore Sourcebook  
Nyotekundu Sourcebook  
Ground Vehicle Guide  
Ships of the French Arm  
Colonial Atlas  
Earth/Cybertech Sourcebook

### Adventures

Ranger  
Beanstalk  
Energy Curve  
Kafer Dawn  
Rotten to the Core  
Deathwatch Program  
Bayern  
Operation Overlord (produced under license by 3W Games)

### Campaigns

Invasion

### Games

Star Cruiser

### Other Sources:

The following books, movies, TV shows, anime, manga, and comics all have elements or ideas that fit the 2320AD universe. They are not all equal in quality, and some serve solely to provide a visual reference for in-game atmosphere and descriptions. The presence of anything on this list should not be taken as an endorsement of the quality of the media in question, simply that it contains potentially useful ideas or visual depictions for 2320AD. This applies in particular to the various movies and TV shows referenced.

### Fiction

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Lunar Descent, Alan Steele  
Orbital Decay, Alan Steele

Downbelow Station, CJ Cherryh

Rimrunners, CJ Cherryh  
Heavy Time, CJ Cherryh  
Hellburner, CJ Cherryh

Revelation Space, Alistair Reynolds  
Absolution Gap, Alistair Reynolds  
Redemption Ark, Alistair Reynolds  
Chasm City, Alistair Reynolds

Snow Crash, Neal Stephenson  
Diamond Age, Neal Stephenson (for a nanotech future)

Cold As Ice, Charles Sheffield  
Summertide, Charles Sheffield

When Gravity Fails, Alex George Effinger  
A Fire in the Sun, Alex George Effinger

Hammer's Slammers series, David Drake

Aristoi, Walter John Williams (for a very nano-tech, virtual reality world)  
Hardwired, Walter John Williams  
Voice of the Whirlwind, Walter John Williams  
Angel Station, Walter John Williams

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Fountains of Paradise, Arthur C. Clarke  
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Space Doctor, Lee Corey

The Legacy of Heorot, Jerry Pournelle, Larry Niven, and Stephen Barnes  
The Dragons of Heorot, Jerry Pournelle, Larry Niven, and Stephen Barnes  
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A Mote in God's Eye, Jerry Pournelle and Larry Niven  
The Gripping Hand, Jerry Pournelle and Larry Niven

West of Honor, Jerry Pournelle  
The Mercenary, Jerry Pournelle  
Prince of Mercenaries, Jerry Pournelle  
Falkenberg's Legion, Jerry Pournelle  
Go Tell the Spartans, Jerry Pournelle and S.M. Stirling  
Prince of Sparta, Jerry Pournelle and S.M. Stirling

The Wild World of the Future, Claire Pye

## REFERENCE

Oxford Concise Science Dictionary  
Collins French-English/English-French Dictionary  
CIA World Fact Book

## FILMOGRAPHY

Movies  
Outland  
2001  
2010  
Alien  
Aliens  
Alien<sup>3</sup>  
Enemy Mine  
Gunhed (if you ignore the giant robot toys)  
Supernova (Really just the ship...)  
Moon 44  
Pitch Black  
Bladerunner  
Soldier  
Predator  
Silent Running  
Starship Troopers  
Wing Commander  
Gattaca  
eXistenZ  
Solaris (original Russian version)  
Mission to Mars (Ignore the end, and the rest was OK)  
Red Planet (The look, the pressure suits. Not the story)  
Total Recall  
Serenity

## TELEVISION

Firefly (If you ignore the artificial gravity bits, this is very 2320AD)  
Babylon 5  
Earth 2  
Space: Above and Beyond (Chigs = Kafers)  
Battlestar Galactica (New Series)

## ANIME

Ghost in the Shell (1 and 2)  
Ghost in the Shell: Standalone Complex  
Wings of Honneimaise  
Cowboy Bebop  
Gundam (more for the life-in-habitats ideas than the giant robot toys)  
Appleseed (the new one)

## COMICS AND MANGA

2001 Nights  
Planetes  
Ghost in the Shell  
Appleseed  
Aliens vs. Predator (the comic, not the movie)  
Erma Felna, EDF (from Albedo Anthropomorphics) (Hard SF war story, with fuzzy animals...)



## Calendar 2320AD

January							February							March						
S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S
				1	2	3	1	2	3	4	5	6	7		1	2	3	4	5	6
4	5	6	7	8	9	10	8	9	10	11	12	13	14	7	8	9	10	11	12	13
11	12	13	14	15	16	17	15	16	17	18	19	20	21	14	15	16	17	18	19	20
18	19	20	21	22	23	24	22	23	24	25	26	27	28	21	22	23	24	25	26	27
25	26	27	28	29	30	31	29							28	29	30	31			
April							May							June						
S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S
				1	2	3							1			1	2	3	4	5
4	5	6	7	8	9	10	2	3	4	5	6	7	8	6	7	8	9	10	11	12
11	12	13	14	15	16	17	9	10	11	12	13	14	15	13	14	15	16	17	18	19
18	19	20	21	22	23	24	16	17	18	19	20	21	22	20	21	22	23	24	25	26
25	26	27	28	29	30		23	24	25	26	27	28	29	27	28	29	30			
							30	31												
July							August							September						
S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S
				1	2	3	1	2	3	4	5	6	7			1	2	3	4	5
4	5	6	7	8	9	10	8	9	10	11	12	13	14	6	7	8	9	10	11	12
11	12	13	14	15	16	17	15	16	17	18	19	20	21	13	14	15	16	17	18	19
18	19	20	21	22	23	24	22	23	24	25	26	27	28	20	21	22	23	24	25	26
25	26	27	28	29	30	31	29	30	31					27	28	29	30			
October							November							December						
S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S
					1	2			1	2	3	4	5	6			1	2	3	4
3	4	5	6	7	8	9	7	8	9	10	11	12	13	5	6	7	8	9	10	11
10	11	12	13	14	15	16	14	15	16	17	18	19	20	12	13	14	15	16	17	18
17	18	19	20	21	22	23	21	22	23	24	25	26	27	19	20	21	22	23	24	25
24	25	26	27	28	29	30	28	29	30					26	27	28	29	30	31	
31																				

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## Holidays of Note

Throne Day (France)  
 Bastille Day (France)  
 Ascension Day (Manchuria)  
 Colony Days (Europe)  
 Colony Days (America)  
 Guy Fawkes Day (UK)  
 Australia Day  
 Reunification Day (Germany)  
 Independence Day (Germany)  
 Independence Day (America)  
 President's Birthday (America)  
 Independence Day (Nibelungen)  
 Independence Day (Freihafen)  
 Dominion Day (Wellon)  
 Founding (Heidelsheimet)  
 Canada Day  
 Louis Riel Day (Canada)  
 Independence Day (Argentina)  
 General San Martin Day (Argentina)

Aug 12  
 July 14  
 Sept 21  
 July 8  
 June 27  
 Nov 5  
 Jan 26  
 Oct 3  
 Dec 7  
 July 4  
 Feb 16  
 Aug 6  
 May 23  
 June 14  
 Oct 21  
 July 1  
 Nov 16  
 July 9  
 Aug 20

## Holidays of Note

Independence Day (Mexico)  
 Revolution Day (Mexico)  
 Freedom Day (Azania)  
 Heritage Day (Azania)  
 Carnival Monday (Brazil)  
 Independence Day (Brazil)  
 Alamo Day (Texas)  
 Independence Day (Texas)  
 Unity Day (Ukraine)  
 Independence Day (Ukraine)  
 New Year's Day  
 Chinese New Year  
 Easter Sunday  
 Labor Day  
 Twilight Remembrance Day  
 Hochbaden Remembered  
 Nous Voila Remembered  
 V-K Day (Victory Over Kafers)

Sept 16  
 Nov 20  
 Apr 27  
 Sept 24  
 Feb 9  
 Sept 7  
 Mar 6  
 July 4  
 Jan 22  
 Aug 24  
 Jan 1  
 Feb 10  
 Mar 20  
 Sept 3  
 Nov 11  
 June 5  
 Dec 15  
 May 5

Character \_\_\_\_\_

Class \_\_\_\_\_

Homeworld \_\_\_\_\_

Species \_\_\_\_\_

Sex \_\_\_\_\_

Age \_\_\_\_\_

Height \_\_\_\_\_

Player \_\_\_\_\_

Level \_\_\_\_\_

Homeworld Gravity \_\_\_\_\_

Body Type \_\_\_\_\_

Mass \_\_\_\_\_

Hair \_\_\_\_\_

Eyes \_\_\_\_\_

2320 AD

CHARACTER RECORD SHEET

ABILITIES

	BODY TYPE	SCORE	MOD	TEMPORARY SCORE	MOD	ZERO-G SCORE	MOD	LOW-G SCORE	MOD	HIGH-G SCORE	MOD
STR	STRENGTH										
DEX	DEXTERITY										
CON	CONSTITUTION										
INT	INTELLIGENCE										
EDU	EDUCATION										
WIS	WISDOM										
CHA	CHARISMA										
SOC	SOCIAL STANDING										

STAMINA

LIFEBLOOD

TOTAL

TOTAL

WOUND EFFECTS

WOUND EFFECTS

STRAINED

WINDED

EXHAUSTED

FLESH

SERIOUS

MAJOR

(-1)

-1

-2

-1

-2

-3

CURRENT STAMINA

CURRENT LIFEBLOOD

ARMOR CLASS

= 10 + 

ARMOR (AR)

SHIELD

SPECIES

DEX

SIZE

MISC

TEMP

PENALTY

HEAD

ARMS

CHEST

TORSO

GROIN

LEGS

FEET

AR by Location:

SAVING THROWS

	TOTAL	BASE	ABILITY	MODIFIERS MISC	TEMP
FORTITUDE					
CONSTITUTION					
REFLEX					
DEXTERITY					
WILL					
WISDOM					

INITIATIVE

TOTAL

DEX

MISC

METERS

HEX/SQ

SPEED

ATTACK ROLLS

	TOTAL	BASE	DEX	SIZE	MODIFIERS MISC	TEMP
MELEE						
RANGED						

WEAPONS

Weapon	Att Bonus	Damage	Critical	Range	Type	Size	ROF
Notes							
Weapon	Att Bonus	Damage	Critical	Range	Type	Size	ROF
Notes							
Weapon	Att Bonus	Damage	Critical	Range	Type	Size	ROF
Notes							
Weapon	Att Bonus	Damage	Critical	Range	Type	Size	ROF
Notes							
Weapon	Att Bonus	Damage	Critical	Range	Type	Size	ROF
Notes							

SKILLS

CROSS CLASS	MAX RANKS = LVL+3(2)	TOTAL	RANKS	MODIFIERS MISC	ABILITY	KEY ABILITY
<input type="checkbox"/>	Animal Empathy					Cha
<input type="checkbox"/>	Appraise					Int
<input type="checkbox"/>	Balance					Dex*
<input type="checkbox"/>	Bluff					Cha
<input type="checkbox"/>	Bribery					Cha
<input type="checkbox"/>	Climb					Str*
<input type="checkbox"/>	Combat Engineering					Int
<input type="checkbox"/>	Craft					Int
<input type="checkbox"/>	Decipher Script					Int
<input type="checkbox"/>	Demolitions					Dex
<input type="checkbox"/>	Disguise					Cha
<input type="checkbox"/>	Driving					Dex
<input type="checkbox"/>	Entertain					Cha
<input type="checkbox"/>	Forgery					Int/Dex
<input type="checkbox"/>	Forward Observer					Int
<input type="checkbox"/>	Gambling					Int
<input type="checkbox"/>	Gather Information					Cha
<input type="checkbox"/>	Gunnery					Wis
<input type="checkbox"/>	Handle Animal					Cha
<input type="checkbox"/>	Hide					Dex*
<input type="checkbox"/>	Innuendo					Wis
<input type="checkbox"/>	Intimidate					Cha
<input type="checkbox"/>	Intuit Direction					Wis
<input type="checkbox"/>	Jump					Str*
<input type="checkbox"/>	Knowledge					Edu
<input type="checkbox"/>	Leader					Int/Cha
<input type="checkbox"/>	Liaison					Cha
<input type="checkbox"/>	Listen					Wis
<input type="checkbox"/>	Move Silently					Dex*
<input type="checkbox"/>	Navigation					Edu
<input type="checkbox"/>	Pilot					Int/Dex
<input type="checkbox"/>	Profession					Wis
<input type="checkbox"/>						
<input type="checkbox"/>	Recruiting					Edu
<input type="checkbox"/>	Ride					Dex
<input type="checkbox"/>	Search					Int
<input type="checkbox"/>	Sense Motive					Wis
<input type="checkbox"/>	Spot					Wis
<input type="checkbox"/>	Survival					Wis
<input type="checkbox"/>	Swim					Str
<input type="checkbox"/>	Technical					Edu
<input type="checkbox"/>						
<input type="checkbox"/>						
<input type="checkbox"/>						
<input type="checkbox"/>	Technosavvy					Int
<input type="checkbox"/>	Trader					Int
<input type="checkbox"/>	Tumble					Dex*
<input type="checkbox"/>	Use Alien Devices					Wis
<input type="checkbox"/>						
<input type="checkbox"/>						
<input type="checkbox"/>						

EQUIPMENT CARRIED					
Item	Location	Wt	Item	Location	Wt
Current Load			Total Weight Carried		

[illegible][illegible]

MONEY	

**EXPERIENCE**

Total Experience

XPs Needed For Next Level

[illegible][illegible][illegible]

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