Issue 3 Winter 2013

Frontier Explorer

... wondering how we work.



FEATURES







MOOKS WITHOUT NUMBER - PART 3...... 20

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You should always make a good first impression.

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FROM THE EDITORS

Welcome to issue 3. As you probably noticed from the list of articles, this issue of the Frontier Explorer has a strong robotics theme. We were really excited and honored to get permission from Ali Ries to use one of her images as the cover and couldn't pass up the opportunity to center the issue on the topic of her picture.

In this issue we have articles exploring the robotics skill, how to use a robot's functions, missions, and programs in game, as well as several articles that provide descriptions and statistics on new robots to add to your game. Finally, we have the conclusion of the Mooks Without Number adventure that has a strong robotic component. Dive in and immerse yourself in robotics.

As part of the conclusion to the Mooks Without Number adventure, this issue contains the complete set of deck plans for the PC's ship, the CFMS Venture. We also have an alternate version of the defense battery location provided in issue 2. This one is a bit more intact and comes with a new ship as well.

One final item I'd like to call your attention to in this issue is the number of different artists we have images from. In addition to our wonderful cover artist, we have images from several other talented artists around the world. Each of their art pieces are linked to their web sites or Deviant Art profiles. We encourage you to take a moment to follow the links and give them feedback on their work and let them know where you first saw it. Positive feedback from the readers helps us continue to get great art to fill the pages of the magazine.

We continue to be amazed at the size of our readership and the sheer number of downloads of the magazine. We want to thank everyone for their support. We hope you enjoy this issue as much as previous ones.

Keep exploring.

- Tom Stephens Founding Editor

PRODUCTION CREDITS



Cover Art: <u>What If.....</u> by Ali Ries – <u>Casperium</u> <u>on Deviant Art</u>. Ali is a professional artist that specializes in space art that has been used in TV, movies, magazines, and advertising as well as games and other products. Check out her Deviant Art profile for all the details.

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Banner Logo Art: M81 by Jordi Gallego – visit his home page and gallery at http://www.astrosurf.com/jordigallego/

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Full Cover Quote: "At bottom, robotics is about us. It is the discipline of emulating our lives, of wondering how we work" – Rod Grupen, Discover Magazine, June 2008

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A New Look at an Old Skill

It occurred to me the other day that if a robot was painted in a camouflage paint scheme and had the business ends of weapons sticking out all over the place that the robotics subskill: Identification became pretty much obsolete. This subskill allows the robotics expert to look at a robot and determine its type and level. In the case of the above described robot, no player will fail to realize that the robot in question is bad news and that they need to consider setting their laser rifles to setting 20.

The robotics skill in the Alpha Dawn rules had a progression of activity that started with the identification subskill. First you would identify the robot, remove its security lock, deactivate it, and then begin listing its mission, functions, and programs with a view to modifying it for your purposes. Clearly the game designers thought that identifying a robot was important and that failure to do so could or should lead to surprises for the players. Yet if the robot is obviously armed then why bother with any robotics skill at all when the simplest and safest course might be to blow it away with the maximum amount of fire power in the shortest period of time?

I think the answer lies in the equipment list: the standard robot body. I've come to believe that the original designers may have intended for robots to be worrisome for the player. That they were mass produced standard bodies and one looked pretty much like the next and that you had better be able to identify the dangerous ones from the harmless ones. In our society vehicles come with standard equipment installed at the manufacturer. In the Frontier, the society is made up of primarily four distinct species, each with different anatomies, philosophies, and values. It may be that the simplest most cost effective design strategy was to make basic standard models of equipment and let each buyer configure it for himself. If this design philosophy carried over to robotics, then the Pan-Galactic Corporation would have developed and marketed exactly what the equipment list reveals: three standardized robotic chassis for which you must add programs, optional equipment, altered movement modes, and extra limbs.

I would propose that in the early Frontier and until the intense competition of the corporate wars, that the PGC

business model ruled the robotics market. It may even be so prevalent that after new mega corps emerged and staked out market share in robotics that the new corporations found it necessary to follow the same business and manufacturing models. Thus any new wrinkles at these latter periods in the time line would simply be that a robot body is either a PGC model or a Tachton Instruments model but is essentially still a standard robot body.

In a society where all robots look alike suddenly the Identification subskill becomes crucial to an adventuring party. A referee can sprinkle the adventure with a liberal dose of service and maintenance robots and a few security or combat robots. The players will have to stay on their toes and identify the true threats. Naturally there are consequences for destroying private property and indiscriminately shooting up robots should lead to angry property owners having a beef with the player characters in game. Also just like some modern day store owners have put up fake video cameras some robot owners may have outfitted their cleaning robot with fake weapons as a bluff and the identification subskill will reveal this.

I would also propose that referees should not have robots carry equipment. A robot carrying a rifle pretty much tells you that it's dangerous. Allow combat robots to simply attack with their hands, any robot level 2 and higher has a 50% or better chance to hit in combat. This makes them very capable. The element of surprise can more than make up for lack of a standard weapon.

If a party has a player character that is a robotics expert then every adventure a referee should consider ways to include robotics. Possibilities would include: one that is a straight forward obstacle, one that is not an obstacle, and one that is not exactly what it looks like at first glance.

It's the surprise factor that makes robotic identification a crucial skill. For example the humble looking butler robot serving drinks might actually be a body guard and can launch an independent attack to protect its master. The cleaning robot with fake weapons could cause the party to waste ammo and attract attention. The mute cleaning robot could actually be a level 6 robot brain that is hiding in plain sight.

The bottom line is that with a little forethought and preparation a referee can ensure that forgotten skills and sub-skills become crucial tools in the party's toolbox.



ROBOT PROGRAMMING

In the Star Frontiers game few of the published modules featured robots and those that did failed to offer details on the robot's mission or functions. Even in Dramune Run, where the Malthar had hundreds of attack robots, the players were never intended to fight them. This presented a feeling of robots being the forgotten technical field. In fact the Alpha Dawn rules explained how a robot was programed but did not give more than one example. Unless a referee was prepared to write up the Mission and Functions himself ahead of time,

This article will dig into the details of how a robot is programmed in game and will present a series of common mission and functions profiles. The purpose is to equip the referee to include robots, even if he does not feel up to writing the mission and functions himself, or if he's including a robot on the fly.

it became easy to ignore robots

altogether.

In game there are three things that tell a robot what to do with itself: its programs, its mission, and its functions.

PROGRAMS

Programs are simple; they cover lots of details about the robots job that a referee or player would not want to deal with. For example a butler robot will have a service program that tells him how to fold towels, cut hair, press clothes, and hundreds of other details about a

butler's job but if the same butler robot was to also be a body guard as well, then he needs an attack/defense program or a restrain program to tell him about methods of fighting or details about weapons. If a referee is introducing a robot on the fly then he does not need to worry about what programs the robot has because it will have the programs that he needs it to have.

MISSIONS

The mission is fairly simple as well; it simply tells a robot what its particular job is. Imagine a company that rents security robots to every mall in Port Loren. All of the robots have restraint programs to tell them how to apprehend shop lifters in a non-lethal manner as well as how to defend themselves and a law program that explains what the law code is and how to apply it. The mission tells him which mall to go to and what he should do there. For example one robot's mission might be "patrol the public areas of the mall during the hours of operation and apprehend any law breakers and then return to base". Another may have the mission: "Patrol the interior of the Frontier Firearms store for shoplifters." For each robot to perform a different job they will need to have a different mission.

FUNCTIONS

The functions explain the key words in the mission. For example, the following mission has highlighted words and phrases that each require a function: "patrol the public areas of Central Mall during the hours of operation and apprehend any law breakers and then return to base"

Function 1 will tell the robot where Central Mall is and possibly include a map. Function 2 will explain public areas and/or include a diagram of the mall. Function 3 will list the hours of

operation. Function 4 will define "base" as the company that rents the

robot to the mall. No functions are required for how to apprehend as the restrain program covers multiple ways of doing that. Likewise the law program explains what the law is and when it's broken.

Robot... by Ashley Kursey at Deviant Art

USE IN PLAY

So how could all of the above impact an adventure with player characters? Suppose that the players are looking for a diversion at a bar that has several armed individuals that may be aggressive with them. They state that they are looking around for anything interesting and ask, "What do we see?" The referee states that several robots are leaving a security firm and splitting up to head in different directions and the players decide to follow one. The robotics specialist in the party makes some identification rolls and determines that these are simple security robots and he believes it's very likely they are only programed for non-lethal combat. They decide to jump the robot as a group while the robotics specialist removes the security lock (which prevents the robot from being tampered with) and then deactivates it.



Once it's deactivated this character lists the functions and mission and it's decided that he will redefine the functions. Function 1 is changed to identify the bar where they need the distraction as the mall. Function 3 is changed so that the hours of operation is now one specific hour that the players wish for the robot to create the distraction. Finally a new function is added defining a specific individual in the bar as a law breaker. The players preposition themselves believing that the robot, when reactivated, will travel to the bar at a specific time and attempt to apprehend a specific individual, and thereby give them their distraction. They are counting on this individual and his henchmen to shoot up the robot and they will then act, hoping most of the weapons carried by these non-player characters will be low on ammo. It's a good plan but it is clear in the rules that if a player programs a robot and is careless the referee should have the robot malfunction or follow literal instructions to the letter; particularly if that is contrary to what the players desire. The referee considers the changes in the functions and how they interact with the mission. Unfortunately, the players never considered function 2 that defined the robot's patrol area as the public areas of the mall and included a diagram. Since the robot is fairly simple minded it does not know how to reconcile the diagramed public areas of the real mall with that of the bar so it consults its programing for the phrase "public area" and discovers in the law program that side-walks are considered public areas. So it travels to the bar and patrols the side walk outside of the bar.

This is not exactly what the players wished but it may still work for the distraction they desire. What is certain is that they will have to adapt and change their plans. Some discussion ensues where one player suggests that one of them enters the bar and asks who owns the robot but many of the individuals in the bar have met the player's characters already and they will be on alert if a player character shows his face (hence the need for the distraction). Finally, they decide to call the bar and simply ask the bartender what's up with the weird robot outside. The referee decides that the bartender will step to the door and be baffled by the robot calling his bar The Central Mall. He will then call it to the attention of the bar's patrons. Once the NPC that is identified as a law breaker steps outside, the robot will recognize him as a law breaker and attempt to apprehend him. Now the players have their distraction as this character will not submit to being apprehended and he and his henchmen will shoot up the robot. The encounter is no longer inside the bar and occurs out on the street which is quite public so that while the robot gave them their distraction the situation is less than ideal as they now have to worry about law enforcement showing up sooner then they hoped.

As a referee I would have also allowed for the players to introduce a new line of code into the law program to classify anyone drinking alcohol as a law breaker which would also have given them their distraction if the robot had entered the bar. The Alpha Dawn rules don't specifically allow for this but I would treat it as the same as modifying a function for a skill check.

HANDLING ROBOT LEVELS

The above is not the only consideration in reprograming robots. Robots have levels of sophistication. Robots of level 1 or 2 are fairly simple and lack the ability to speak. Robots over third level can speak but only level 5 and 6 can really think in a creative fashion. A level 6 robot is said to be able to write its own programing.

Because the robot in the above example was only level 3 (just smart enough to communicate verbally) it could not

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think creatively about its assigned patrol area in "public areas". If it had been level 5 and almost certainly level 6 it may have reasoned that the public areas of the bar were inside but not the back rooms which would have caused it to enter the bar.

All robots level 4 and lower are very literal in how they follow their mission with level 1 and 2 robots being the most prone to malfunction due to conflicting programing. Level 5 and 6 robots have greater ability to think abstractly and creatively. Thus, missions and functions should be very explicit for the lower level robots while the highest level robots can handle simple and even vague missions being able to make judgment calls about their mission and functions.

PROTOCOLS AND NEW PROGRAMS

NEW PROGRAMS

A referee can create a special robotics program for any robot, like the law program used in the above examples. The combat related programs on the equipment list get expensive but most programs a referee might make probably run about 500-1000 Cr based on their level of sophistication. A referee should compare his new program against those on the equipment list and make a judgment call. Some suggested programs include: Personal Grooming, Domestic Service, Cooking, Mining, etc.

PROTOCOLS

Protocols are basic instructions about everyday things that most robots can be assumed to have installed. For example; Frontier robots will need down time for maintenance and reboot of their processors to clear extraneous data. Rather than account for this in the mission and functions which would needlessly complicate them all or most Frontier robots have maintenance protocols which tell them when and where to shut down or to receive maintenance and these usually include who is authorized to perform maintenance. High level robots have these protocols but also have great flexibility in their decision making concerning shutting down or allowing maintenance.

Other protocols might be similar to Asimov's famous laws of robotics barring a robot from harming a sapient being or allowing a sapient being to be harmed through inaction though this protocol is probably absent in combat robots. Finally, there may be a self-preservation protocol instructing the robot to avoid allowing itself from being damaged. These instructions are basic and widespread across the robotics industry. No skill roll is required to list them if the player asks, but to corrupt, rewrite, or delete them is difficult and the skill roll should have the same difficulty as the Alter Mission subskill.

SAMPLE MISSIONS AND FUNCTIONS

The following are some sample missions and functions by type of robot:

MAINTENANCE ROBOTS

Maintenance robots act as janitors and maintenance personal but without the ability to actually repair equipment. We can presume that there are hundreds of cheap maintenance programs that tell these robots how to sweep, mop, and change light bulbs but more importantly how to perform basic maintenance on equipment where they are employed. They usually have standard bodies and are limited to 4^{th} level.

Sample Mission: Perform maintenance at X facility.

Function 1: The facility/location or equipment to be maintained must be defined. Maintenance is covered by the maintenance program.

HEAVY DUTY ROBOTS

These robots are typically the size of a car and perform excavating, digging, or harvesting chores. They use heavy duty bodies and are limited to 4th level. They typically require direction for where and when to work and the agent that does this is labeled "foreman" or "supervisor" in its functions but this person can be a list of company employees authorized to give it direction, a robotic brain, or simply the owner. It may also require a program on harvesting or excavating that covers the details of these procedures.

Sample Mission: Dig/quarry/excavate at the direction of the foreman.

Function 1: The foreman is X. Everyone who is authorized to direct this equipment is listed in this one function.

Note: The foreman will need to be very explicit in his instructions and will likely need to closely monitor this robot.

Sample Mission: Harvest/plow/plant fields designated by owner.

Function 1: Defines the fields and could include a map

Function 2: Defines who the owner is or who the supervisor is in the case of a harvester shared between many farms.

Note: With defined fields of operation the farmer/owner will only have to tell the robot to harvest a specific field and he will not need to closely monitor the robot.

COMBAT ROBOTS

Combat robots are employed as active combat soldiers by governments, mercenary bands, and occasionally criminal organizations. They use standard bodies, an Attack/Defense program, and are limited to 4th level.

Sample Mission: Take objectives assigned by higher authority *or* Follow orders given by higher authority.

Function 1: Defines who higher authority is. This could include a table of organization, rank chart with specified ranks considered higher authority, personal records of officers in the organization, or the designation number of a warbot.

Function 2: Technically objectives should be defined by a function but this word could be defined in a military program to keep things simple. Orders would need to be very simple like: "attack that vehicle" or "defend this location" and they would not require a function since the Attack/Defense program tells the robot what attack and defend means. However, an officer would do well to define for the robot what "this location" actually is, especially with low level robots.

Note: A combat robot will require a modified mission with more functions to be used as a guard at a military installation. One way around that is to pair the combat robot with a living individual that qualifies as "higher authority" who can give it orders.

Finally, a mission might include language that states, "and refuse all illegal orders." This would require a function to define illegal orders.

SECURITY ROBOTS

Security robots serve as both guards and police. They are limited to levels 2-6, have standard robot bodies, and usually have the Restrain program for non-lethal attack and defense. A military might employ a security robot with an Attack/Defense program which would allow it to use deadly force.

Sample Mission: Guard/patrol the post/facility/ installation and apprehend unauthorized beings or law breakers.

Function 1: Defines the post, facility or installation and may include a map.

Function 2: May define the patrol area.

Function 3: Defines who is authorized. This could be anyone in uniform or with the proper ID displayed or include personnel records of everyone that is authorized. If the robot is to apprehend a law breaker then it will require a law program explaining what is breaking the law.

Note: the word apprehend will not require a function as the restrain program actually defines how to do this. The

mission might also include language concerning raising an alarm or alerting police. If that is the case the robot will need to be equipped with a chronocom or have access to devices that will allow it to do this.

SERVICE ROBOTS

Service robots are servants, shop keepers, gardeners, and receptionists. They usually have anthropomorphic bodies matching the race they serve. They will have a program that supplies them with the details of their job like gardening, tailor, or customer service. These robots must be over level 3 so that they can communicate verbally.

Sample Mission: Using good customer service protocols, sell store merchandise to customers.

Function 1: Defines the store the robot works in.

Function 2: Defines the merchandise and may include numerous files on the actual merchandise.

Function 3: will define the customer as anyone not wearing a company uniform that walks into the store.

Sample Mission: Serve master as a butler/maid/ valet/servant.

Function 1: Defines the master and could include his immediate family.

Note: This robot is likely to have a butler, maid, or servant program that explains the details of its job. It is also likely that this robot is 5^{th} or 6^{th} level. There may be instructions for inserting understated sarcasm into its speech patterns or an actual personality matrix included in the butler program.

WARBOT

These intelligent war machines are typically the size of a vehicle (heavy duty robot body) and must be level 5 or 6.



Robot. by Ashley Kursey at Deviant Art

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They usually have Attack/Defense and Search and Destroy programs but could also have a computer link program. A sub category of this robot would be termination robots which use a standard or anthropomorphic body and are used to hunt and kill a specific individual or a list of targets.

Sample Mission: Defend location X from enemies.

Function 1: Defines what location X is and may include charts and maps.

Function 2: Defines who enemies are.

Note: the warbot may have a protocol that instructs it to avoid damaging property and harming non-enemies. If this is the case it may employ creative solutions to stopping enemies.

Sample Mission: Find and destroy X.

Function 1: Defines who or what X is.

Note: It is also likely that the mission will include language instructing the robot in what it should do once it has accomplished its mission. This would be the case with a limited kill list but if the mission was to kill all sathar the robot will hunt sathar until it ceases to function. It's also possible that the mission might specify a location like a planet or city and that will require its own function.

CYBERNETIC ROBOTS

These are specified to have mechanical and organic parts and may be built with any robotic body. The Alpha Dawn rules are quite vague on this so I generally consider a cybot to be a mechanical robot with a sapient brain. Hunter killer robots covered in living skin with blood vessels to pass as a sapient being like the terminator of the Terminator movie series would be another option. Lastly, organs for transplant might be shipped over interstellar

distances installed in special transporter robots that have the machinery to keep that organ alive and functioning till it arrives at its destination. What the Alpha Dawn rules actually specify is that a cybot can perform any job performed by a robot of their level and thus it will have those missions and functions.

Cybernetic robots seem impractical to me but I could see a criminal leader keeping his enemies around as cybernetic robots with their brains installed in a mechanical body. What happens if the brain ever remembers who it used to be is easy to imagine in this case but it's also easy to imagine a sociopath doing this.

GAME REPORT - EXAMPLE OF REPROGRAMMING A ROBOT

I recently received a game report of the adventure, "Mooks Without Number Part 1" (Frontier Explorer #1) that told of a creative way the players had reprogrammed a robot in that adventure.

In this part of the adventure, there is a shot up heavy duty farming robot that the players reprogramed to aid in their defense of the farming village. Since the referee ruled it had a harvesting attachment, the players changed its functions to define wheat as any person standing outside the village. They further modified the robot to have a remote on/off switch and left it off till the pirates arrived at the village.

When violence ensued they turned on the robot and it began to attempt to "harvest" pirates standing outside of their vehicles. This quickly derailed the pirate's attack plans during the encounter as the harvester started to chew through their ranks. And when the pirates broke and fled, the robot continued to chase those on foot across the countryside.

CONCLUSIONS

While robots are fairly common in the Frontier and appear in several of the published modules, very little detail is given as to their missions, functions, and programs to aid the referee in dealing with the robots presented. Hopefully, this article has provided some ideas and guidance that will aid Referees when including robots and characters with the robotics skill in their campaigns.





Greetings fellow xeno-enthusiasts. Jurak Hangna here with a very interesting life form of the Frontier. Dwain, Tik, and I comb the Frontier in search of the strange, the unique, the new, and the endangered and share them with all of you. In this installment we have the Carnivorous Wom from the Gorilian homeworld.

Scientists have been debating the existence of the carnivorous wom since the first gorilians described them to the settlers. Bands of normal wom are very common and settlers quickly learned how to control them to prevent crop damage from wom bands feasting on vegetable fields. The ancient human tradition of the farm dog enjoyed a renaissance due to the common wom. Yazirian farmers followed form and bred a domesticated wyvole to replace their dog use with a more traditional animal. But the thought of a carnivorous wom was ludicrous to all but the gorilians because they had never been observed until recently. Now, with several specimens captured and a validated Federation Alien Creature File, we have something truly unique to share with you.

STALKING THE WOM

THE SETUP

We set out for the wild and secreted ourselves in thick vegetation per the instructions of our gorilian guide. Tik busied himself preparing his med kit for any contingency. Dwain was most anxious to get as close as possible to a carnivorous wom and possibly catch one for the game preserve back on Hakosor. I went out and dispersed our bait of celery across the fields the common wom were expected to troop through. It takes a long time to disperse 200 kg of celery but Dwain put the time to good use and disguised himself so well that MerCo could seek patent infringement. The gorilian and I then retreated to the thicket to wait, and wait, and wait.

We stayed all day and camped the night in the thicket. The first rays of sun light revealed a band of common wom cautiously entering the field and picking up the celery. Our gorilian guide woke us just as the band came within sight and we watched their cautious entry. He pointed out how they kept stopping to sniff the air and how the males were holding back and grouping together. This, he explained, was because they could smell the carnivorous wom that had been in the area for the past few



Gorilian Wom from <u>Random Creatures 2</u> by <u>Tysho</u> at Deviant Art

weeks. The females filed in and took possession of the entire field. Only then did the males enter and they remained in a group in the center of the band.

ENTER THE INTERLOPER

Half an hour or so later the males began to relax and disperse among the females to eat celery. The gorilian then grabbed his club and gestured to the North where another lone wom could be seen cautiously approaching the band. Our guide explained that this was the carnivorous wom and that her first task would be to deceive the females of the band and gain entry into the group. The gorilian explained that she had been stalking the band for several days and had most likely spent the previous day in the camp the band had used two days earlier wallowing in anything that smelled of the woms of this band. She took another half hour to approach the group and took care to stay upwind.

Eventually she was sitting along the edge of the band eating celery with them. She took one stalk of celery and

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gave it to the nearest female. The gorilian guide explained that she was doing this to get close to the other females and rub up against them to test her blended scent. She brushed up against the first female as she gave her the celery and immediately gathered two more stalks and approached another female. She laid these at the feet of the female and sat back to back with the wom she had gifted. This was the sign our guide had given us for the most opportune time for Dwain to try and catch the carnivorous wom.

MAKING THE CATCH

Dwain started crawling forward into the band of wom. The gorilian crouched with his bat ready to bound onto the field and bash everything in sight. He kept muttering prayers for the soon to be deceased and shook his head more and more, the closer Dwain got to the carnivorous wom. I readied a needler rifle with tranquilizer darts while Tik readied himself with stimdose in one hand and plastiflesh in the other. When Dwain was within three meters the wind changed and the males in the band perked up. Dwain froze in place and put his holorecorder on auto and placed it in front of himself. The males began mingling among the females pressing upon them and smelling them. The females pushed the males away and a few even punched males that persisted in pressing their wishes. Soon one of the males approached the carnivorous wom and the two mated.

The gorilian began to get very agitated as soon as the carnivorous wom began mating and gestured silently and wildly for Dwain to retreat. Dwain was readying two tangler grenades and ignored our guide. The two finished mating and then the female let out a blood curdling roar and tore the males right arm off. The band scattered in all directions. Dwain rose up and hucked the first tangler at the carnivorous wom. The threads exploded across her chest and left arm immobilizing it. He was about to throw the second when she batted him with the severed limb of the male spinning him around and allowing the tangler to explode right next to him bonding the severed limb to his own as he crashed to the ground. The gorilian sprang from



the thicket intent on bludgeoning the carnivorous wom to death just as I fired and I filled the poor guide's backside full of tranquilizers.

The charge of the gorilian distracted the carnivorous wom from mangling Dwain into an hors d'evores and Dwain rushed for the safety of the thicket. I leveled the rifle on the creature and pumped the remainder of the needler clip into her chest. She crashed to the ground in a complete stupor. Dwain escaped with a fractured wrist and Tik took pleasure in treating him. Dwain and I quickly assembled the cage around the carnivorous wom while Tik revived the gorilian. The gorilian stuffed the dead male wom into the cage with the carnivorous wom and we headed back to our camp.

OTHER NOTES

Now a few details about the common wom and what makes the carnivorous wom unique. The common wom is a herbivore and travels in bands of twenty to thirty. About a quarter of a band will be males. They are fond of celery but can not digest the non-native food properly. Common wom are not violent and will run from danger and confrontations. The only exception to this is that the females will bully a carnivorous wom away from the band if they detect it. The preferred methods of attack for a common wom are charges, head butts, and throwing the victim repeatedly until it flees or is dead. They will only pursue enough to get the victim to fully flee. The carnivorous wom augments the attack forms of the common wom with biting, tearing, hitting, and dismembering. Common woms lack the overdeveloped fangs on the lower jaw. They have flat teeth common to most omnivores cataloged in the Frontier.

Carnivorous woms are solitary and do not get along with other carnivorous woms. The offspring of carnivorous woms are all female. This is a mystery of xenobiology that researchers of the Jurak Hangna Foundation hope to be the first to crack.

Gorilian Woms		
TYPE:	Omnivore	Carnivore
SIZE:	2m	2m
NUMBER:	4 to 20	1
MOVE:	60 m/t	60 m/t
IM/RS:	+6/55	+6/55
STAMINA:	70-120	80-130
ATTACK:	45	75
DAMAGE:	2d10	3d10
SPECIAL ATTACK:	No	ne
SPECIAL DEFENSE:	No	ne
NATIVE WORLD:	Goi	ilia



Hidden in the mountains on one of the moons of Volturnus, a forgotten defense battery could hold the key to survival for the Eorna race. Taken by subterfuge over 900 years ago in the weeks prior to the "Day of Doom", the base originally had powerful defensive weapons, and a squadron of Eorna fighters. Can the adventurers restore the base before the Sathar return to finish the job?

BACKGROUND

Last issue, I submitted a location entitled "Eorna Defense Installation" as an optional storyline for the Volturnus series of adventures. The storyline takes artistic license with the canon material and is covered in detail on the Starfrontiers.us site in the <u>Volturnus Revisited</u> project. The location for this issue is another defense installation located on one of the moons of Volturnus. The technology and architecture used in this location is identical to that of the destroyed base submitted last issue.

In my campaign setting this base was taken by Sathar spies prior to the invasion of the system by the fleet on

the "Day of Doom" over 900 years prior to the adventure series. It was therefore intact as the PCs were preparing for the arrival of the Sathar attack fleet in the "Battle of Volturnus". We used the weapons in the installation and also the fighters that were found in the hangar to supplement the original adventures with some Knight Hawks scenarios. These maps could be used for a number of generic locations such as a pirate or Sathar base as the referee chooses.

Editor's Note: The scale on the maps in this article is 1 square = 2 meters. And don't forget that all the maps presented here are available in the <u>Maps Downloads</u> section on the <u>Frontier Explorer website</u> in their full resolution.



LOCATION DESCRIPTIONS

THE SURFACE BATTERIES

The batteries are individually controlled by a position on Level 1 - Battery Control. The type of weapon housed in each turret and its structural integrity is left to the discretion of the referee.

LEVEL 1: BATTERY CONTROL

Each of the four surface batteries is controlled by a control room on this level. The four batteries can be linked together to fire from one position as well. Each of the four gunnery stations has a large console which houses the controls and its own separate computer. A holographic targeting display projects up from the center of each console.



A storage locker with space suits, arms and equipment sits in the central corner of each room. In the far corners are four crystals that serve to light and heat the rooms. The elevator in the center of the level has a security lockout separating it from the rest of the base when the batteries are active. Only authorized personnel can enter this level during those times.

LEVEL 2: BARRACKS

1. Billets: These three rooms serve as the barracks for the crew. Four beds and lockers occupy the far wall. In each of the far corners, two crystals serve to light and heat the room. In the central corner of each room is a lavatory.

2. Mess: This room serves as the dining hall for the crew. Two large tables with special seating for the Eorna fill the far wall. Each of the far corners has two crystals for light and heat. In the central corner is an automated food and beverage dispensary.

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LEVEL 3: HANGAR

1. Entrance: A large tunnel over 500 meters long leads from the surface to the base entrance. Two heavy laser turrets guard the massive reinforced doors that lead into the main hangar.

2. Hangar: This large area stores six Eorna heavy fighters *[Ed Note: The fighters are described in the article on page 13]* and extra fuel and ammunition for each. The large bulkheads on the east wall serve as the airlock to the remainder of the facility.

3. Computer Core/Robot Storage: The main computers for the entire facility are located here as are the charging stations for the facility's maintenance robots

4. Storage: This large area is storage for the entire base. Weapons, space suits, equipment and provisions are all stored in the lockers and chests in this area.

5. Reactors: The main reactors for the base, including those which power the defense batteries are located here.



CUT AND FOLD PAPER MODEL CHALLENGE

The Frontier Explorer is hosting a challenge for a cut and fold paper model submission to be published in Issue 4 (April 2013). The model will appear on the pages at the center staple of the print version of the magazine to facilitate removal for assembly. Hi-res downloads of the winning model will also be available on our website.

To submit a model to the contest, send your submissions to <u>modelcontest@frontierexplorer.org</u> and include the name of the model in the subject line.

CONTEST RULES

- 1. The winner will receive, besides a free copy of the PDF, a free copy of the print edition (as well as the love, adoration, and acclaim of science fiction fans, gamers, and model makers across the internet).
- 2. The model must be of a scale compatible with 25mm miniatures.
- 3. The model must be a hovercraft vehicle.
- 4. The model must fit completely on 1 or 2 sheets of 8.5" x 11" paper and be in color.
- 5. The model must have clear instructions for assembly (written or diagramed) which may include photographs.
- 6. The submission must be received by March 1^{st} , 2013.
- 7. It is recommended that the model be geared for modelers with low to moderate experience in building paper models. Models designed to challenge elite modelers would be considered unsuitable.
- 8. Models with variant versions (i.e. a hover car submission with a police and taxi variant) will be considered in the final judging but primarily there must be one submission for consideration for being printed in the magazine with the variants available via hi-res download. All variants must be labeled with the word "Variant" in the title and the name of the primary model. Example: original submission: 'Simons Hover truck', and variant submission: 'Simons Hover truck military variant'.
- 9. We are primarily looking for hover car, hover truck, or hover cycle vehicles that could be bought, used or rented by the average RPG player character in a science fiction game. Corporate security, police, and commercial vehicles are equally valid as civilian vehicles but the editors would prefer to see military vehicles as variants for the actual submission.
- 10. No entry may violate copyrights or intellectual property rights and must be an original work.
- 11. All entries remain the property of the submitter. However, submission of an entry gives the editors of the Frontier Explorer one time rights to publish the submission in a "Frontier Explorer Presents" special edition.



The E-1A is an Eorna Heavy Fighter design from before the "Day of Doom". These fighters action saw against the invading Sathar forces. All were thought lost until a squadron of them was discovered in a lost defense battery installation on one of Volturnus's Moons.



E-1A Fighter external view

SHIP STATISTICS

 HS: 2
 HP: 12

 ADF: 5
 MR: 4
 DCR: 40

 Crew: 3-4
 Armament: FFR(x4), LT

 Defenses: RH

Powerplant: 2 sub-atomic A (jump governor installed) **Comm/Detection:** Subspace Radio, Radar, Intercom **Misc Equipment:** Streamlined, Light Armor **Cargo Capacity:** 0

Crew Accommodations: 3 command chairs (optional 4th chair for a rocket gunnery assistant on the bridge) **Ship's Vehicles:** none

Computer: Alarm (2), Analysis (2), Astrogation (2), Computer Lockout (2), Computer Security (3), Damage Control (2), Drive: Atomic A (4), Forward Firing Rocket (2), Industry (1), Information Storage (1), Installation Security (3), Laser Battery (1), Life Support (1), Maintenance (2)

DECK DESCRIPTIONS

DECK 1: BRIDGE

The helm is inverted 90°. A secondary command chair can be added to the starboard side (opposite of the hatch) for a rocket gunner to assist with the forward firing rockets.

DECK 2: GUNNERY

Controls for the fighter's laser turret are here, along with a small galley for crew dining as well as a fresher on the starboard side.

DECK 3: MAINTENANCE

An engineer may coordinate repairs from this station, as well as monitoring the drives. The hatch leads to an airlock below, where the outer hull hatch is located. Space suits can be stowed near the shielded port drive bulkhead when not in use.

NEW WEAPONS

The E-1A has a few weapons not covered by the standard Knight Hawks rules. The descriptions of these weapons are below:

FORWARD FIRING ROCKETS (FFR)

Simply put, the FFR is a set of fixed launchers similar to those found on a Rocket Battery, but instead of having a 360° field of fire they are forward firing weapons. Damage Table Modifiers are as a RB system (-10), 2d10 damage and a range of 40,000km (four hexes), treat as an assault rocket for the resolution with no head on bonuses. Restrictions are FF, MPO, LTD.

LASER TURRET (LT)

The laser turret is smaller scale version of a Laser Battery. Treat as a LB in all respects except that it only has a range of 40,000km (four hexes).



E-1A Fighter deck plans and arrangement



The Dawn Trader Class light freighter is a work horse class of ship for the Capellan Free Merchants. It's used by the CFM to haul freight, explore, and as an auxiliary warship (all CFM captains hold reserve commissions in the Flight). It was also used originally by the Rim Coalition's Flight as a warship but was phased out in favor of the Fochrik Flight Works Springblade Class. This development put many decommissioned Dawn Trader class ships on the market at a good price and ensured the popularity of the ship in the Rim and beyond for a long time to come.

The following is a general tech manual for the class but the deck plans are for the CFMS Venture featured in the Mooks Without Number serial adventure. Most Dawn Trader class ships have a small ship's launch on deck 9 but Captain Kleevor sold it long ago as excess weight since the Venture has a shuttle as the ships runabout. Now the hatch and bay for the launch functions as an auxiliary air lock and is occasionally used for cargo loading.

KNIGHT HAWKS DATA

CFMS Dawn Trader-class light freighter HS: 5 HP:20 ADF:3 MR:3 DCR:40 Max Crew: 14 Weapons: LC, LB, RB (HARM) x6 Defenses: RH, MS(x1) Engines: 3 Atomic "B" Computer: Level 4 (151 function points) Programs: Atomic Drive (5), Life Support (1) x2^{*}, Alarm (3), Damage Control (3), Lock Out (4), Astrogation (4), Laser Cannon (1), Laser Battery (1), Rocket Battery (2), Analysis (3), Commerce (3), Communication (1), Computer Security (3), Robot Management (3), Maintenance (1) Ship's Vehicles: Small Launch or cargo shuttle

* Note: The two separate life support programs are rates for 30 being capacity each.

HARM munitions were developed by the CFM for dealing with fighter swarms. The name stands for Hypervelocity Anti-ship Reaction drive Missile. Its payload is a series of magnetic, shaped charges that scatter over a wide area of hull and blow in unison shredding the affected area of hull. They are simply a different type of rocket that fits the standard rocket battery. They are designed to be a one hit one kill on small fighters though they do the same damage as standard RB ammo. If the basic game rules are being used then HS 1 ships are destroyed by a hit but if advance game rules are in play then the damage table modifier for a HARM hit is -30. This makes it more likely that the damage from HARM ammo goes against the hull points of a ship.

UNIQUE SYSTEMS

ATMOSPHERE LANDING

The game states that up to HS 5 ships can land but only ships with size A atomic engines can land on planets. One popular interpretation of this is that the prohibition against landing a ship with size B atomics on planet is not about capability but about legislation and concern for the environment. Since the CFM are noted for not always following the niceties of the law the Dawn Trader Class was designed to land on its ventral side.

Its port and starboard engine struts are aerodynamically designed and lock into horizontal positions to allow for this maneuver but in space where balanced thrust is important they lock into position equidistant from each other and the dorsal engine strut. The engines on the ventral struts also rotate giving it VTOL capabilities for precise handling of this hull size five ship during landing and take-off. The trade-off is that the engine access tunnel within the engine struts is cramped and not air tight. This means anyone attempting access the atomic engines through this passage must have a vacuum suit and they will have to crawl the through the passage. Any attempts to perform over hauls of the ventral engines by accessing through these passages requires 10 extra hours per engine for the overhaul. If the ship has landed the engines are actually easier to access from outside and the overhaul can be done at a savings of 10 hours.

GIMBALED FORWARD HULL

Because on board gravity is simulated through thrust the decks have a vertical layout to take advantage of this. Landing a ship on its side turns the decks 90 degrees to the gravity of the planet which can be inconvenient. To alleviate difficulties with landing the Dawn Trader class the forward ball section of the ship rotates 90 degrees prior to landing on planet.

The system is external to the hull and is prone to being clogged with dust picked up in the vacuum of space and to being damaged in combat. Because the system requires so much maintenance some ship owners have locked it down and forgo landing their ship. Service robots or crew must clean it weekly and the system must be inspected after combat or the forward hull might jam out of alignment which would prevent the ship from landing.

To rotate the forward hull the hatches between decks 5 & 6 must be sealed and the connecting collar retracts toward deck 6. Likewise the life support connections are sealed (air vent trunk) and the connecting collar is retracted toward deck 6. Power connections are maintained through the gimbaling system. It takes 10 minutes to prepare to rotate the forward hull, 10 minutes to rotate it and 10 minutes to re-establish the connections between the fore and aft parts of the ship.

Once the forward hull is rotated the air lock on deck 3 will connect to the roof hatch on deck 6 and the rocket battery will be pointed straight ahead of the ship. When the ship lands the floor hatch on deck 5 will be underneath the landed ship and may be used to exit the ship via a ladder. Any shuttle that the ship is piggy backing (usually docked to the air lock on deck 10) must be landed separately or

brought inside the main cargo hold (if space allows) and locked down.

The drawbacks of this system is that travel between the aft and fore sections of the ship is only possible by the connecting tunnel that mates to the floor hatch on deck 5 or the main air lock on deck 3 to the roof hatch on deck 6. There is no elevator connection between the two sections. Also working in the aft section of the ship when it is landed can be inconvenient because the decks are turned 90 degrees to the pull of gravity (reduce all movement there to 1/3).

THE SHIP

The cross section of the ship, showing where each deck lies in relation to the others, was presented in the Mooks Without Number adventure in issue 1 of the Frontier Explorer (page 24). It is also available directly from the Images Download section on the website.





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ELEVATORS

There are four elevators. Two are the port and starboard side cargo elevators that run the length of the cargo hold and reach deck 10. Along the sides of the bulkhead for the cargo elevators is a track for a robotic cargo arm. The robotic arms reach every space in the cargo hold and are controlled at the cargo handling station on deck 10. The aft elevator reaches decks 6 through 10 and the fore elevator reaches decks 1 through 5. If an elevator is not engaged or being held it will arrive in one turn when called for.

If power is cut in an area of the ship where an elevator is, that elevator ceases to function. There are hatches in the floor and roof of each elevator that can be opened manually as well as the hatches to each deck and the crew can then use the recessed ladder in the side of the elevator shaft to move about the ship.

If an elevator's power is cut, automatic brakes engage holding it

in place. The brakes may be deactivated by a technician in two turns with access to the roof of the elevator. If the brakes are disengaged and the ship is under thrust, the elevator will crash to the bottom of its shaft.

POWER AND LIFE SUPPORT

There is a central engineering chase for air ducts, plumbing, environmental regulation and power conduits. There is always a power connection regardless if the forward hull is rotated but the life support and environment connections only connect at decks 5 & 6. For this reason each section of the hull has a robust and independent life support plant for the times when life support in each hull section must run independently.

All power and life support (air, temperature regulation, and plumbing) radiates out from the engineering chase and runs under the deck it is supplying. It would be possible for someone to crawl through the air vent trunk but not through the vents under the floor. The air vent trunk has pressure doors that





seal at each deck during combat or for an emergency decompression.

If access is needed to the engineering chase, a wall panel will need to be removed. These panels are usually found across from the elevator on any given deck. However, on deck two the power conduit panel is in one of the crew's quarters and the air vent panel is in the armory. It takes 3 Alpha Dawn combat turns (18)seconds) to remove a panel. On decks 4 & 5 there is a sofa latched to the floor blocking these panels, it can be unlatched and moved in 1 AD combat turn.

Doors

Pressure doors are identified on the map with a green door frame but the air vent hatches that seal at each deck qualify as a pressure doors as well. It takes 2 turns to open a pressure door after a character has stopped in front of it. The one exception is that the elevator doors open automatically upon arrival their at destination. Once a pressure door is opened a character may move through at half speed. Pressure doors close automatically unless held open. Air vent hatches remain open but are closed for combat and emergency decompression.





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Normal doors maybe moved through at half speed after they are opened. These doors will not close automatically.

SUIT LOCKERS

There are two suit lockers, one fore (deck 3) and one aft (deck 10). A character's suit is in the suit locker where he specifies it is but if not specified prior then it's in the suit locker closest to the last entrance a character would have used to enter the ship.

EMERGENCY Power

There are back up parabatteries (type A) on each deck. If this battery must be accessed directly it's usually in the floor beneath the area in front of the fore or aft elevator. These batteries kick in if power is lost to a deck and they will



power emergency lights and basic equipment for about 100 hours. They do not power life support, the elevators, or other ship controls. The life support plants have their own dedicated parabattery that keeps them running for 500 hours. If the power conduits are cut due to battle damage an engineer might take an elevator off line and run power past the break using the power runs for the elevator.

If the forward section loses power it cannot fire its laser cannon. The rocket battery will continue to fire but it will drain the deck 3 parabattery completely after three shots and plunge that deck into darkness.

MOVEMENT ON BOARD

A character can move about the ship as per AD rules during that style of encounter. If KHs action is occurring then characters can move from one end of the ship to the other in one KHs turn and can probably perform one or more minor actions. If a character moves, they cannot perform spacer subskills from the KHs rules book. A referee should exercise judgment over whether a player is having his character move too far and do too much.





Part 3 – Vengeance Served Cold

In the months since the CFMS Venture had its layover on Laco; Star Law, Space Fleet, and militia forces have been able to round up the bulk of the Lucky Devil pirates with information recovered by the player characters (PCs). Any munitions and equipment used from the ship's armory has been replaced and the Venture has made numerous uneventful cargo runs around the Frontier. The PCs are settling in to their new job and are fast becoming experienced spacers in the employ of the Capellan Free Merchants.

For the full effect of the pirates seemingly springing back out of nowhere, it is recommended that the referee play out one or more sessions of making the routine cargo runs with minor side adventures that don't involve the Lucky Devil Pirates and providing news updates about their capture. While not necessary, these intervening sessions would help get the players' minds off the pirates and make their reappearance that much more of a surprise.

The Venture has a quick run to the Dramune system with a higher than normal pay out for quickly delivered combat robots for one crime lord to use against another. Even though the robots and equipment is destined for Outer Reach, the Venture and crew will transship them at Inner Reach so this run should be relatively quiet and safe. As per Captain Kleevor's habit, the crew is sitting down together for a meal just after arrival in Dramune system.

ALPHA SECTION - FOR HATE'S SAKE

The Lucky Devil Pirates are well and truly crippled with all their ships impounded and in Space Fleet or militia hands. Very few members of the band have escaped incarceration although some managed to scatter into dark crevasses around the Frontier. A small group of them have come together bent on vengeance with the help of a crime lord on Outer Reach.

They have arranged for a shipment of robots and equipment destined for Dramune system. These pirates have smuggled themselves into cleverly disguised cryo containers within a shipping container. Their plan is to come out of cryo after void transit, begin activating the combat robots, and then overwhelm the Venture's crew. They believe that they can begin to rebuild the Lucky Devil pirates with the Venture as the band's new flagship.

In addition, they've arranged with an Outer Reach crime lord to have a pirate controlled assault scout meet them at about the same time and support the taking of the Venture. The crime lord intends for this handful of luckless pirates to take the blame for the capture of the Venture but he will quietly fence the ship while arranging the untimely death of the remaining Lucky Devil pirates.

If any named non-player character from parts 1 or 2 has managed to survive those adventures and established themselves as a major adversary with the crew of the Venture, then add that NPC to the four presented here. This will be a final showdown between the crew of the Venture and these mooks without number.

PLAYER'S SETUP

The player characters have their personal equipment stored in their quarters. They start out wearing coveralls or plain clothes. Anyone hyper suspicious can be packing a pistol and one clip but it must be a "ship safe" pistol like a beam weapon or a needler. The armory has been restocked with the same equipment it held at the beginning of part 1 (see sidebar below).

Play begins with the group meal by everyone on deck 5. Kleevor leaves the intercom to the bridge open to listen for any of the programed alarms. Amidst the jovial banter of the social occasion, an engineering alarm goes off and Kleevor instructs everyone to continue eating. He will pop

VENTURE'S SMALL ARMS LOCKER

The contents of the locker are optimized for repelling boarders without damaging the ship

- 1 grenade rifle with 20 smoke, 20 tangler, 20 dose grenades
- 3 Electro Stunners
- 3 needler rifles with 9 full clips
- 2 laser rifles
- 1 heavy laser
- 2 power belt packs & 1 power backpack
- 30 power clips (20 SEU)
- 5 electric swords

down two decks and check out the engineering computer.

A minute later Kleevor will com the PCs with an excited voice, "We've been boarded by Lucky D..." His voice is cut off with the popping sound of a tangler grenade and sonic weapons. His com is still open and the PCs hear a voice shouting, "Get the robots up into the rest of the ship, go, go, GO!" Then another voice says, "Shoot, his com was open," and the com goes dead.

This encounter is set in Alpha Dawn action. The Venture has been boarded by hostiles, the Captain is taken out, and the PCs must repel the pirates or face their tender mercies.

PIRATE SETUP, PLANS, AND OBJECTIVES

Once all of the pirates have come out of cryo, they begin activating their twelve combat robots (see sidebar below). Anxious to be about their mission, they do not activate them all before venturing up to engineering and attempting to defeat security on the engineering controls. This triggered the alarm that Kleevor investigated. El Capitan, Skixx, Raven, and 3 activated combat robots begin in engineering.

In the first five turns after the players realize a problem, El Capitan, Raven and the currently activated robots will move forward from deck 7 to the hatch at deck 6. Kleevor brought the elevator to deck 7 so it will take them 2 turns to get to deck 6. They all move at half speed departing the elevator and the robots will be sent up the ladder one at a time unless the PCs have closed the floor hatch on deck 5.

If the PCs have already closed the deck 5 hatch or close it at any time, El Capitan will use his laser rifle and Raven her laser pistol at full power shots to burn through the hatch. Hatches and pressure doors take 200+d100 structural points to destroy and a laser does 5 structural points per SEU. Thus it will take 40-60 SEU to burn through this hatch in about 4 turns with reloading of clips.

LUCKY DEVIL COMBAT ROBOTS

Level: 3 Standard body STA: 100 Attack: 60% Damage: 2d10 Programs: Attack/Defense Movement: 30m/turn, on ship is same as a human Mission: Fight and kill at the orders of the Lucky Devil

Pirates. **Function 1**: Defines the Lucky Devil Pirates with photo files of all the pirates in this approximate as well as defines

files of all the pirates in this encounter as well as defines anyone with the Lucky Devil Tattoo. **Cost:** 4,600 cr.

These robots were packed and shipped off the assembly line and have no weapons. They will fight melee with their hands.



Note: The pirates will always send a robot ahead of them if one is available and let it soak up fire from the PCs. The pirates wish to capture the ship but are not above blowing holes in bulkheads to try to surprise or get at the ship's crew. Interior walls take 50+2d10 structural points while regular doors take 25+1d10 structural points.

Skixx will manage to shut down power to the forward hull section at 2+1d10 turns after the PCs become aware of the pirates. When this happens, the elevator will be frozen at the deck it's on. At this point the only way to travel from deck to deck would be to open the manual emergency hatches in the roof and floor of the elevator as well as the elevator doors on the decks and climb up the elevator shaft via the recessed ladder in the sides of the shaft. A technician can spend 2 turns and disengage the elevator's brakes from inside the shaft (on top of the elevator) and if the ship is under thrust is will crash to the bottom of the shaft at deck 5 for the forward elevator and deck 10 for the aft elevator. Anyone beneath the elevator when this happens is killed.

If the PCs are proving difficult, the pirates will shut down the drives putting the ship into zero gravity. They will then open the air vent and Raven will stealthily propel herself to deck 1 and begin opening the access panels to get out on deck 1. A few turns behind her, a robot will begin ascending the air vent trunk. Robots in the air vent trunk make enough noise to be heard by people on the deck they are passing through. Treat movement in air vent as 1 deck per turn for both Raven and the robots. Once Raven is on deck 1 with one or more robots, she will begin sweeping the deck and moving down deck by deck

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to meet up with the rest of the pirates who will resume attacking from below.

Big John remains in the cargo hold unpacking and activating robots. He will activate a fourth robot in the same turn that the PCs discover the pirates and another one every 10 turns thereafter until the last 8 are activated. As each robot is activated, it is sent up to join the other pirates on the upper levels of the ship. If any of the Venture's crew enters the cargo hold by any means, he will attack with his personal weapons and if he wins he will return to activating robots. Once all the robots are activated, he will move forward and support the rest of the pirates as best he can.

These are general guidelines for tactics the pirates will employ but the old adage, "No plan survives contact with the enemy," is probably going to be the rule for this encounter. Referees should have the pirates make intelligent decisions and respond to the developing situation in reasonable ways.

ON-GOING RESPONSES

The players have a variety of ways to bring the fight to the pirates: either down the hatch at decks 5&6, down the air vent trunk, or by EVA. The EVA option requires exiting the main air lock on deck 3 and entering the aft section either through the air lock on deck 10 (the shuttle was stowed in the cargo hold since the cargo was so small), or through the bay for the ship's launch on deck 9. The pirates did not bring space suits but can use one of the PC's suits designed for the same species. However, it will take 10 turns to get into it and not the 5 specified by the rules for a character with a DEX of 45. (They'll need to adjust internal straps and such to properly fit them.)

The turn after shutting down power to the forward section, Skixx will begin working on cutting the power feed to the cargo doors to prevent the PCs from going EVA and opening them from outside. It will take him 5+1d10 turns to accomplish this. What this means in game turns is that if the PCs do go EVA and attempt to open the cargo doors



there will be no power to open them but the seal can be broken. Once the seal is broken, the deck will decompress in 3 minutes (30 turns). If Big John is still unpacking and activating robots. he will finish the one he's working on and retreat with it to deck 10. If the PCs blow a hole in the hull for deck 11, then Big John will retreat immediately to deck 10 as he only has one minute before full decompression. If a PC attempts to open the cargo doors from the bridge while there is still power to the forward section, it will take a computer skill roll to get past the safety overrides preventing this from happening when the deck is occupied. If the PC is successful, any unpacked robot and Big John will be blown out the back of the ship.

The PCs may use the intercom from the bridge to monitor the pirates' activity. The pirates are well aware that this is an option and will get around to shooting out the intercoms on decks where they are operating after the initial rush for deck 5 fails or bogs down. However, Big John will forget to do this and blissfully keep on unpacking and activating robots. A PC listening at a time when he manages to activate one will hear him say something to himself about it and they may figure out that one per minute is being activated.

EXPERIENCE POINTS

Award 1-3 encounter EXP per PC based on performance.

Award 1 bonus EXP per robot that Big John is not able to activate if attributable to player actions.

Note: If the players respond to the situation fast and it takes Skixx a long time to kill the power to the forward section and to lock down the controls to the cargo hold hatch, the players may just be able to open the cargo bay hatch early enough to space Big John and the robot he's working on. This would result in a high number of bonus points for all the unactivated robots. Award these bonus points anyway even though a fair amount of luck went into them being able to do this. Living through a lucky circumstance is an experience and they should benefit from it. On the other had if they manage to do this it will greatly shorten the encounter and they should not earn the full amount of the encounter EXP.

BETA SECTION - EPILOGUE

ONE LAST VISITOR

The lucky devil pirates arranged for support by pirates tied to the Malthar. The Lucky Devil pirates came out of their secret cryo chambers early and began trying to take the ship. The pirate assault scout will show up after the fight on the Venture is concluded. The referee can determine exactly when but it shouldn't be more than a few hours later.

The Malthar pirates expect to dock with the Venture and kill the 4 Lucky Devil pirates (or anyone else still alive) and send the Venture to their fence. They don't want it because the CFM is known for having an extreme response when its members are killed. If the Venture is completely under the PCs control then it's entirely likely

Tom Verreault

that these pirates can be talked into leaving. They are not really looking for a stand up battle.

The pirate assault scout will show up after Captain Kleevor has been released from the tangler threads and revived from the stun attack. He will not endorse any plan that allows the assault scout to dock with the ship after this encounter where he potentially could have lost his ship. If a space battle breaks out and the Venture shows herself to be whole and well-handled then the pirate ship will be quick to break off.

It is always an option to run a KHs battle between the Venture and an assault scout as a finale to this adventure. There is also an upcoming Abstract Knight Hawks Combat article with details on running a star ship combat without the Knight Hawks board game and this final encounter could be run with that article.

IN THE EVENT OF CAPTURE

Should the Venture's crew capture any of the pirates they can be turned over to the militia at Inner Reach or to Star Law. Star Law considers the book closed on the Lucky Devil pirate band after its dismantling due to information provided by the Venture's crew at Lacco. Therefore there is no reward for turning them over to Star Law. The Inner Reach militia, however, is constantly dealing with the depredations of pirates and has even fought wars with the pirate supported naval force of Outer Reach. Thus they have a standing bounty of 2000 Cr for pirates taken in the act of piracy. The reward is good whether dead or alive.

If the referee desires to continue the adventure and give the players a chance to pursue the Malthar pirates as well, the referee could allow any captured Lucky Devil pirates to know the name and/or where to find their Malthar contact on Inner Reach, thus providing them with a lead.

PAYDAY?

The delivery the Venture's crew is expecting to make is faked and there will be no payday here in the Dramune system for their cargo. The only profit from the delivery will be in the form of equipment captured from the pirates and any robots captured.

Captain Kleevor is alive and well though embarrassed. The pirates hit him with a tangler grenade and then stunned him to prevent him from talking more on his chronocom. Once he realizes that the delivery contract was faked and there is no deliver he will decline to take a cut the bounty on the pirates, grateful to the crew for preserving his life and ship.

NPC STATS

EL CAPITAN

Human Male, Age 31

STA/STR: 55/55 LOG/INT: 40/35 DEX/RS: 60/60 LDR/PER: 40/45

PS: +3 IM: 6

Beam (4), Starship piloting (3), Computer (4), Melee (3)

Skein suit, albedo screen, power backpack (100 SEU), 15 clips (20 SEU), laser pistol, laser rifle, sonic sword, gas mask

SKIXX

Vrusk Male, Age 60

STA/STR: 50/45 LOG/INT: 50/40 DEX/RS: 45/45 LDR/PER: 25/25



PS: +3 IM: 5

Projectile (4), Starship engineering (3), Computer (2), Melee (2)

Skein suit, albedo screen, power beltpack (50 SEU), 2 needler pistols, 6 needler clips, electric sword (20 SEU clip), grenade rifle with 10 tangler grenades and 10 stun grenades, gas mask

Big John

Human Male, Age 42

 STA/STR: 65/65
 LOG/INT: 50/50

 DEX/RS: 40/40
 LDR/PER: 35/35

PS: +5 IM: 5

Beam (4), Robotics (3), Technician (4), Melee (3), Starship Engineering (2)



Skein suit, albedo screen, power beltpack (50 SEU), 5 power clips (20 SEU), sonic disrupter, machete

RAVEN

Human Female, Age 36

STA/STR: 35/35 LOG/INT: 50/50 DEX/RS: 60/60 LDR/PER: 35/35

PS: +2 IM: 6

Beam (4), Astrogation (3), Computer (4), Martial arts (3)

Skein suit, albedo screen, power beltpack (50 SEU), 10 power clips (20 SEU), sonic disrupter, laser pistol, gas mask







Robots are a common feature in the Frontier. You practically can't turn around without finding some sort of robot working at some task. From security, to receptionist, to mining, to translation, robots fulfill many roles. They are often employed as support to the Frontier races or in areas where it is dangerous or less desirable for the races to go. In this article we list a few specific robot types that you might run into as you travel around the Frontier.

OBAR ENTERPRISES ROBOTS

The OEx robots are custom build robots designed and built for Obar Enterprises, a small private company that engages in trade, mining, and exploration. The robots themselves were built by Tachton Industries. Each robot series has its own designation depending on its role (Ssecurity, M-maintenance, etc.) These robots are used by Obar Enterprises on its spacecraft and at its various facilities both on the ground and in orbit in the various systems around the Frontier where it has operations.

OES-01 SECURITY ROBOT

The OES-01 SecBot is designed primarily as a facility defense robot assigned to guard duty at the various OE facilities and on-board OE ships. The OES-01 has a humanoid limbed body for maximum flexibility on both ground and in space. The body is in no way anthropomorphic and would never be mistaken for one of the core four races. It is fully functional in weightless environments.

OES-01	
Level:	4
Body Type:	Standard
Movement:	2 legs
STA:	100
Attack:	70
IM:	7
Programs:	Restrain, Attack/Defense, Computer Link, Security Lock
Equipment:	 Albedo Screen w/ power backpack Laser Rifle w/ power backpack 5 Tangler grenades
Cost:	13,925 cr

OEC-01 COMBAT ROBOT

The OEC-01 ComBot is designed to work directly in a support role with OE personnel. Capable of independent missions, it carries a variety of weapons and defenses to adapt to any situation. The OES-01 employs the same body type as the OES-01. In fact, the only outward difference between the two is the selection of weapons carried by the OEC-01.

The OEC-01 can use only one of its three weapons each round but may change weapons each round without penalty. Its two defensive screens are connected to a single 100 SEU power pack which is independent from the power pack that powers the laser rifle. Only one screen may be active at any time but the OEC-01 can switch the active screen during its movement phase as desired.

OEC-01	
Level:	5
Body Type:	Standard
Movement:	2 legs
STA:	100
Attack:	80
_IM:	8
Programs:	Restrain, Attack/Defense, Search & Destroy, Computer Link, Security Lock
Equipment:	 enhanced vision (equivalent to normal vision plus IR goggles) Albedo Screen w/ power backpack Inertia Screen Laser Rifle w/ power backpack Gyrojet or Auto pistol w/ 5 clips Sonic sword w/20 SEU clip 5 Tangler grenades 5 Fragmentation grenades 5 Smoke grenades
Cost:	22,025 cr

OEM-01 MAINTENANCE ROBOT

The OEM-01 is a basic maintenance robot designed for standard gravity operations in support of a skilled technician. The robot can perform basic repairs as directed by a central computer or supervising technician. With

standard wheeled movement, the OEM-01 is not capable of working in low gravity or on rough terrain.

OEM-01	
Level:	3
Body Type:	Standard
Movement:	Wheeled
STA:	100
Attack:	60
IM:	6
Programs:	Self Defense, Computer Link, Maintenance, Security Lock
Equipment:	Various accessories and storage compartments equivalent to a Techkit
Cost:	10,500 cr

OEM-02 MAINTENANCE ROBOT

The OEM-02 is very similar to the OEM-01 but is designed to work on-board spacecraft and in zero-g environments, again in support of a skilled technician. The robot can perform basic repairs as directed by a central computer or supervising technician. Instead of standard wheeled movement, the OEM-02 has two legs with built in magnetic boots and is fully capable of working in low gravity or in rough terrain. This is the standard maintenance robot typically seen on-board Obar Enterprises starships.

OEM-02	
Level:	3
Body Type:	Standard
Movement:	2 legs, built in magnetic boots
STA:	100
Attack:	60
IM:	6
Programs:	Self Defense, Computer Link, Maintenance, Security Lock
Equipment:	Various accessories and storage compartments equivalent to a Techkit
Cost:	10,600 cr

OEX-01 MINING EXTRACTOR ROBOT

The OEX-01 Extractor is built around a large heavy duty body with tracked movement and is capable of negotiating most terrain. It has four arms used for moving, cutting, pounding, crushing and collecting rock to extract ore. If attacked it can defend itself and gets four attacks per turn, one with each arm.

The OEX-01 has optical, IR and radar sensors allowing it to operate in any environment including complete

darkness. In addition, the body has an open ore carrying "basket" capable of carrying 150 kg of material in a 1 cubic meter volume. The robot is about 1.5m tall, 1.5 m wide and about 2 m long.

The laser cutter and rock drill are powered by an extra type 1 parabattery built into the body of the robot. For combat purposes, assume each use of the rock drill or laser rock cutter users 4 SEU and that, unless determined otherwise by the Referee, has 1d100x5 SEU remaining in the parabattery which powers that equipment.

OEX-01	
Level:	4
Body Type:	Heavy Duty
Movement:	Tracked
STA:	500
Attack:	70
IM:	7
Programs:	Self Defense, Computer Link,
	Mining, Security Lock
Equipment:	Two heavy duty arms with rock pinchers (6d10 damage each), Two heavy duty arms, one with rock drill (10d10 damage) and one with laser rock cutter (5d10 damage range 10m).
Cost:	23,800 cr

WARTECH ROBOTS

While not well known for their robot designs, being greatly overshadowed by Tachton Industries in the modern Frontier, WarTech still maintains a small robotic development division. Here are a few of their more recent designs.

MULTIPURPOSE UNIVERSAL TERRAIN TURRET (MUTT) MK I

The MUTT-1 (commonly referred to as BigDog) is a large 4 legged mobile gun turret. This robot is typically deployed in groups and can be assigned to guard specific areas or as roving patrols. They also are commonly assigned as perimeter patrols for moving convoys and groups. The MUTT-1 also has a built in radio to allow remote communication with its controller. This also allows them to be used as advanced scouts and report back an audio and video feed from their sensors. The quadruped design of the robot allows it to traverse almost any terrain. The MUTT-1 has IR sensors in addition to standard optical sensors to allow for full functionality at night or in dark locations as well.

The MUTT-1 can be armed with any rifle type weapon but are typically armed with either a laser rifle or



Big Dog by Long Ouyang

autorifle. Regardless of weapon type, the robot is equipped with enough ammunition for the mount weapon to fire for a minimum of 50 combat rounds. Laser rifles are typically set at the 10 SEU damage setting (although this can be adjusted) and autorifles are typically used in burst mode.

The MUTT-1 comes equipped with an albedo coating that provides 100 points of laser damage protection and an inertia screen that is powered by a 100 SEU power pack. Like all WarTech robots, the albedo coating can be applied as a subsurface coating beneath an alternate painting scheme and still remain effective.

MUTT Mk I	
Level:	4
Body Type:	Standard
Movement:	4 legs
STA:	100
Attack:	70
Weapons:	Laser rifle (500 SEU), AutoRifle (500 rounds), Gyrojet Rifle (150 rounds), or Sonic Disruptor (100 SEU)
Defenses:	Albedo body coating, 100 point protection, Inertia Screen (100 SEU power pack)
Programs:	Attack/Defense, Search/Destroy, Security Lock
Other Equipment:	radio, IR sensors
Cost:	16,000 cr

SECURITY & PERSONNEL DEFENSE ROBOT (SPDR) MK III

The SPDR (or Spider as they are more commonly called)-3 robot is designed for personnel security and area defense in all types of terrain. It's six insectoid like legs are modeled on those of a Vrusk and are designed to allow the bot to maneuver on all different types of terrain. Retractable spike-hooks on the tips of its feet allow it to climb many steep and even vertical surfaces. The SPDR-3 has no problem scaling ladders and walls to get a tactical height advantage.

The SPDR-3 has two pincer-like claws that are top mounted with a laser rifle (right claw) and an auto rifle (left claw). The laser rifle is connected to a 100 SEU power pack while the bot carries 5 clips for the Autorifle. The bot can fire one or the other rifle per turn. When the auto rifle has spent its clip, there is an auto reload mechanism that will reload the rifle in one turn. The SPDR-3 can fire its laser rifle on the turn the auto rifle is reloading. In melee, the SPDR can attack with both of its claws each round.

For defense the robot is coated with a reflective paint that acts like an Albedo suit. In addition, it has a built in albedo and inertia screen. The two screens share a 100 SEU power pack and as per the AD rules, only one screen can be active on a given turn. However, the screens can be switched every turn depending on how the 'bot perceives the situation.

SPDR Mk III	
Level:	4
Body Type:	Standard
Movement:	6 independent legs
STA:	100
Attack:	70
Weapons:	 Laser Rifle, 100 SEU power pack Claws x2: 2d10 each Auto Rifle, 5x 20 round clips
Defenses:	 Albedo body coating, 100 pt protection Albedo Screen Inertia Screen 100 SEU power pack shared between screens
Programs:	Attack/Defense, Search/Destroy, Security Lock
Cost:	18,500 cr

TARGET NEUTRALIZATION AND COUNTERSTRIKE (TNC) ROBOT MK IV

The TNC-4 (or TankBot as it is commonly called) is a heavy duty warbot designed specifically to seek out and eliminate specific targets whether they are beings, other robots, facilities, or structures. Heavily armed and armored, as well as being built around a heavy duty chassis, the TNC-4 is a formidable opponent. In addition to being used in search and destroy missions, the TNC-4 is commonly used as heavy weapon support for combat squads. It's not uncommon to see a MerCo attack squad supported by a TNC-4 to provide heavy mobile firepower.

The TNC-4 carries three main weapons and can employ two of them in a single round without penalty. The Heavy Laser is powered by a type I parabattery that supplies 500 The parabattery is also used to power any SEUs. defensive screens the robot may use. The TCN-4 carries a 600 round magazine for its machine gun allowing it to fire up to 30 bursts. Finally the warbot is equipped with a grenade rifle that has a 40 grenade magazine. The magazine is compartmentalized into four 10 grenade sections. Each section can be loaded with a different type of grenade. The robot can reload after each shot from any of the magazine sections depending on the tactical situation. The magazines hold the grenades already encased in the grenade bullets necessary for use in the grenade launcher.

For defense the robot is coated with a reflective paint that acts like an Albedo suit. In addition, it has a built in albedo and inertia screen. The two screens share the type I



Mech by Tysho at Deviant Art

parabattery with the heavy laser. As per the AD rules, only one screen can be active on a given turn. However, the screens can be switched every turn depending on how the TNC-4 perceives the situation.

TNC Mk IV		
Level:	5	
Body Type:	Heavy Duty	
Movement:	Tracked	
STA:	500	
Attack:	80	
Weapons:	 Heavy Laser with Type 1 Parabattery (500 SEU) Machine Gun with 600 rounds (3 belts for a total of 30 bursts) Grenade Rifle, 40 round magazine 	
Defenses:	 Albedo body coating, 100 pt protection Albedo Screen Inertia Screen Screens powered by parabattery shared with Heavy Laser 	
Programs:	Attack/Defense, Search/Destroy, Security Lock	
Cost:	30,000 cr	

DESIGN YOUR OWN

Designing robots can be fun and an exciting way to add some variety or flavor to your game. There are robots everywhere in the Frontier and these are just a few you could run into. The robots presented here range from fairly simple to somewhat complex. They provide a wide range of different types of robots you could find around the Frontier. Hopefully they will help to provide some inspiration or templates for robot designs of your own.

I used two methods when designing the robots presented here. For most of the OEx robots, I defined a role and the built the robot up around it adding in the body, level, programs, and equipment needed to fulfill the envisioned role. For the WarTech robots, I actually had the pictures (or an actual RC robot in the case of the SPDR) before I designed them so in those cases, I wrote a description to match the image. Either way works well. Just use what works best for you.

Editor's Note: We hope that this will be the first of many articles in future issues providing new robots for use in your game. If you have robot designs you'd like to see published, feel free to jump over to the <u>Frontier Explorer</u> website and submit them. We love to help you share them.



DESCRIPTION

Star Frontiers has humanoid shaped robots and robots the size of a car but a common staple of science fiction is the half sized "tin can" robot. The most famous example is R2D2 from Star Wars but VINCENT and Old BOB from Disney's The Black Hole fit this category of robot as well. The "tin can" robot body for Star Frontiers, also known as the small robot body, it's limited to robots of 4th level and lower.

It has the equivalent of 3 limbs for manipulation of its environment and locomotion, though it may start with an altered movement mode for free in place of one of its limbs. This means that a tin can body could be outfitted so that two limbs are used for movement and one is used as a manipulator or tool arm (like R2D2) or alternately it might replace one limb with hover movement and have two manipulator arms (like VINCENT & Old Bob). The manipulator arms on tin can bodies can be retractable.

By default, the tin can body uses two legs for movement and has an "arm" that it can use as a manipulator. The two optional movement modes that are available for free are tracked and hover. In addition, the tin can body can be equipped with an additional compressed air movement mode that is for use in zero-g environments and acts like a rocket pack (p29 Knight Hawks Campaign Book) except that it only alters the robots speed by up to 5 meters per turn instead of 50. Adding rotor or rocket movement to the tin can body only costs half compared to the cost for the standard body due to the tin can body's smaller size.

This robot body differs from the standard body in some significant ways. It does not come with a voice box installed even if the robot is of a level that can speak. This equipment must be added separately. These robot bodies cannot carry heavy weapons like the heavy laser, sonic devastator, machine gun, or recoilless rifle. Only one extra arm/limb may be added. Finally, this robot body only does 1d10 points of damage when fighting unarmed instead of the standard 2d10.

The tin can body uses the type 1 parabattery.

These bodies are less durable than the standard robot body (only 50 STA) but the savings from using a cheaper body and free altered movement makes them popular despite their limitations. Robots are naturally capable opponents, thus these would be a more desirable as opponents for



A tin can robot with hover movement. Miniature painted by Tom Verreault. Miniature is from the Star Frontiers Robots Miniature boxed set.

beginning characters who may not have had the chance to stock up on high damage weapons.

Tachton Instruments, the premier mega corporation dealing in robotics, is the developer of the "tin can" robot body.

PRICES

Prices for the robot body and various add-ons are listed in the table below

Item	Cost	Mass
The "Tin Can" Body	1,200 Cr	50 kg
Voice Synthesizer	300 Cr	-
Extra Limb	400 Cr	-
Compressed Air movement	1,000 Cr	-

SAMPLE TIN CAN ROBOTS

Listed below are some sample tin can robots that you might find around the Frontier. All of the above robots weigh approximately 75 kg.

AUTOMATED TRACKED ASSAULT CHASSIS (A.T.A.C .) & AUTOMATED HOVER ASSAULT CHASSIS (A.H.A.C.)

Tachton Instruments' ATAC/AHAC design is a cheap combat robot often used to screen live troops or expensive equipment. They have no self-preservation protocols and will charge straight into combat to fulfill their mission. The robot has numerous attachment points for ammo, grenades, weapons and one defensive shield. However, all of those items are considered optional equipment and must be purchased separately. Troops that work with these robots like to scratch out the word "chassis" on their name plate and scribble the word "cannon-fodder" which is exactly what this robot is: cannon fodder.

ATAC/AHAC	
Level:	2
Movement:	Tracked/Hover
STA:	50
Attack:	50
IM:	5
Damage:	1d10
Cost:	2,800 cr (includes parabattery)



MAINTENANCE AUTOMATED ROBOTIC SERVANT (M.A.R.S.) SERIES MAINTENANCE ROBOTS

Tachton Instruments' MARS series maintenance robot is marketed specifically for use on starships and space stations. The MARS-1 and 2 models are used under the management of a computer or robot brain in large facility where numerous maintenance robots are required and it's cheaper to use these lower cost models. In situations where only 1 or 2 maintenance robots are required, the MARS-3 or -4 models are generally used because they are more autonomous and require less direction.

	MARS -1	MARS -2	MARS -3	MARS -4
Level:	1	2	3	4
Movement:	Tracked or Hover plus Compressed Air Altered movement for zero-g			
STA:	50			
Arms:	2 tool arms			
Programs:	Maintenance			
Optional Equipment:	None	None	Voice synthesizer (+300 cr.)	Voice synthesizer (included)
Cost*:	2,900 cr.	3,200 cr.	3,700 cr.	5,000 cr

* costs includes parabattery

SECURITY POLICE AUTOMATED MECHANISM (S.P.A.M.) ROBOT

Tachton Instruments' SPAM Bot is an inexpensive option for automated security but not generally at high security facilities unless supported with other more stringent security measures.

SPAM Bot			
Level:	3		
Movement:	Wheeled, Tracked, or Hover		
STA:	50		
Attack:	60		
IM:	6		
Damage:	1d10		
Programs:	Restrain, Law		
Other	2 manipulator arms, voice		
Equipment:	synthesizer, chronocom		
Cost:	3,300 cr (includes parabattery)		

FINAL THOUGHTS

The tin can robot provides an additional chassis that can be used to add additional variety to the robots in your campaign. The tin can body can be used in place of the standard body for almost any type of robot where cost or size may be an issue.

As an additional consideration, if you use the character races from the Zebulon's Guide to Frontier Space, you might consider making the tin can robot the standard sized robot for the Ifshnit as its smaller size matches better with the size of that race.



Welcome to another installment of the Knight Hawks encounter series. We'd love to hear your experiences playing these scenarios on the forums the Frontier Explorer website or at editors@frontierexplorer.org. In this issue we continue our encounters with some more possible starting scenarios from the Second Sathar War campaign game. In issue 1, the militia was seriously out numbered. This time we see encounters in systems with a progressively more firepower.

A PALE PROSPECT

The second sathar war is heating up with a push on the Truane's Star System

BACKGROUND

Simultaneous with the assault on the Kisk-Kar system (issue 1 – Hopelessly Outgunned, p38), another Sathar fleet was detected in the Truane's Star system. The enemy composition is the same, but this time the defenders have a little more firepower at their disposal. As the only line of defense between Dixon's Star and the Prenglar system, the militia of the Truane's Star system is ready to make their stand with the ships they have. Will it be enough?

ORDER OF BATTLE

- MILITIA SHIPS
 - 3 Assault Scouts
 - Frigate

UPF Fortress •

SATHAR SHIPS

- Frigate
- 2 Destroyers
- Light Cruiser
- Heavy Cruiser



The Sathar player declares which side of the map the Sathar ships will be entering from.

The Militia player then places a planet marker in the center of the map, places the Fortress in orbit around it, and declares its orbital direction (clockwise or counterclockwise). They then place the militia ships anywhere on the map and declare their initial speeds up to a maximum of 10 hexes per turn.

Once the militia ships are placed, the Sathar player places their ships within five hexes of the side of the map they declared to be entering from. The ships can be moving at any speed up to 15 hexes per turn, but all ships must be moving at the same speed.

SPECIAL RULES

REARM AND REPAIR – The assault scouts can take advantage of the Fortress to rearm and repair. If they dock with the station and spend 1 full turn docked, consider them to have replenished all their expended assault rockets. They also get a +10 DCR bonus per turn they spend at the station on the next repair turn. To dock with the station, an assault scout must end its turn in the same hex as the station and have a speed less than its current ADF. They are considered to have docked this turn. On the next turn they may rearm. They may then leave on any following turn with an initial speed of 0.

VICTORY CONDITIONS

Note that it is possible for both sides to be able to claim a victory in this scenario.

UPF VICTORY

The UPF score a minor victory if they can destroy at least three of the Sathar ships including the Heavy Cruiser. They score a major victory if all of the Sathar ships are destroyed.

SATHAR VICTORY

The Sathar score a minor victory if the Fortress is destroyed but some of the militia ships remain. They score a major victory if all the militia ships and the Fortress are destroyed.

BANDING TOGETHER

Do the combined militias finally have the upper hand?

BACKGROUND

The final Sathar fleet of the initial attack was detected entering the Fromeltar system. Like the previous attacks, the composition of the fleet was the same. The Sathar seem to like this ship mix. However, this time they might have bitten off more than they can chew. Upon detecting the Sathar ships, a distress call went out. Task Force Cassidine was immediately dispatched toward Dramune

and the two militias of Dramune, along with a UPF Destroyer that was in the system, began a risky high speed transit to Fromeltar. The risk jump was successful and all ships arrived safely in the Fromeltar system. The timing was close but the ships from Dramune arrived just as the Sathar began the assault on Terldrom.

ORDER OF BATTLE

FROMELTAR MILITIA SHIPS

- 3 Assault Scouts
- Frigate

INNER REACH MILITIA SHIPS

- 3 Assault Scouts
- Frigate
- Destroyer

OUTER REACH MILITIA SHIPS

- 2 Assault Scouts
- 2 Frigates

UPF Ships

- Destroyer
- Armed Station

SATHAR SHIPS

- Frigate
- 2 Destroyers
- Light Cruiser
- Heavy Cruiser

SETUP

The Sathar player declares which side of the map the Sathar ships will be entering from.

The Fromeltar Militia player then places a planet marker in the center of the map, places the Armed Station in orbit around it, and declares its orbital direction (clockwise or counterclockwise). They then place the Fromeltar militia ships anywhere on the map and declare their initial speeds up to a maximum of 10 hexes per turn.

Once the Fromeltar militia ships are placed, the Sathar player places their ships within five hexes of the side of the map they declared to be entering from. The ships can be moving at any speed up to 15 hexes per turn but all ships must be moving at the same speed.

Finally, the Outer Reach militia ships and UPF destroyer are placed within 5 hexes of the opposite side of the map from the Sathar. They may have any initial speed up to 20 hexes per turn but all ships must have the same starting speed.

SPECIAL RULES

None. This is a fight to death between the two sides.

SHIP STATISTICS

Here are the statistics for all the various ships used in the two scenarios in this issue.

ASSAULT SCOUT

HP: 15 ADF: 5 MR: 4 DCR: 50 Weapons: LB, AR(x4) Defenses: RH

Frigate

HP: 40 ADF: 4 MR: 3 DCR: 70 Weapons: LC, LB, RB(x4), T(x2) Defenses: RH, MS(x2), ICM(x4)

DESTROYER

HP: 50 ADF: 3 MR: 3 DCR: 75 Weapons: LC, LB, EB, RB(x4), T(x2) Defenses: RH, MS(x2), ICM(x5)

LIGHT CRUISER

HP: 70 ADF: 3 MR: 2 DCR: 100 Weapons: DC, LB, EB, PB, RB(x8), T(x4) Defenses: RH, ES, SS, ICM(x8)

HEAVY CRUISER

HP: 80 ADF: 2 MR: 1 DCR: 120 Weapons: DC, LB(x2), PB, EB, RB(x8), T(x4), S(x2) Defenses: RH, ES, PS, SS, ICM(x8)

ARMED STATION

HP: 80 ADF: 0 MR: 0 DCR: 75 Weapons: LB, RB(x6) Defenses: RH, MS(x2), ICM(x6)

Fortress

HP: 300 ADF: 0 MR: 0 DCR: 200 Weapons: LB(x3), EB, PB, RB(x12) Defenses: RH, MS(x3), ES, PS, ICM(x20)

VICTORY CONDITIONS

Note it is possible for both sides to claim victory in this scenario.

SATHAR VICTORY

The Sathar score a minor victory if they manage to destroy the station, the UPF destroyer and at least 5 other ships including two of the militia frigates or destroyers. They claim a major victory if they destroy all of the UPF and militia ships and the station.

UPF VICTORY

The UPF and militias can claim a minor victory if they destroy all the Sathar ships but the station is destroyed or over half of the militia ships are destoryed. They can claim a major victory if the Sathar ships are destroyed and the station and at least half of the militia ships survive.



Editor's Note: This is the first of many articles that will give basic introduction to the real science behind a number of astronomical topics. The idea is to present a short description of the objects or phenomenon and discuss how it might impact your game setting. While you always have the option to incorporate the real world nature of these topics or ignore them, having a good grounding in the real science can improve the quality of your "technobabble" if you prefer a more fantastic sci-fi setting.

INTRODUCTION

Both the Oort Cloud and the Kuiper Belt (officially called the Edgeworth-Kuiper Belt) are systems of objects in the outer solar system. While the names Oort Cloud and Kuiper Belt specifically refer to the systems here in our solar system, similar systems are expected to exist in any stellar system. The names refer to the astronomers who first hypothesized their existence.

They are composed of objects ranging in size from a few thousand kilometers in diameter (i.e. Pluto) down to meter sized objects and smaller. In both cases, the objects in these systems are composed mostly of ices (water, methane, and ammonia) with a bit of rocks and other minerals mixed in. They are made of material that was left over from the formation of the stellar system. Scientifically, they represent the primordial material the planets were made from. The exact classification of an object as a member of either system depends completely on its location and orbit.

LOCATION, LOCATION, LOCATION

The Kuiper Belt is the closer of the two systems. In our solar system it starts at a distance of about 30 AU (just outside Neptune's orbit) and extends out to 55 AU from the Sun. It is a disk shaped distribution with objects mostly confined to the plane of the solar system (lined up with the major planets) although the distribution of inclinations is much larger than those of the planets. For example, while the planet with the largest inclination is Mercury at about 7 degrees, Kuiper Belt objects can have inclinations relative to the plane of the solar system of up to 20 to 30 degrees (Pluto's inclination is ~17 degrees).



Artist's representation of the Kuiper Belt. The orbits of the outer planets are included for scale. The narrow elongated orbit is Pluto.

The Oort cloud is really composed of two parts: the inner Oort Cloud and the outer Oort Cloud. The inner Oort cloud is much like the Kuiper Belt, it is a disk shaped distribution of material that lies mainly in the plane of the solar system. The only difference is its distance. Objects in the inner Oort Cloud have distances from the sun that range from 2,000 to 20,000 AU. The outer Oort Cloud, unlike the other two, is a spherical distribution, basically a giant shell around the star. It ranges in distance from 20,000 to 50,000 AU or 0.79 light years (although some estimates put the outer edge as far away as 100-200 thousand AU). It should be noted that the Oort Clouds are completely hypothetical as no Oort cloud object has ever been observed in its "native habitat". However, objects that are believed to be from the Oort Cloud have been observed as long-period comets.



Relative sizes of the Kuiper Belt and Oort Cloud. At the bottom left is the inner solar system, the middle image is the outer solar system and the Kuiper belt and the final image is the Oort Clouds. Both the inner Oort Cloud (the disk shaped region along the center) and the outer Oort Cloud (the spherical shell) can be seen.

JUST HOW MUCH STUFF IS OUT THERE?

While large objects such as Pluto are fairly rare, the number of objects increases rapidly as the size decreases. In total, the Kuiper Belt probably contains hundreds of thousands of objects greater than 100 km in diameter and over a trillion objects overall. Despite this, the total mass in the Kuiper belt is quite low, only about 0.04 to 0.10 times the mass of the earth. The Oort cloud is larger and is estimated to contain several trillion objects larger than 1 km with a total mass estimated to be about five times that of Earth.

What does that mean for the chance of an encounter? Let's make some simplifying assumptions and do some quick math. Let's assume that all of the objects in the Kuiper Belt are arranged in a curtain at 30 AU and extend 20 degrees above and below the plane of the stellar system and are evenly spaced throughout the curtain. In truth they are arranged randomly in three dimensions and extend up to 30 degrees (but are more concentrated at the lower inclinations) but this gives a good approximation of encountering something as you traverse the entire belt.

The total surface area of that "curtain" is 4.35×10^{19} (43.5 billion billion) square kilometers. Given those trillion objects in the Kuiper Belt greater than 1 m, that means that the average distance between any two objects in our "curtain" Kuiper Belt is about 7500 km and each object has 43.5 million square km of the "curtain" to itself. In the real Kuiper Belt, the three dimensional distances are millions of times larger. What this means is that if you set out in a random direction, and even if your ship was a square kilometer in cross section, your chance of actually hitting something after traversing the entire thickness of the Kuiper belt is about 1 in 43.5 million. Since ships are typically smaller than that (on the order of 1000's of square meters in cross section) the probably is really a factor of 10-100 times smaller.

The Oort Cloud, while containing more objects, covers and even greater area and is even less dense on average than the Kuiper Belt.

IMPACT ON YOUR GAME

The exact impact the Kuiper Belt and Oort clouds have on your game really depends on the speed and methods of space travel. The easier it is to get out there the more of an impact these systems could have on your setting.

IN-SYSTEM USES

For campaigns with slow real-space travel, the prospects of actually getting out to the Kuiper Belt or Oort Cloud are really small. The time involved is just too large, on the order of months, years, or decades in order to get out that far. Remember that NASA's New Horizons mission,



An artist's concept of the Kuiper Belt Object Eris with its moon just above. The sun can be seen in the upper left corner. Credit: NASA, ESA, and A. Schaller (for STScI)

the fastest space craft we ever launched, will still have taken 9 years to travel from Earth out to Pluto (38 AU from the sun) when it arrives in 2015. Unless the exploration of one of these objects is the focus of the game, PC's are probably not going to be willing to take the time out of their lives to get out there. There are other things more exciting than exploring an empty, dirty snowball.

In this situation, these objects are mostly of interest to the scientific community. For the most part they are too far out to really be useful as bases. Even though the light travel time (i.e signal delay) from the inner system to the inner portions of the Kuiper Belt is only about 5-6 hours, and it might be conceivable that an enemy would set up a listening post out there to monitor the system, the issue of getting out there to resupply the base would be a serious problem and not really feasible.

On the other hand, as the time required to get out to these distances decreases, their usefulness for mining, research, bases, and whatnot increases. When travel times can be measured in hours, days, or even weeks, they become usable real estate and resource locations. There will be scientific labs, military bases, criminal hideouts, and mining operations all operating out in these areas.

For example, in Star Frontiers, where the maximum speed is limited to 0.01 times the speed of light by the game mechanics, it would take about 27 days to make a 40 AU journey out to the Kuiper Belt. The first 4 days would be spent accelerating at 1g to just under 0.01c. Then the ship would coast at that speed for about 19 days and then flip around and start decelerating for the next 4 days until they came to a stop at their destination. If the 0.01c limit didn't exist, then the trip would take just under 18 days. In this case, they could accelerate constantly at 1 g to the halfway point (reaching a top speed of 0.0258c, 7745 km/s), flip
over and then decelerate at 1 g to their destination. Obviously ships capable of higher accelerations (and thereby greater speeds) would take even less time. These times are starting to approach those at which it might start to make sense to have bases and other activities in these areas.

BUILDING A BASE

If you do use Kuiper Belt or Oort Cloud objects as locations in your setting, there are some things to keep in mind as you design the base. First remember that these are cold, airless worlds on the fringes of the stellar systems. Bases will have to be sealed against vacuum much like a space craft or space station.

These bases will either be dug into, or built upon, cold, icy terrain. An outpost in the Kuiper Belt or Oort Cloud will have to be well insulated. On a spacecraft, the problem is getting rid of excess heat. Vacuum is the perfect insulator, the ice of these worlds, on the other hand, will gladly conduct away the heat from your systems Here the problem will be both keeping the heat in where you want it as well as releasing excess heat properly (and not melting the surrounding ice!)

In addition to accidentally melting your surroundings, the objects themselves may or may not be structurally stable. The ice and rock mixture that makes up these objects is expected to be riddled with fractures and sudden changes in composition and density. Things may shift around and bases should be capable to responding to these kinds of events, especially as the presence on the object becomes large or extended.

Another issue to remember is the power source. Solar power won't work as these objects are simply too far away from their host star to generate any effective amount of energy by that method. Most likely they will be powered by some sort of nuclear power plant. And these power plants generate a lot of excess heat. Which brings you back once again to the issue of insulation and the controlled dissipation of heat to prevent melting the surroundings.

All of these items provide ideas to think about when designing the base but also provide potential adventure hooks and events that could occur at the base if the characters spend any amount of time there.

ISSUES FOR INTERSTELLAR TRAVEL

At best, these objects are a plot device for the game master. Unless the game master wants to use them, they can pretty much be safely ignored. The number and density are just too low for them to realistically show up on even the most generous of random encounter tables. However, an encounter with one of these objects could potentially be catastrophic if not fatal depending on the parameters of the encounter. In a game like Star Frontiers, where interstellar travel occurs via a jump through "the Void" or some sort of alternate reality, the Kuiper Belt and Oort Cloud pose no navigation hazard. The jump is made long before you reach the distances where these objects are found and you reenter the new system well inside these distances.

In a game system with hyperspace mechanics similar that used in Larry Niven's Known Space books, where the presence of a gravity well too close to the ship will cause some sort of problem, either causing the ship to be lost or dropping them out of hyperspace into "real" space, then these objects can pose a bit of a navigational hazard. For the most part, since these objects are small, you'd have to be practically on top of them before their gravity would be strong enough to have any influence. And that assumes that the object is even big enough to have a strong enough gravitational influence. However, some of the larger objects are the size of small planets and could pose a problem. The main danger is the fact that the vast majority, probably on the order of 99.99999% of these objects, are uncharted. The known ones are easy enough to avoid. It's the ones that haven't been seen before that could be the problem.

The above is also true for systems that use a form of warp drive like in the Star Trek universe where ships move at faster than light speeds though real space. In this case the chance of an encounter is probably a little larger. While you practically have to hit the object instead of being influenced by its gravity well, there are many more small objects that you could interact with so the chance of encounter goes up. And, if there is an impact, especially at these high speeds, the results would be catastrophic, most likely resulting in complete destruction of the ship, unless the object was really small. But remember, the odds of that are very small, one the order of 1 in 43 million.

FINAL COMMENTS

While Kuiper Belt and Oort Cloud objects are interesting, the impact on your game is probably small unless you want them to have one or your setting has very fast travel speeds. They are mostly fairly small and very much spread out in the outer system where travel times can be huge to just reach the closest ones. However, if you do include them in your game, they can provide real estate for a variety of installations and encounters.



Pirates have been a part of the Star Frontiers setting since the beginning. The Red Devil pirate and his band was a prominent feature of the first Star Frontiers campaign. Later, Hatzk Naar made his appearance as the most significant pirate in the setting's history – being the catalyst for the First Common Muster. One of the most famous individuals, though possibly not really a pirate himself, was the Malthar. An important crime lord and supporter of pirates, the Malthar was the antagonist of the Dramune Run module.

Just as they have been there from the beginning, pirates will no doubt remain a fixture in the Frontier sector for as

long as the game is played. To facilitate referees using pirates in their games the following lists are provided for inspiration and reference. Included is a list of the names of pirates in the Frontier, a list of real world pirates and their ships, a d100 list of random pirate ship names, and finally a d100 list of names for individual pirates. Now a referee has no excuse for using, "pirate number 5" as a non-player character name in his game.

While up to now we have been focused on Star Frontiers, most of the resources provided below are not limited to that setting. The ship names contain no references to the Star Frontiers setting and could be used anywhere. In

FRONTIER PIRATE NAMES

These names come from various published modules and articles published by TSR. The list includes the pirate's name, the pirate organization he belongs to, and the reference for the pirate's information.

Frontier Pirate	Pirate Band	Source
Captain Slag	Red Devil Pirates	SF-0 Crash on Volturnus
Phalen the Black	Red Devil Pirates	SF-0 Crash on Volturnus
Swag Raston	Red Devil Pirates	SF-1 Volturnus Planet of Mystery
Willy Malone	Red Devil Pirates	SF-1 Volturnus Planet of Mystery
Kurt Sandovar	Red Devil Pirates	SF-1 Volturnus Planet of Mystery
Joey Wilson	Red Devil Pirates	SF-1 Volturnus Planet of Mystery
Wally Jones	Red Devil Pirates	SF-1 Volturnus Planet of Mystery
Captain Straub	Red Devil Pirates	SF-1 Volturnus Planet of Mystery
Blackie O'dell	Red Devil Pirates	SF-1 Volturnus Planet of Mystery
Peal Jones	Red Devil Pirates	SF-1 Volturnus Planet of Mystery
"Goldtooth"	Red Devil Pirates	SF-1 Volturnus Planet of Mystery
Smokie Jo	Red Devil Pirates	SF-1 Volturnus Planet of Mystery
Rummie Bill	Red Devil Pirates	SF-1 Volturnus Planet of Mystery
Bull Blackman	Red Devil Pirates	SF-1 Volturnus Planet of Mystery
Mister "M"	Red Devil Pirates	SF-1 Volturnus Planet of Mystery
Red Devil	Red Devil Pirates	"Volturnus Connection" Dragon #98
Dablak the Enforcer	Malthar's	SFKH-1 Dramune Run
The Malthar	Malthar's	SFKH-1 Dramune Run
Hatzk Narr	Hatzk Narr	Zebulon's Guide to Frontier Space

fact, after rolling on the tables, you could customize the names further by changing place names from the table for names of places in your setting. Thus you might use the "Bloody Gold of the South" name but change "the South" to the name of one of your worlds (or cities if playing on a smaller scale). The same can be done with the pirate names. In this way the tables actually provide more than just a hundred possible names. All it takes is a little more customization.

We hope that these tables will help to provide you with additional inspiration and flavor for your campaign setting.

EARTH PIRATE NAMES

The following table lists many real pirates from Earth's history along with the pirate's gender, nationality, and the name of their ships. You can use this table as inspiration for names of your own or as a reference if you have a setting that includes Earth.

Real World Pirate	Gender	Nationality	Ship
Alvilda	F		
Anne Bonney (Anne Cormac)	F	Irish	The William
Barbarossa Brothers (Aruj and Khayrad'din)	М	Turkish	
Bartolomeo (El Portugués)	М	Portuguese	
Benito de Soto	М	Portuguese	
Black Bart (Bartholomew Roberts)	М	Welsh	Royal Fortune, Great Ranger & Great Fortune
Black Beard (Edward Drummond - Teach or Thatch)	М	English	
Black Bellamy (Samuel Bellamy)	М	English	
Black Caesar	М	African	
Calico Jack (Jack Rackham)	М	English	The William
Captain Benjamin Hornigold	М	English	
Captain Charles Vane	М	English	The Ranger
Captain Christopher Mings	М	English	
Captain Edward England	М	English	Victory, Pearl, & Fancy
Captain Enrique Brower	М	Dutch	
Captain George Booth	М	English	
Captain George Lowther	М	English	Delivery
Captain Henry Every (Avery)	М	English	
Captain Hook (fictional)	М	English	Jolly Roger
Captain Ignatius Pell	М		Royal James
Captain Jack Sparrow (fictional)	М		Black Pearl
Captain Jackman	М	English	
Captain James Kelley	М	English	
Captain Jan de Bouff	М	Dutch	
Captain John Bowen	М	English	
Captain John Calles (Callis)	М	English	
Captain John Gow	М		The Revenge
Captain John Morris	М	English	
Captain John Nutt	М	English	
Captain John Ward (Yussuf Rais)	М	English	
Captain Lawrence Prince	М	Dutch	
Captain Manuel Pardel Rivero	М	Portuguese	
Captain Nathaniel Butler	М	English	
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Real World Pirate	Gender	Nationality	Ship
Captain Peter Easton	М	English	
Captain Richard Worley	М	English	
Captain Simon Simonson - der Tantzer (The Dancer)	М	Dutch	
Captain Thomas Anstis	М	English	
Captain Thomas Paine	М	English	
Captain Thomas Tew	М	English	Liberty and the Amity
Captain Tobias Bridge	М	English	
Captain William Kidd	М	Scottish	Adventure Galley
Captain William Moody	М		The Rising Sun
Charlotte de Berry	F	English	
Ching Shih (commanded 1800 ships and about 80,000 pirates)	F	Chinese	
Count Maurycy Beniowski (Baron Maurice de Benyowski)	М	Polish	
David Marteen	М	Dutch	
Diabolitio (Little Devil)	М	Cuban	
Francois le Clerc (Jambe de Bois)	М	French	
Grace OMalley	М	Irish	
Henriques the Englishman (Henry Johnson)	М	Irish	
Howell Davis	М	Welsh	
Jane de Belleville (French noblewoman turned pirate)	F	French	
Long John Silver (fictional)	М		
Mary Read	F	English	The William
Oliver le Bouch (La Bous or La Buse)	М	French	
Rachel Wall (wife of George Wall)	F	American	
Red Legs Greaves	М	Scottish/Irish	
Redbeard (Barbarossa)	М	Greek/Turkish	
Roberto Cofresi (Roberto Cofresí y Ramírez de Arellano)	М	Puerto Rican	
Roche Brasiliano	М	Dutch	
Samuel Burgess	М		Margaret, Jacob & Neptune
Sir Henry Morgan	М	Welsh	
Stede Bonnet	М	American	
William Dampier	М	English	

PIRATE SHIP NAME S

Roll d100 and consult to following table for a random pirate ship name.

d100	Ship Name	d100	Ship Name	d100	Ship Name
1	Davy Jones' Gale	35	Hades' Trident	68	Murderer's Slave
2	Pirate's Raider	36	Plunderer's Fear	69	Sea's Death
3	The Damned Murderer	37	The Deceitful Buccaneer	70	The Dreaming Buccaneer
4	The Vile Privateer	38	The Awful Whore	71	The Bloody Sword
5	The Dark Cutlass of the Seven Seas	39	The Dreaming Mermaid of the Sargasso Sea	72	The Damned Mystery of the South
6	The Deceit of the South	40	The Greedy Knave	73	The Greedy Slave
7	The Howl of the Eel	41	The Morbid Cruelty	74	The Pride of the Wolf
8	The Rage of the Pirate	42	The Red Dishonor	75	The Vile Mermaid
9	The Wandering Murderer	43	Captain's Hate	76	Captain's Nightmare
10	Devil's Secret	44	Devil's Shameful Saber	77	Dragon's Evil Night
11	Night's Coral	45	Night's Dishonor	78	Ocean's Hell-born Treasure
12	Pirate's Whore	46	Plunderer's Cruelty	79	Sea's Scream
13	The Dirty Devil	47	The Greedy Captain	80	The Bloody Hate
14	The Coral Damnation	48	The Disgraceful Dream	81	The Disgraceful Slave
15	The Dishonor of the East	49	The Fallen Barnacle	82	The Dreaming Mermaid
16	The Poison Lightning of the Sargasso Sea	50	The Foul Pirate of the Seven Seas	83	The Morbid Saber of the Ocean
17	The Vile Jewel	51	The Wandering Doom	84	Buccaneer's Dishonor
18	Devil's Strumpet	52	Dragon's Gold Skull	85	Dragon's Treasure
19	Killer's Executioner	53	Pirate's Insanity	86	Pirate's Jewel
20	Plunderer's Executioner	54	Plunderer's Horror	87	Privateer's Serpent
21	Sea's Lightning	55	The Angry Servant	88	The Cruel Servant
22	The Cry of the Seven Seas	56	The Cursed Mermaid	89	The Cursed Thunder
23	The Death of the Sea	57	The Deceitful Raider	90	The Disgraceful Lightning
24	The Dishonor of the Corsair	58	The Greed of the Devil	91	The Hate of the North
25	The Evil Cutlass of the Sea	59	The Shameful Damnation	92	The Vile Doom
26	Buccaneer's Storm	60	Buccaneer's Trident	93	Calypso's Coral
27	Devil's Anger	61	Hades' Horrid Mystery	94	Ocean's Raider
28	Poseidon's Damned Pearl	62	Privateer's Barnacle	95	The Hateful Demon
29	The Morbid Murderer	63	The Screaming Demon	96	The Cursed Cruelty
30	The Bloody Gold of the South	64	The Vile Mermaid of the Caribbean	97	The Damned Poison of the Sargasso Sea
31	The Deceitful Whore	65	The Dirty Killer	98	The Disgraceful Thunder
32	The Dishonorable Barnacle	66	The Hellish Murderer of Hell	99	The Rage of Atlantis
33	The Rage of the Shark	67	The Scream of the Shark	100	The Foul Storm of Atlantis
34	The Wandering Grail				

PIRATE NAMES

Roll d100 and consult to following table for a random pirate name.

d100	Pirate Name	d100	Pirate Name	d100	Pirate Name
1	Dastardly Dick	35	Evil Jack	68	Hackin Daryl Hawkins
2	Black Star Killer	36	Huge Gus Smythe	69	Captain Blue Blob
3	Captain Wade Two Toes	37	Dirty Vic	70	John Dawkins
4	Drownin' Marilyn Cutty	38	Smugglin' Marcy Jones	71	Space Monkey Radley
5	Smilin' Ron Scabbs	39	Cap'n Bud Cutthroat	72	Cap'n Kate Shrew
6	Black Diehl	40	Mad Kyle Brien	73	Space Wolf
7	Privateer Joseph Salty	41	Queen Anne de Burgess	74	Admiral Mad Tongue
8	Dame Jennifer the Rough	42	Lackey Short Fuse	75	Bombing Bart
9	Cap'n Don the Dancer	43	Saber Sam	76	Krik Eye Kevin
10	One-Legged Rand Vallo	44	Freejack Foreman	77	Voidbait Hampton
11	Baron Kegsteeler	45	John Gallo	78	Orca Avery
12	Captain Jamal Jinkins	46	Old Bill Yeager	79	Toothless Bill McFilthy
13	Captain Van Horne	47	Cutthroat Schmidt	80	Lady Cassan McGee
14	Double Cross Anne Gumbo	48	Consuelo Vallo	81	Two-Shot Sn'k
15	Jody Ward	49	Evil-Eye Henry McKenzie	82	Space Dog Rollo
16	Red Leg Williams	50	Three Leg Droll	83	Savage Monkey
17	Raging Hetz	51	Space Wyvole	84	Captain Voor
18	Killjoy Bob	52	Poopdeck Pete Condent	85	Captain Deathbringer
19	Cap'n Ram	53	Scar Face Segal	86	Christopher Grogmaster
20	One Hand Anderson	54	Patches McSnee	87	Quint Blum
21	Fishlips Threefingers	55	Matey Seba	88	Old Swab
22	Captain Scragbeard	56	Captain Fancy	89	Count Paisley Holiday
23	Cannon Master Swit	57	Mister Smith	90	Zorn of Dramune
24	Craterface Cummings	58	Andrew Staples	91	One Tooth Freeman
25	Boatswain Billings	59	Andrew Sword Dancer	92	Freejack Vargus
26	Gus Gold Hook	60	Cap'n McKracken	93	Bloody Chruchill
27	Cap'n Black	61	Old Red Eye	94	Grace Heyley
28	Carol the Cannon Gruda	62	Marilyn Musket-Mouth	95	Racy Lacy Rib-Cutter
29	Cap'n Richards	63	Golden Glenda	96	Jody Black
30	Lanky Nibs Dixon	64	Scurvy Legs Lensman	97	Leather Hide
31	Tennison Two-in-the-Back	65	Javi Kenzick	98	Molly Miss-Jump
32	Silent Sid	66	Butt-Ugly Bradford Dread	99	Deis of Kitza
33	Tommy Tattoo	67	lon lggy	100	Plank Monkey Glynnis
34	Zs'k Swiftknife				



Hako Gasar looked at the pistol in his hand. It was well worn on the grips and the action displayed nicks and dents from years of service. Yet the weapon had a clean bore and smooth action. This piece had seen many worlds and intense work, but was always maintained. The weapon had also delivered the bullet that had killed Hako's brother.

Lucco Gasar had been born minutes before Hako in a litter of three. The first was their elder sister who now worked quietly in a lab on Hentz resurrecting Yazirian life from the genbanks. She could have been wealthy by now had she not been funding Hako's quest to find their mutual life enemy, the murderer of Lucco. But now she would be able to start enjoying the wealth of her profession.

For ten years Hako had tracked this man from the death site on Golloywog to this sandy beach on Moonworld. A dozen worlds, space stations, and countless starships had brought him to this point. Ten years ago and a day Hako had been enjoying a drink of victory with Lucco to celebrate the end of the Second Sathar War. Jika their sister had sent a holo from the clan elders congratulating Lucco on his fifteen kills as a star fighter pilot. Lucco was to be given the honor of blooding his zamra with a lask kill in the clan hall. Hako was to be his escort home.

They had parted happy and full of spirit, Hako to the hotel at the starport, Lucco to his base quarters. Lucco had four months leave to return as the honored clan hero. Speaker Malak had a great presentation planned in the clan hall and many of the clans of Hentz had invited Lucco to stand for clan membership upon his return. The invitations for clan membership had begun arriving at the Hall of Clan Gasar's months ago. Not since the century before the exodus had Clan Gasar had one of its own so honored. The dead man at his feet had robbed the clan of all of it.

The morning of the murder Lucco had scheduled a private flight to the Marine Memorial on Mount Solitude. This was his last flight in his star fighter. It was two hours past the time he should have returned based on his scheduled flight plan when Hako received word that Lucco had been found shot dead at the altar of the memorial. Lucco's star fighter had been tampered with and the memory of all the recorders destroyed. Whom ever had killed his brother had knowledge of the star fighter designs and knew the flight plan. Hako had used his pull as a surgeon to visit the crime scene and observe the autopsy. He gained



access to the bullet and made his scans of it during the autopsy.

The 7.62x17 caliber Type 67 pistol was an ancient human weapon that was extremely collectable. Many of them had been presented to political officers in the first Frontier expedition fleets. The odd caliber of the weapon was what had made tracking down this man possible. Why it had not aided the UPF detectives had always bothered Hako until he discovered who the owner of this gun was.

UPF operatives do not technically exist and they change their identities as often as the dralasites on Inner Reach dye their skin colors. Hako had first caught up with him on Space Fortress Kdikit. He shared a drink with him and got a scan of the pistol surreptitiously. The scan later confirmed that he had the murder weapon. When he confronted him two days later he confessed to the kill, but it cost Hako an eye and six months on various Ifshnit freighters trying to escape him and his companions.

The years following the confrontation on Fortress Kdikit had made Hako a fugitive. This man had taken to implicating Hako for a string of murders across the Frontier. No doubt he had produced the corpses in his line of work, but Hako was made to hang for them. It was a good defense to keep Hako away from him. Taking an assignment on Moonworld had been the mistake where he let down his defenses. Moonworld may be a UPF military

system, but they do use contractors. The facial reconstruction, eye replacement, and new identity had cost Hako and Jika millions of credits and years to establish the identity. But he had made Hako clanless, a dear price to pay for a yazirian.

It had taken months of waiting on Moodworld to get a chance to confront him again alone. The weather and great tides helped by providing a time and place where their meeting would not be recorded. The sky was thickly overcast and the great tides brought many yazirian and human sized creatures from the oceans onto the beaches that would confuse the thermal scans. Hako braved a sixteen kilometer scuba swim with shworms of all sizes to reach the beach. Now he had to make the return trip, but with a hole in him oozing blood that would attract shworms by the hundreds. Hako did not expect to live.

The confrontation had been brief. Hako approached the man as he was digging a shell from the sand. They looked at each other and Hako got as far as saying, "I Hako Gasar, for the honor of Lucco -" when the man shot him. Hako raged and killed him quickly with one zamra stroke. The man's bullet had struck Hako in the left shoulder and the autosurgeon was unable to extract the bullet from the bone of Hako's shoulder blade. The plastiflesh kept opening little holes as he moved his arm and blood oozed. Hako couldn't swim properly with one arm and expected the wound to open in the water. Hako finished looking at the pistol in the man's hand and pried it from his grip. He tucked it and his zamra in his backpack and pulled out some rope. He tied the man's legs together and secured the other end to his waist belt. Then he pulled the man towards the advancing tide and the two soon disappeared into the ocean. The shworms would dispose of the man's body. They likely would dispose of Hako too.

Two years later the Speaker of clan Gasar received a package. The package contained a 7.62x17 caliber Type 67 pistol, Hako's zamra, and an account of Hako's quest and the evidence of Lucco's murder. When the Council of Clans reviewed the account and evidence, Clan Gasar received honors from the clans that had offered Lucco membership. However the UPF warrants for Hako's arrest still stood implicating him in various unsolved murders. The clan could not reinstate Hako as a member. Hako remained clanless. But when Lucco's son blooded in the clan hall a year later he used Hako's zamra. When he presented Speaker Malak with the cup of lask blood the Speaker only pretended to drink. When no one was looking he set the cup at his feet, out of sight, where the box for the silent ones always sits empty. That year a hand reached out of the box and took the cup.





In a spiral galaxy there lies a frontier of stars colonized by humans, dralasites, yazirians, and vrusk. Over the years we have seen creatures from a variety of worlds in that sector but never animals brought with the colonizers. What animals would humans bring with them from Mother Terra? Certainly they would bring some, whether as genetic samples or as live samples to sustain them and to help organize new ecosystems. Below are some suggested Terran stock animals that may have been imported to the Frontier by humanity.

TERRAN HORSE (PURE STRAIN)

Terran Horse		
TYPE:	Large Herbivore	
NUMBER:	Any: 1d5 to 3d10	
MOVE:	Fast: 80m/t (gallop), 25m/t (trot)	
IM/RS:	7/55	
STAMINA:	100 (riding) 150 (hvy draft)	
ATTACK:	45	
DAMAGE:	2d10	
SPECIAL ATTACK:	n/a	
SPECIAL DEFENSE:	n/a	
NATIVE WORLD:	Earth, Sol System	



Tom Verreault

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Brought with the original human colony expedition to the Frontier, horses were first introduced on Clarion and Minotaur. Due to the philosophy of the Frontier Agriculture Resource Mission being based on low impact sustainable farming practices, horses were also introduced on most human agricultural colonies like Timeon, Kdikit, and Rupert's Hole.

Horses are skittish and nervous animals. They are easily unsettled by new stimuli and most shy away from vrusk when meeting them for the first time. When a handling or control check of a horse is called for an untamed/unbroken horse is -30 to control, a broken horse is -15, and a trained horse is -0.

GEN-QUINE (GENETICALLY ENGINEERED HORSE)

Gen-Quine		
TYPE:	Large Herbivore	
NUMBER:	Any: 1d5 to 3d10	
MOVE:	Fast: 85m/t (gallop), 30m/t (trot)	
IM/RS:	6/45	
STAMINA:	125	
ATTACK:	55	
DAMAGE:	2d10	
SPECIAL ATTACK:	n/a	
SPECIAL DEFENSE:	n/a	
NATIVE WORLD:	Clarion, White Light System	

The horses that were introduced on Clarion did not do well in its soggy environment. A genetically engineer breed was developed and named gen-quine. These animals are shorter, stockier, calmer, and smarter than regular horses. They have a genetically programmed desire to please their rider/owner and bond closely with humans. A trained gen-quine is +10 for handling or control checks. This bonding feature made the gen-quine the favored mount of Clarion's Royal Mounted Constabulary; up to 90% of their stable is gen-quine stock.

They can breed with regular horses and this has lead to a long running argument among horse breeders and enthusiasts concerning the merits of the pure bred horse vs. the genetically engineered horse. Some race organizers require genetic testing before a horse can compete.

Note: Many RPG referees allow for horses to act in very unnatural ways. Strange stimuli spooks horses and horses not bred or trained for combat will seek to flee when this erupts. However, in the average RPG, horses are treated like a motorcycle; cycle is "on" when being ridden and "off" when not. Without a doubt horses will not stay "parked" where the players put them without some precautions taken. The gen-quine was engineered to act more in line with how the usual horse acts in a RPG though extreme stress and extreme stimuli will cause it to react similar to a regular horse.

TERRAN K9

Terran K9					
TYPE:	Tiny Carnivore	Small Carnivore	Medium Carnivore		
NUMBER:	1d10	1d10	1d10		
MOVE:	Medium: 65m/t	Medium: 75m/t	Fast: 85-90 m/t (or V. Fast for racing breeds: 120 m/t)		
IM/RS:	7/65	6/60	6/55		
STAMINA:	10	20	40		
ATTACK:	55	65	75		
DAMAGE:	1d5	1d10	2d10		
SPECIAL ATTACK:	n/a	n/a	See Subdue Training		
SPECIAL DEFENSE:	n/a	n/a	n/a		
NATIVE WORLD:	Earth, Sol System	Earth, Sol System	Earth, Sol System		

There are innumerable breeds of dog and their decedents can be found anywhere in the Frontier. On high population worlds the smaller varieties are common while on low population and outpost worlds the larger varieties are more common.

The development of new dog breeds has continued in the Frontier. The naming convention for new breeds is to attach the planet of origin to the name of the breed; Minotaur Shepherd, Lossend Sheep Dog, or the Cassidine Chihuahua.

In space, most dogs panic or become distressed in zero g. Dogs living in zero g must be trained and acclimated to that environment or sedated. The Pan Gal Corporation has begun to market velcro booties (10 Cr.) for dogs as well for use in zero g.

Dogs bond closely with their owners and react aggressively if their owners are attacked even if not trained as an attack dog. They have a strong desire to please and make excellent working animals. Certain breeds have strong instincts that have become locked into the breed; shepherding, prey instinct, etc. This makes these breeds easily trained for those jobs. Treat a dog breed that is noted for a particular behavior or locked instinct as having an installed program similar to programs for robots that allow the dog to perform that job or mission naturally even without human direction.

TYPES OF LOCKED INSTINCTS

PREY INSTINCT

A strong prey instinct makes for a good hunting dog. This instinct compels them to chase and catch small animals. In terrier breeds it was bred for the purpose of controlling rodents and protecting grain stores. In larger hunting breeds the instinct to kill the prey was sometimes bred out so that the dog will capture the prey but not kill it. The Arabian Saluki is such a breed. In an untrained dog this instinct can cause the animal to lunge for small animals or children making sudden movements.

SHEPHERD INSTINCT

A strong shepherding instinct makes for a good working dog well able to manage other domesticated animals. The trained animal becomes an extension of the shepherd allowing him to control the dog by vocal commands and move domesticated animals as if by remote control. In an untrained dog this instinct can lead to biting of domesticated animals.

PROTECTIVE INSTINCT

A strong protective instinct gives a dog a powerful sense of protection for the beings with which it lives. Once he becomes familiar with a location the dog will assume guardian ship over it. Dogs with this instinct will bark a warning at strangers and can launch an independent attack. Whether trained or not this instinct *can* lead to a very aggressive dog. To lesser and stronger degrees all breeds have this instinct and even a passive dog is capable of great heroics to defend its owner.

TRAINING "PROGRAMS"

House or Ship Breaking

This training conditions the dog to relieve itself in designated locations. This training is considered mandatory for dogs that will spend significant time on spacecraft. Ship breaking includes zero g acclimation.

ATTACK ON COMMAND

This training conditions the dog to attack on command and includes a cease command.

DETECT SCENT

The dog's nose is believed to be 40,000 times stronger than the human nose. This training must be done separately for each new scent a dog is to detect. On command a dog will search for a particular scent and "alert" or sit when it's discovered.

TRACKING

This training is a little different from detect scent and is necessary to track a person over distance.

SUBDUE

This training teaches a dog to bite and hold onto an appendage. The dog will use his momentum and mass to pull the target off balance. If the dog senses the target is not resisting it will not do bite damage to a prone target otherwise the dog does its bite damage every turn until the target breaks free on a strength test (-20).

SERVICE TRAINING

This is a catch all category for training service dogs. A service dog can help a disabled being overcome a disability. Trained service animals cost 5000 Cr.

Editor's Note: For characters that want to train their own animals, an upcoming article will detail an Animal Handling skill and cover animal training.

CYBO-DOG

Cybo-dog		
TYPE:	Medium Carnivore	
NUMBER:	1d5	
MOVE:	Fast: 90m/t	
IM/RS:	7/65	
STAMINA:	75	
ATTACK:	75	
DAMAGE:	2d10	
SPECIAL ATTACK:	Subdue Program	
SPECIAL DEFENSE:	Anti-Shock Implant	
NATIVE WORLD:	n/a	

Developed on Outer Reach, cybernetic dogs are popular with criminals but have proven to be unstable. The animals invariably become vicious monsters due to swelling of the brain around the cybernetic implant. Most people consider the practice of making cybo-dogs to be abhorrent and view the beast as sad and pathetic. Due to the instability problem, many worlds have outlawed them after several owners or innocent bystanders were killed when the animal snapped.

It's necessary to control them with a remote device (100 Cr.) with the same range of a chronocom. Most Cybo dogs have tracking, attack, subdue, and one detect scent program wired into their cybernetic controls. The usual cost of a cybo-dog is 6,000 Cr.

GENERIC DOMESTICATED FARM ANIMALS

Domesticated farm animals are fairly generic and harmless but should stats be required a referee can use the

table to extrapolate statistics for the animal he is using. Chickens and ducks are tiny. Geese and goats are small. Sheep and pigs are medium. Cattle are large.

Generic	: Domes	ticated F	arm Ani	mals
TYPE:	Tiny Herbivore	Small Herbivore	Medium Herbivore	Large Herbivore
NUMBER:	Any	Any	Any	Any
MOVE:	Medium	Fast	Fast	Fast
IM/RS:	8/75	7/65	6/55	5/45
STAMINA	1-10	5-20	20-100	50-150
ATTACK:	n/a	35	40	50
DAMAGE:	n/a	1d2	1d5	1d10
SPECIAL ATTACK:	n/a	n/a	n/a	n/a
SPECIAL DEFENSE:	n/a	n/a	n/a	n/a
NATIVE WORLD:	Earth, Sol System	Earth, Sol System	Earth, Sol System	Earth, Sol System

ALLIGATOR

Alligator				
TYPE:	Medium Carnivore		Large Carnivore	9
NUMBER:	1d10		1d5	
MOVE:	Medium		Fast	
IM/RS:	6/55		6/55	
STAMINA:	120		200	
ATTACK:	75		65	
DAMAGE:	3d10 (1d10)		4d10 (1d	10)
SPECIAL ATTACK:	Ambush Death Roll		Ambush Death Ro	
SPECIAL DEFENSE:	n/a		n/a	
NATIVE WORLD:	Earth, System	Sol	Earth, System	Sol

On Earth the American alligator was down-graded from the endangered species list due in large part to alligator farms raising them for meat and leather. They are by no means a domesticated farm animal. Not knowing what environments would be encountered out in the stars, the gene banks brought from Earth included genetic samples of alligators. On the planet Clarion, which has an incredibly soggy environment and a high population density, alternative Terran food sources were sought and the alligator became a crucial component in Clarion's food chain. Naturally some have escaped captivity and colonized large areas of the planet. The success of the alligator in adapting to Clarion's environment has led to consideration for introducing them on other worlds.

An alligator is an ambush hunter, exposing just its eyes and nostrils from the water and lunging at prey close to the shore. Hiding in the water gives the alligator +20 concealment and one combat round of stunned surprise. If the initial attack succeeds its jaws will lock and are impossible to force open unless the alligator lets go, is killed or someone near-by has an exo-skeleton. Once the jaws are lock on prey they do an automatic 1d10 damage per turn.

Once the alligator has locked jaws on a victim it will try to pull them into the water for a death roll. A character will be dragged 2m per combat round toward the water unless they make a successful STR check (-10 for a large alligator and +20 per character assisting the bitten character in the STR check and not attacking the alligator). In the water the death roll will do 2d10 damage automatically and continue till the prev expires from wounds or drowns. Another character grappling a medium sized or two other characters grappling a large alligator could prevent it from doing the death roll with a bitten character. At any time that the alligator begins to feel truly threatened it will release its prey perform a tail slap on an attacker for 1d10 damage and flee in the water. If grappled it makes a STR check based on its attack roll to break free.

Terran Rat				
TYPE:	Tiny Omnivore			
NUMBER:	10-100			
MOVE:	Medium			
IM/RS:	7/70			
STAMINA:	5			
ATTACK:	45			
DAMAGE:	1d5			
SPECIAL ATTACK:	Disease			
SPECIAL DEFENSE:	n/a			
NATIVE WORLD:	Earth, Sol System			

ΤΕΡΡΑΝ ΡΑΤ

As unlikely as it would be for rats to stow away on spacecraft to get the Frontier it is very likely they were brought as either an exotic pet or potential lab animal. Once in the Frontier they eventually escaped captivity. Through interstellar trade and the increased number of non-government owned starships they have colonized many planets and space stations in the Frontier.

Their special attack is disease transmission. It's not unusual that they can be carriers of disease (35% of the time or by referee fiat). Diseases operate on this mechanic: -10/D8. The -10 is the modifier to all ability checks and D is the duration in 10 hour time periods. If followed by a "!" death occurs after the duration expires unless cured. Possible disease carried by rats could have a -5 to -20 ability modifier and last any number of days. The Galactic Standard Day is 20 hours so the duration for a disease lasting 3 days would be 6. It might even be possible for a disease to be particularly long lasting as to have an infinite duration $(-15/D\infty)$ meaning the disease must be cured at a hospital.

DOLPHIN

Dolphin	
TYPE:	Medium Carnivore
NUMBER:	2-20
MOVE:	Very Fast
IM/RS:	7/65
STAMINA:	20-120
ATTACK:	75
DAMAGE:	3d10
SPECIAL ATTACK:	Stun (STA for no effect)
SPECIAL DEFENSE:	n/a
NATIVE WORLD:	Earth, Sol System

Dolphins are highly intelligent and social animals making them ideal for breeding and genetic engineering programs to develop them for aid to humans on water dominated worlds. There special attack stems from a swimming charge that rams their solid nose into an opponent at great force.

OSTRICH

Ostrich	
TYPE:	Large Omnivore
NUMBER:	Any
MOVE:	Fast, 80 kph
IM/RS:	5/45
STAMINA:	100
ATTACK:	55
DAMAGE:	3d10
SPECIAL ATTACK:	Disembowel
SPECIAL DEFENSE:	n/a
NATIVE WORLD:	Earth, Sol System

The ostrich has proven capable of surviving harsh environments that other domesticated farm animals have not done well in making them an exotic meat source on Earth. In the Frontier different programs have introduced them to agricultural worlds as a food source. They are dangerous and use their feet to attack so must be handled with care.

Yazirians have developed a taste for the meat and also developed a sport of slaughtering the animal by gliding attack. Animal rights cadres decry this practice but have had limited success in stopping it.



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