

The FCI Consumer Guide

Written By Steve Harmon

Freedonian Consumer Institute Product Research Division Consumer Guide Volume 1

Approved For Use With

TRAVELLER™

Science-Fiction Adventure in
the Far Future



The FCI Consumer Guide

by Steve Harmon

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FREEDONIAN CONSUMER INSTITUTE

Consumer Guide Volume I

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PLAYER INTRODUCTION

FREEDONIAN CONSUMER INSTITUTE PRODUCT RESEARCH DIVISION

CONSUMER GUIDE

Volume I: 1108

The Freedomian Consumer Institute is pleased to present to the public its Product Research Division's report on equipment and accessories. Through extensive testing covering a two year period, the FCI has compiled this list of commonly available items. All products were purchased from merchants at retail prices and no donations of items were accepted from manufacturers to insure the consumer of an unbiased report. At least three items of each type were tested for comparison and some manufacturers from which they can be purchased are listed in the referee's section in the back of this report. Future reports from the Product Research Division will describe less common items available for specialty purposes.

This Consumer Guide is divided into two sections. The first section, in the front of the book, is for the player's use and describes each item and its purpose. The other section is designed for the referee and gives several manufacturers' names for each item.

The player's section is designed for easy reference. It gives the item name and technology level where the item first becomes available. Then it lists information about weight, dimensions, and cost. Under this is a paragraph explaining use of the item and other useful information.

The referee's section gives the names of three manufacturers, how available their product is, and how reliable. It also explains some dangers or drawbacks the item can have. This allows the referee to choose the quality and price of the items made available to the players and possible things which could go wrong.

A note about modifiers (DMs): All dice roll modifiers given in this report are applied to the number rolled on the dice, instead of the number needed to hit. For example, if the item states "...as Cloth Armor + 2...", it is easier to hit because 2 is added to the number rolled on the dice. Similarly, if the item states "...as Body Pistol - 2...", it is more difficult to hit since 2 is subtracted from the number rolled on the dice.

SLEEPING BAG TL-4

Weight: 1800 grams

Length: 2 m

Width: 80 cm

Thickness: 5 cm

Price: Cr 60

A thick, insulated bedroll with a full-length zipper and a water-resistant outer coating, this bag can be rolled into a small bundle for carrying on a pack with ties to secure it in the rolled configuration. Temperature protection extends down to -30° C (-25° F) in average tech level versions, and more advanced types lower the limit to -45° C (-50° F) with the use of a layer of heat-reflective foil. The bag is washable and can be colored or camouflaged.

BACKPACK TL-4

Weight: 1800 grams

Length: 60 cm

Width: 25 cm

Height: 80 cm

Capacity: 30 liters/30 kilograms

Price: Cr 75

The backpack is a rigid 'H' frame with a large bag which has straps to secure the pack to the wearer's back. The bag has a large main compartment with a tie-down flap and two smaller pockets which have snap closures. A sleeping bag, tent or other gear can be attached to the frame, which has a belly strap for comfort and which can support up to 36 kilograms. The bag is usually made from a fabric and can be water proofed and treated to resist rotting. Advanced versions use a polymer frame which reduces weight and can have waterproof closures which allow the bag to be submerged.

CHEST PACK TL-4

Weight: 600 grams

Length: 30 cm

Width: 12 cm

Height: 15 cm

Capacity: 6 kilograms

Price: Cr 55

This pack is designed to attach to backpack straps or equipment harnesses to allow items to be carried on the chest where they are easily available. It is usually made of fabric which can be waterproofed and hooks to the straps with ties or metal fasteners. Basic versions use a tie-down flap and more advanced types use a zipper and can be submerged.

WEBGEAR TL-6

Weight: 450 grams

Width: 8 cm

Price: Cr 50

Webgear is an adjustable harness worn over the upper body for carrying equipment, ammunition or weapons. It has two straps which go over the shoulders and cross in back and a belt with six snap pouches. Webgear is constructed from fabric with metallic snap closures and comes in two colors: green or white.

DUFFEL BAG TL-4

Weight: 850 grams

Capacity: 55 kilograms

Length: 90 cm

Price: Cr 30

Diameter: 55 cm

The duffel bag is a large fabric bag with web handles on the ends and side for carrying personal gear. Early types have tie closures and more advanced models use a zipper. The bag can be colored, waterproofed and treated with a chemical which resists rotting.

2-MAN TENT TL-1

Weight : 3000 grams

Open Length: 2 m

Folded Length: 40 cm

Open Width: 2 m

Folded Width: 25 cm

Open Height: 1.5 m

Folded Height: 15 cm

Price: Cr 75

The tent is a waterproofed fabric used for portable shelter. Basic version consist simply of a sheet of canvas, and necessary poles and stakes are made from local materials. Advanced models have telescoping poles and attached stakes. Tents can be colored or camouflaged and can be carried on a pack. Two men can fit comfortably inside, three with some crowding. Tents manufactured after tech level 5 usually have a sewn-in waterproof floor.

TENT HEATER TL-6

Weight: 3600 grams

Fuel Type: Petrochemical

Height: 25 cm

Fuel Price: Cr 5

Diameter: 35 cm

Price: Cr 75

The tent heater is a device to provide heat using hydrocarbon fuel burned over a catalytic pad so there is no open flame. It provides an average 5000 BTUs heat for 12 hours on one fill-up of its 3 liter tank. Most versions have a thermostat to adjust for a comfortable temperature. Fuel comes in plastic containers of 4 liters or in pressurized disposable cannisters which weigh 450 grams and provide 6 hours use. An adapter kit is necessary to use the pressurized cannisters and costs 10 Cr.

CAMPSTOVE TL-6

Weight: 3500 grams

Height: 12 cm

Length: 45 cm

Fuel Type: Petrochemical

Width: 30 cm

Fuel Price: Cr 5

Price: Cr 85

The campstove is designed to use hydrocarbon fuel fed to two burners for heating food or water. Each burner is adjustable separately or one burner may be used alone. The stove is self-contained and folds into a closed box for transport. Setup takes five minutes during which time the fuel tank is hooked to the front of the stove, filled, and pressurized from a hand pump mounted on the tank. Other versions use a pressurized fuel cannister which screws to a valve assembly that also hooks to the front of the stove. The campstove provides up to four hours use with both burners operation before needing refill of its 3 liter tank or replacement of the disposable fuel cannister and some versions have a built-in sparker for ignition.

INFLATABLE MATTRESS TL-6

Weight: 1600 grams

Height: 15 cm

Length: 2 m

Capacity: 175 kilograms

Width: 1 m

Price: Cr 35

A portable bed or emergency raft, the inflatable mattress is foldable for carrying in a pack. It is made of plastic and has a valve through which it can be inflated by lung or compressor and has four individually isolated cells. Inflation usually takes ten minutes.

ELECTRIC CAMP LANTERN TL-6

Weight: 450 grams

Height: 30 cm

Length: 8 cm

Price: Cr 30

Width: 8 cm

The electric camp lantern uses batteries to power a 20 centimeter long fluorescent tube and/or flashlight. Usually the lantern is waterproof and shock-resistant and can provide light for up to 8 hours.

MANUAL TORCH TL-6

Weight: 400 grams

Diameter: 8 cm

Length: 20 cm

Price: Cr 40

The manual torch operates by squeezing and releasing the trigger which produces an electric charge for the filament. The device has only three moving parts and is sealed at the factory to make it air and watertight. These torches last a long time and are dependable but light output is only effective to three meters.

CANTEEN TL-2

Weight: 450 grams

Capacity: 2 liters (1.5 kilograms)

Diameter: 20 cm

Price: Cr 25

Width: 6 cm

The canteen is a disk-shaped metallic container with a fabric 'holster' for carrying liquids. The canteen has a screw-on cap attached by a chain and the holster has a shoulder strap. Wetting the holster cools the contents of the canteen by evaporation.

MESSKIT TL-4

Weight: 175 grams

Height: 4 cm

Length: 20 cm

Price: Cr 15

Width: 10 cm

The messkit is a portable plate and silverware. It is metallic and opens along a hinge with a combination fork/spoon inside. It has a clip for attachment to a belt or it can be carried in a pack.

INFLATABLE BOAT TL-5

Weight: 5000 grams
Folded Length: 40 cm
Folded Diameter: 40 cm
Capacity: 175 kilograms

Open Length: 2 m
Open Width: 1.2 m
Open Height: 30 cm
Price: Cr 100

The inflatable boat is designed to provide a portable means of water transport. It folds into a pack-sized bundle and can be inflated in fifteen minutes. Most rafts have separate flotation cells (average of six) to give bouyancy even when one or two cells are deflated. Inflatable boats are commonly made with double or triple thickness plastic and come with a pair of telescoping oars weighing 850 grams each. Replacement oars cost 20 Cr each. The boat can be inflated by lung or compressor and some versions use a pressurized can weighing 450 grams and costing 5 Cr, good for one inflation.

SNOWSHOES TL-3

Weight: 900 grams/pair
Length: 1 m

Width: 45 cm
Price: Cr 75

Snowshoes are a rigid framework strung with wire or gut mesh to enable easier walking on snow. Early models use a wood or bone frame and animal gut, while later versions are made with a lightweight metallic frame and wire mesh. The snowshoes strap on to shoes or boots with either ties or metallic fasteners and later types usually have a release mechanism which helps prevent broken ankles in case of a fall.

SNOW SKIES TL-3

Weight: 5 kilograms/pair
Length: 1.8 m

Width: 12 cm
Price: Cr 115

Snow skies are designed to strap onto shoes or boots and provide extra mobility and speed on snow surfaces. Usually constructed of wood in the basic models, higher tech level products use fiberglass or other lightweight material. Most skis are equipped with a release mechanism to prevent injury from a fall. Poles are often used to give stability and a means of propulsion and are usually about one meter long, weigh 450 grams each, and cost 40 Cr per pair.

BICYCLE TL-4

Weight: 18 kilograms
Length: 1.7 m

Height: 1 m
Price: Cr 150

The bicycle is a two-wheeled man-powered vehicle made of tubing welded into a frame and having air-filled rubber or synthetic tires. Early versions have pedals connected to the rear wheel by a chain, the more advanced are driven with a drive shaft and have multispeed transmissions.

SURVIVAL RATIONS TL-5

Weight: 125 grams

Length: 10 cm

Width: 6 cm

Height: 1.5 cm

Price Each: Cr 2

Carton Weight: 12500 grams/100

Carton Price: Cr 175

Survival rations are designed to provide the energy needed by a 100 kilogram man for six to eight hours when other food is unavailable. Each container is one meal and has a spoon attached to the can. Early types are packaged in metallic containers while more advanced versions have plastic containers which can be burned for disposal.

INSECT REPELLANT TL-6

Weight: 450 grams

Diameter: 7 cm

Height: 20 cm

Price: Cr 25

Repellant cream in a pressurized can, formulated to repel most insectoid lifeforms. Each can has about a fifteen day supply of cream, which is rubbed over exposed skin. Each use repels insects for up to six hours.

DISPOSABLE BUTANE LIGHTER TL-6

Weight: 35 grams

Length: 8 cm

Diameter: 15 cm

Price: Cr 2

Carton Price: Cr 170/100

Small fuel cannister with flint and wheel sparker and adjustable fuel valve to vary the size of the flame. The lighter is usually made of plastic and is disposable.

CAMP TOILET TL-5

Weight: 4 kilograms

Height: 40 cm

Diameter: 40 cm

Price: Cr 90

Chemical Price: Cr 15

The camp toilet uses a chemical to reduce wastes to a sludge and to control odor. The toilet has two sections. The top section contains the chemical reservoir and seat with sealable lid. The bottom part contains a six-liter holding tank and the flush mechanism and detaches from the top section for emptying, with self-sealing connections. The chemical tank holds two liters which is enough for about fifty flushes. Replacement chemical comes in four-liter cans which weigh 3.75 kilograms. Most brands of camp toilets are constructed of rigid plastic which is washable.

INSULATED COOLER TL-5

Weight: 4500 grams

Length: 55 cm

Width: 35 cm

Height: 35 cm

Capacity: 40 liters/40 kilograms

Price: Cr 45

The portable icebox is used to keep food cool. The cooler is made with a double wall of plastic with a layer of insulation between. The lid latches securely and the cooler is water-tight and will float. Carrying handles are mounted on the ends and fold flush. The coolers can be stacked.

AIR PURIFIER TL-7

Weight: 6 kilograms

Length: 75 cm

Width: 30 cm

Height: 45 cm

Price: Cr 3500

Recharge Price: Cr 25

This device filters the air and adds oxygen as needed to provide a breathable atmosphere. It has a set of filters which can clean particles down to 15 microns from the air and an electrostatic screen to trap dirt and other contaminants. A small tank of oxygen clamps onto the device and an automatic dispenser feeds air as needed for up to 12 hours. Power is provided by an internal battery pack which lasts for up to 8 hours or the device can be powered from a standard outlet. Filters are made from compressed fibers and can be washed. A set of replacement filters weighs 100 grams and costs 5 Cr. The waste receptacle requires cleaning after 12 hours.

WATER DISTILLER TL-6

Weight: 5 kilograms

Length: 45 cm

Width: 30 cm

Height: 30 cm

Price: Cr 275

Fuel Price: Cr 5

Fuel Weight: 450 grams

Filter Price: Cr 5

The water distiller uses fuel from a pressurized canister to heat dirty water which goes through filters and a distillation system and empties into a four liter storage tank. The device can clean up to ten liters of water an hour, cleaning out dirt, micro-organisms, and other contaminants. Advanced versions also have a dispenser which feeds chemicals into the water automatically. The chemicals kill germs and help the distiller separate contaminants from the water.

FOOD ANALYZER TL-8

Weight: 4 kilograms

Length: 40 cm

Width: 35 cm

Height: 30 cm

Price: Cr 8500

The food analyzer is used to determine if an unknown food is edible or toxic. It is packed with microcircuitry hooked to a chamber where food is placed, and gives a digital readout of the constituents and nutritional value. The analyzer uses an internal rechargeable battery which provides power for up to twenty tests. The tester can detect organic poisons but is incapable of determining complex poisons or drugs and does not determine taste.

FISHING ROD AND REEL TL-4

Weight: 1200 grams

Length: 1.5 meters

Price: Cr 40

Three-piece rod with a manually-cranked reel for catching aquatic creatures. The rod is made from fiberglass or similar material and the reel is metallic, with 100 meters of 25 kilogram test line. Lures cost an average of 10 Cr each and hooks cost 5 Cr per dozen. The reel has adjustable drag and push-button release for casting.

FOLDING GRAPNEL TL-6

Weight: 750 grams

Length: 40 cm

Folded Span: 10 cm

Open Span: 60 cm

Price: Cr 35

Metallic three-tine grapnel hook which folds for carrying. A swivel eye is located on the end and the tines lock in closed or open position. Hooks have rounded edges to prevent marring of surfaces and the grapnel can support up to 175 kilograms.

CLIMBING KIT TL-6

Weight: 10 kilograms

Length: 50 cm

Width: 30 cm

Height: 30 cm

Price: Cr 650

This kit has most of the gear necessary for heavy climbing including a folding grapnel, 100 meters of lightweight reinforced cable, thirty pitons, thirty expanding wedges with rings, a combination wrench/hammer with tether, a safety belt which can be used for rappelling, boot picks, and climbing gloves in a lockable metal locker.

CLIMBING HOIST TL-8

Weight: 1400 grams

Length: 45 cm

Width: 10 cm

Height: 10 cm

Price: Cr 175

Capacity: 125 kilograms

This hoist is a battery-powered motor which drives a reel with 25 meters of cable. It has a hook for attachment to belt or harness and another on the cable. A rocker switch in the handle controls direction and an adjustable clutch controls speed. The reel can also freewheel. Power lasts for about one hour before the batteries need replacing. A hand brake can lock the cable in position and a centrifugal brake keeps the cable from unspooling too rapidly.

WHEELED STORAGE CASE TL-3

Weight: 30 kilograms Height: 110 cm
Length: 60 cm Price: Cr 450
Width: 45 cm

This case is designed to provide a mobile storage space for personal items and weapons. It is constructed of high-impact plastic with a steel lining for strength and is water and air tight. It has a four-digit user-settable combination lock and has an armor rating as Cloth-1. The interior of the case is divided into three sections. The left-hand side of the case is full height for storage of rifles, etc. The other half is divided into two sections, with three drawers and a lockbox. Up to 100 kilograms capacity.

FOOTLOCKER TL-3

Weight: 8 kilograms Height: 40 cm
Length: 75 cm Price: Cr 60
Width: 40 cm

Basically a wood or metal box with a full-length piano hinge and a lock, for storage of personal gear. Armor protection as Cloth-1. Advanced versions are airtight and can have built-in locks (key or combination).

EQUIPMENT BAG TL-0

Weight: 1000 grams Height: 30 cm
Length: 40 cm Price: Cr 30
Width: 18 cm

An over-the shoulder bag with an adjustable strap, for carrying equipment. Early versions are simply animal skins sewn together while later models are made with vinyl or other man made materials. Most types are water-resistant and either use ties or metal closures.

PADLOCK TL-3

Weight: 350 grams Height: 7 cm
Length: 5 cm Price: Cr 10
Width: 3 cm

This is a locking device which uses a key or combination. It is nonpermanent and simply snaps closed on a hasp or locking ring. Armor protection as Battle Dress+2.

FOLDING UMBRELLA TL-3

Weight: 1000 grams Length Open: 50 cm
Length Folded: 25 cm Diameter Open: 95 cm
Diameter Folded: 4 cm Price: Cr 25

This device is a telescoping handle with a foldable waterproof canopy designed to give protection from rain.

PERSONAL GROOMING KIT TL-5

Weight: 850 grams

Height: 15 cm

Length: 20 cm

Price: Cr 45

Width: 8 cm

This is a vinyl case with soap, toothbrush and paste, comb/brush, scissors, mirror, tweezers, fingernail tool, tissue, razor and blades, and deodorant. Replacement expendable cost 3 Cr each.

COSMETIC CASE TL-5

Weight: 350 grams

Height: 10 cm

Length: 20 cm

Price: Cr 30

Width: 8 cm

This is a small plastic case with twelve compartments for different makeups and scents. Each compartment has a sealable lid and the case comes with lip coloring, eye shadow, nail polish, and perfume. Other cosmetics or replacements cost 5 Cr each.

ATTACHE CASE TL-5

Weight: 4 kilograms

Height: 35 cm

Length: 45 cm

Price: Cr 100

Width: 8 cm

This case is made from plastic with a layer of metal for support and has two latches which can be locked. Armor protection is as Cloth-1 for the contents and the locks are pick-resistant. Various inserts can be used for better organization and use of space. A few examples are listed below.

TOOL CADDY INSERT

Weight: 350 grams

Height: 33 cm

Length: 43 cm

Price: Cr 20

This insert keeps a variety of tools well organized. It has a hinge which snaps into the attache case and will support up to ten kilograms.

FOAM INSERT

Weight: 40 grams

Height: 34 cm

Length: 44 cm

Price: Cr 5

Width: 7 cm

This is basically a piece of foam rubber which has been pre-scored in a cube pattern to allow easy custom-fitting of delicate instruments or weapons.

COMPARTMENT INSERT

Weight: 350 grams

Height: 33 cm

Length: 43 cm

Price: Cr 20

Width: 5 cm

This is a plastic case which snaps into the attache case and has 12 individual compartments with lids for storing small items.

VACC SUIT TL-7

Weight: 2 kilograms

Tailoring Time: 1 week

Price: Cr 5000

The Vacc Suit is used when protection from vacuum or environmental hazards requires some form of protective clothing. The suit is tailored to the wearer's body to prevent chafing and has ring-connectors to allow the use of helmet, boots, and gauntlets. Most vacc suits are made with three layers. The outer layer is reflective and provides the basic strength and framework. The inner lining is generally perspiration-absorbing and can be zipped out of the rest of the suit for cleaning. Sandwiched between the two is a layer of insulation with cooling tubes sewn in. Together, the three layers combine to give armor protection as cloth. The suit has connectors to use a life support pack which seal when the umbilical is removed. A small waste water reservoir is sewn into the left leg of the suit and holds about one liter. Full-length zippers down the front and legs of the suit allow quick entry in case of emergency and donning the suit takes only about two minutes. Elbows, knees and seat are double or triple layered to resist abrasion. Some advanced versions of the vacc suit are capable of self-sealing small leaks and modification to provide this feature costs about 1000 Cr extra. Inspection should be made before each use and annual maintenance is required.

LIFE SUPPORT PACK TL-7

Weight: 6000 grams

Height: 60 cm

Length: 45 cm

Refill Price: Cr 25

Width: 20 cm

Price: Cr 3500

The Life Support (L/S) Pack is designed to provide air and power for six hours EVA. It contains two oxygen tanks, pressure regulator, moisture recycler, liquid food supply, suit temperature control, and 12-hour batteries. The pack connects to the suit through an armored umbilical with positive seal quick-connect fittings. The pack is worn like a backpack and has wide shoulder and belly straps which buckle in front. Some versions have a mounting bracket to attach a jetpack or cargo net. The L/S Pack should be checked before each use and semiannual maintenance is necessary.

L/S PACK CONTROL UNIT TL-7

Weight: 1 kilogram

Height: 6 cm

Length: 15 cm

Price: Cr 750

Width: 4 cm

The L/S Pack Control Unit is designed to control all the life support functions of the vacc suit and L/S Pack. It is a small panel with large knobs which lock to prevent accidental changing of the setting and attaches to the L/S Pack's straps. A small cable connects the control unit with the L/S Pack and connects power and control circuits. Advanced versions have digital readouts for all suit functions with an interface to warn the user of a problem via the suit's communicator.

VACC SUIT GAUNTLETS TL-7

Weight: 275 grams/pair

Price: Cr 130/pair

These are basically airtight gloves with standard-sized connecting rings for attaching to a vacc suit. They are made of the same fabric as vacc suits with triple layering on the palms and fingers. Since they are custom-tailored to the wearer, it takes up to two minutes to put both on and seal to the connecting ring. The gloves should be inspected before each use and require annual maintenance to detect leaks.

VACC SUIT HELMET TYPE I TL-7

Weight: 1 kilogram

Diameter: 30 cm

Height: 30 cm

Price: Cr 750

This helmet offers a 360° radius of sight and is made of an impact-resistant plastic. It has a standard neck-ring and provides connection to power for the short-range communicator headset, liquid food supply, water supply, and oxygen. Some versions have a headlamp built into the top of the helmet and the face of the helmet can be modified for IR/LI for 1000 Cr. Standard thickness helmets will resist a hammer blow and are rated as Cloth Armor. Annual maintenance is required and the helmet should be inspected before use.

VACC SUIT HELMET TYPE II TL-7

Weight: 1 kilogram

Diameter: 30 cm

Height: 30 cm

Price: Cr 1400

The type two helmet is constructed with an opaque armored section with a clear faceplate which opens and slides up over the forehead. The helmet faceplate has IR/LI standard which adjusts automatically in the LI mode (light intensification) to prevent blinding from over amplification. Adjustment can be made manually in the LI or IR (infrared radiation) mode by a knob on the side of the helmet. IR functions are passive. A headlamp multi-channel communicator, visor defogger, liquid food dispenser, and water nipple are built-in and connect to the vacc suit by a standard neck ring. Armor rating for the opaque section is Cloth-1 and rating for the faceplate is Cloth + 1. Annual maintenance is required and the helmet should be inspected before use.

VACC SUIT BOOTS TL-7

Weight: 1500 grams/pair

Price: Cr 150

These are used with a vacc suit. The boots are pulled on over the feet and straps are adjusted to snug the boot and prevent chafing. The soles are reinforced with a metal plate to prevent puncture and the inner lining is removable for washing. Each boot normally takes about one minute to put on and adjust to fit but the time can be lessened by connecting the rings before adjusting. The boots should be inspected before use and require annual maintenance. Some types of boots also have small suction cups in the soles which can anchor the feet to smooth surfaces in zero-G (atmosphere only).

MAGNETIC SOLES TL-7

Weight: 300 grams

Price: Cr 35

Magnetic soles slip on over shoes or boots and anchor the feet to metallic surfaces when in zero-G, whether in atmosphere or vacuum. They are somewhat flexible and attach to the boot with adjustable straps.

VACC SUIT REACTION PACK TL-7

Weight: 4000 grams

Height: 45 cm

Length: 25 cm

Recharge Price: Cr 45

Width: 20 cm

Price: Cr 2500

The Vacc Suit Reaction Pack is designed to attach to the life support pack and provide limited maneuver capability to a vacc suit. It uses a compressed gas to develop thrust of up to .3G for thirty minutes continuous use. The pack has a tank of gas connected to small jet orifices and is controlled by a control box attached by a meter-long cable or by a joystick control on a rigid arm which extends under the left armpit and swings out of the way when not in use. Use of the reaction pack requires at least Vacc Suit - 2 skill for safe operation and requires six weeks of practice to gain a skill level of 1. Advanced versions of the jetpack have microprocessor control of course and thrust and can maintain a heading with less than 2% deviation. Care should be taken to insure the jet orifices do not become plugged as explosion may occur due to excessive pressure. The user should inspect the jetpack before each use and semi-annual maintenance is required.

EMERGENCY VACC SUIT PATCHES TL-7

Weight: 30 grams each

Width: 10 cm

Length: 10 cm

Price: Cr 25/package of 5

These patches are made from flexible plastic with a light reinforcing mesh for strength and have an adhesive coating on the back which can be used in atmosphere or vacuum. Application of a patch takes ten seconds and is done by pulling off a tab protecting the adhesive, pressing the patch over the hole, and holding until the glue sets. The patches come in a pouch which can be attached to the vacc suit in a convenient location by an adhesive strip. These patches are not meant to be permanent because they are weaker than vacc suit material (cloth + 1). More permanent repairs should be made at the first opportunity.

VACC SUIT DEODORANT TL-7

Weight: 450 grams (pressurized can)

Weight: 15 grams (stick-strip)

Price: Cr 5

This item is designed to minimize odors inside a vacc suit or other armor. It comes in two forms: a pressurized spray can or an adhesive-backed strip of material impregnated with deodorant which sticks to the inside of the suit. A three second spray from the pressurized can controls odors for about eight hours and each can has about a 60 day supply. The stick-strip lasts for about one week before needing replacement and comes in packages of five. High exertion levels reduce the amount of time the deodorant works. Most types of vacc suit deodorant are unscented and non-allergenic.

OXYGEN LEAK DETECTOR TL-7

Weight: 175 grams

Height: 1 cm

Length: 7 cm

Price: Cr 50

Width: 3 cm

This small hand held device compares ambient oxygen concentration with a reading given by a probe, which is passed over joints and material of vac suits, to determine if a leak is present. It has two LEDs; green to indicate no leak, red if it detects a difference in readings. The detector is powered by a battery which lasts for up to six months.

EPLS BAG TL-7

Weight: 2600 grams

Folded Length: 45 cm

Open Height: 1.9 meters

Folded Width: 45 cm

Price: Cr 550

Folded Height: 35 cm

The EPLS Bag, sometimes nicknamed a 'Baggie' is an emergency one-man life support chamber which can provide an atmosphere and heat for up to 4 hours in case of depressurization. The base of the unit contains a thick plastic bag which is pulled out and climbed into. The bag has a full-length zipper seal and is pressurized by pulling a ring. An automatic beacon is activated and strobes on each side of the base flash to aid rescuers to find the device. An oxygen tank, battery, beacon, and heater are built into the base unit which is stackable and easy to stow. The device should have semi-annual inspections and maintenance performed to insure its readiness for instant use.

REFLECTIVE TARPAULIN TL-6

Weight: 175 grams

Width: 1.5 m

Length: 1.5 m

Price: Cr 50

Made from flexible plastic sheeting with an aluminized coating (silver color), the reflectorized tarpaulin can be used for limited protection against harmful radiation, thermal protection, shelter, or to provide a radar reflector. It folds into a 15 centimeter square parcel and comes with a storage pouch. Other uses include signalling, solar distillation of water, as a thermal blanket, etc. Armor as Reflec + 2 against lasers.

NON RIGID FILTER/RESPIRATOR HELMET TL-5

Weight: 150 grams (350 grams for battery pack)

Height: 30 cm

Diameter: 30 m

Price: Cr 150

This device is a combination respirator/filter mask in the form of a flexible plastic bag worn over the head. This allows normal speech and eliminates chafing caused by wearing a face mask too long. The rim of the bag contains a filter set and a small compressor allowing use in atmosphere types 3, 4, 7, and 9 (very thin, thin tainted, standard tainted, and dense tainted). Filters require cleaning or replacement after eight hours in tainted atmospheres and cost 15 Cr per set. The bag uses a battery pack worn on the belt and connected by a thin cable to provide power for the respirator compressor. Respirator power lasts for eight hours before the batteries need recharging and spare battery packs weigh 350 grams and cost 30 Cr.

OXYACETYLENE TORCH TL-5

Weight: 60 kilograms

Refill Price: 50 Cr/set

Price: Cr 750

Tank Height: 1 m

Tank Diameter: 30 cm

Tank Weight: 25 kilograms

The oxyacetylene torch uses volatile gases in two tanks (fuel and oxygen) to generate temperatures of up to 2000° C (3600° F) at its tip for cutting, soldering, or welding metals. The two tanks are mounted on a wheeled stand and have a three-meter hose set leading to a handle with valves to control the flame size and shape. A pair of regulators mount on the tanks and show tank pressure and line pressure. Different tips are available for a variety of uses and cost 25 Cr each and replacement (or extension) hose sets come in three meter lengths, weigh one kilogram and cost 75 Cr. The gases in the tanks provide fuel for up to two hours continuous use before running out.

AIR COMPRESSOR-MANUAL POWERED TL-1

Weight: 900 grams

Diameter: 25 cm

Height: 20 cm

Price: Cr 10

This air pump is a hand-powered bellows capable of inflating air mattresses and inflatable boats with a minimum of effort and can be carried in a backpack. It has a one-meter long hose and has adapters to allow use with a variety of valve types. Maximum pressure is about 8.5 kilograms per square centimeter (125 psi) and the pump can inflate most items in fifteen minutes or less. The pump is usually made of flexible plastic or leather and can also be used to pull a slight vacuum by reversing the intake and exhaust.

AIR COMPRESSOR-MOTOR POWERED TL-5

Weight: 2.5 kilograms

Height: 20 cm

Length: 30 cm

Price: Cr 65

Width: 10 cm

This is a portable electric-powered air pump which uses either batteries or standard power outlets to provide a pressure of 11.25 kilograms per square centimeter (160 psi). It has a one-meter long hose, a regulator and gauge, and can inflate items in five minutes or less. It has a plastic case and adapters to allow its use with a variety of valve types.

AIRLESS SPRAY GUN TL-6

Weight: 1400 grams

Diameter: 12 cm

Height: 30 cm

Price: Cr 75

This device is designed to apply an even coating of liquid (paint, etc.) without air using a centrifugal pump to spray surfaces about 45 centimeters from the tip. Its fluid tank holds 1.5 liters and it can cover a 50 square meter area before needing refilling. The spray gun is powered from standard outlets and has a two meter cord. Replacement tips are sometimes necessary due to wear from the spray material and cost 10 Cr each.

STICK-STRIPS TL-6

Weight: 10grams/pair

Length: 8 cm

Width: 4 cm

Price: Cr 10/set of 5

Stick-Strips are small strips of flexible plastic with an adhesive coating on one side and either miniature hooks or eyes on the other. They are used for temporary fastening of lightweight items and can be cut to shape.

SOLDERING IRON TL-5

Weight: 90 grams

Length: 30 cm

Diameter: 3 cm

Price: Cr 25

The soldering iron is used to melt solder (tin and silver) over joints or connections. The tip develops temperatures of up to 150° C (350° F) and some types are adjustable. The handle is insulated from heat and shock and contains the heating element, which is powered from standard outlets or a battery pack. Replacement tips cost 3 Cr each and come in a variety of sizes and shapes for different applications. It usually takes from three to five minutes to heat to temperature, after which the iron is placed in contact with the joint. After the iron has heated the joint sufficiently, solder is applied and melts, forming a permanent bond.

ACID CORE SOLDER TL-5

Weight: 500 grams

Length: 50 meters

Price: Cr 10

For use on nonelectrical connections, acid core solder bonds metals together after the acid flux 'cleans' the surfaces of oxidation. 2 millimeter diameter solder weighs 10 grams per meter.

ROSIN CORE SOLDER TL-5

Weight: 500 grams

Length: 50 meters

Price: Cr 10

For use on electrical connections, rosin core solder does not 'eat' into metals as much as acid core to clean oxidation. Solder is 2 millimeters in diameter and weighs 10 grams per meter.

HACKSAW TL-4

Weight: 450 grams

Length: 40 cm

Blade Price: 1 Cr

Price: Cr 10

The hacksaw is a lightweight metal frame with a padded handle which supports a metal blade with serrated teeth. The blade clamps to the frame with a thumbscrew with its teeth pointing forward and the saw is used to cut metals of up to 15 centimeters thick.

PORTABLE WINCH TL-5

Weight: 3.5 kilograms

Length: 70 cm

Cable Length: 10 meters

Width: 15 cm

Height: 15 cm

Price: Cr 40

Also called a 'comealong', this is a hand powered ratcheting winch capable

of supporting up to one metric ton. The device ratchets in both directions and has a variety of uses from freeing a land vehicle from mud to pulling objects into alignment. It is small enough to be carried in a pack. It uses a one centimeter diameter cable on a reel which can hold up to 20 meters.

SCROLL SAW TL-6

Weight: 1500 grams

Length: 25 cm

Width: 10 cm

Height: 20 cm

Blade Price: Cr 1

Price: Cr 45

The scroll saw uses an electric motor to drive gearing which causes a single edge blade to reciprocate in and out. The blade is replaceable and attaches by a setscrew. Different types of blades are used depending on the material to be cut (metal, wood, plastic, etc.). The motor is controlled by a trigger in the handle and some types of scroll saws have variable speed. The saw has a one-meter power cord and uses standard power outlets.

HAND DRILL TL-4

Weight: 450 grams

Length: 40 cm

Width: 15 cm

Price: Cr 15

The hand drill is a U-shaped metal tool for drilling small holes in wood, plastic, and thin metals. A metal bit is clamped in the end of the tool and is rotated by cranking the 'U' while using the other hand to hold the pivot point.

POWER DRILL TL-5

Weight: 1300 grams

Length: 25 cm

Width: 8 cm

Height: 15 cm

Price: Cr 45

The power drill uses an electric motor to rotate a drill bit clamped in its end. The tool is shaped like a pistol with a trigger that controls speed. Some models also have reverse. The drill has a one-meter long power cord and uses standard power outlets.

ZERO-G DRILL TL-7

Weight: 1800 grams

Length: 30 cm

Width: 15 cm

Height: 18 cm

Price: Cr 245

The Zero-G Drill is similar to the standard drill except it has a counter weight to cancel rotational forces. The counterweight spins in the opposite direction as the bit at the same speed and other than inertia, it eliminates spin forces.

DRILL BITS TL-4

Weight: 30 grams

Length: 10 cm (average)

Diameter: Most sizes available

Price: Cr 2

Drill bits are metal rods with cutting faces for boring holes. Different types are used for wood, metal, plastic, masonry, etc. Special features such as hardening or large sizes often cost up to three times base price and can double in weight. Sets usually cost less per unit and most kinds have an assortment of sizes with the price being up to 30% less than if purchased individually.

VACUUM CLEANER TL-5

Weight: 2700 grams

Length: 60 cm

Width: 15 cm

Height: 10 cm

Bag Price: Cr 5

Price: Cr 75

The vacuum cleaner uses an electric motor to produce a suction, to clean dirt and small particles from surfaces. Refuse is contained in a disposable bag which can hold up to 5000 cubic centimeters before needing emptying. Power is supplied from a standard outlet and the vacuum cleaner has a ten meter cord. Advanced versions are battery powered and recharge automatically when not in use. The vacuum cleaner can be used with its standard head or a variety of tools including a two meter long hose. The hose weighs 850 grams and costs 20 Cr while other tools weigh about 450 grams and cost Cr 10 each.

OPEN-END WRENCHES TL-4

Weight: 5400 grams/set of 4

Length: 25 cm each

Weight Each: 180 grams

Sizes: 1mm to 24 mm

Price each: Cr 5

Price Set: Cr 60

Hardened wrenches with two sizes on each and a clip to hold the set together for storage. Larger sizes are available at double weight and price. Wrenches fit standard sizes of bolts with six or twelve points.

SOCKET SET TL-4

Weight: 3400 grams/set of 33

Weight Each: 70 grams (average)

Price: Cr 50

The socket set has standard and deepwell 12 point sockets (26 sockets total), ratchets, extensions, size adaptors, and a metal box for storage. Socket sizes range from 1 mm to 26 mm. Replacement sockets cost about 4 Cr each and ratchets cost 10 Cr and weigh about 700 grams.

SCREWDRIVER SET TL-4

Weight: 700 grams/set of 6

Weight Each: 100 to 150 grams

Lengths: 8 to 15 cm plus 8 cm handle

Price Each: Cr 2

Price Set: Cr 7

These screwdrivers have metal blades and insulated handles and are used with standard screw fasteners. The set comes in a plastic storage pouch.

LOCKING ADJUSTABLE PLIERS TL-5

Weight: 750 grams

Length: 25 cm

Price: Cr 10

The pliers adjust to size (from 1 cm to 5 cm) with a thumbscrew, and clamp tightly to the work. A lever releases pressure for removal.

TOOLBOX TL-3

Weight: 3400 grams

Height: 25 cm

Length: 40 cm

Price: Cr 15

Width: 20 cm

Metal box with lift out tray. It also has locking latches and padded handle.

POCKET TOOL KIT TL-4

Width: 10 cm

Price: Cr 25

Length: 15 cm

Includes two screwdrivers, 15-cm locking pliers, wire cutters, and folding knife in a plastic pouch.

ARMOR REPAIR KIT TL-8

Weight: 5 kilograms

Height: 20 cm

Length: 30 cm

Price: Cr 40

Width: 20 cm

Basic repair kit for personal armor with 35 patches (cloth Armor + 1), adhesive, metal thread (30 meter spool), wirecutters, needle-nose pliers, and hardened needles in a plastic case. Replacement metal thread costs 5 Cr per spool and needles come in sets of five in assorted sizes, weighing 35 grams and costing 10 Cr per set. Adhesive is in liquid form which takes 6 hours to set, weighs 150 grams and costs 5 Cr per bottle. Patches are 10cm x 10cm and cost 25 Cr per 15.

CLOTHING REPAIR KIT TL-3

Weight: 150 grams

Height: 5 cm

Length: 15 cm

Price: Cr 25

Width: 10 cm

Pocket sized sewing kit with five needles of assorted sizes, 50 meters of heavy thread, scissors, 3 meter measuring tape, and thimble in a plastic case. Replacement needles cost 5 Cr per set and thread costs 2 Cr per spool.

FIRE EXTINGUISHER TL-6

Weight: 4 kilograms

Price: Cr 40

Height: 40 cm

Recharge Price: Cr 20

Diameter: 15 cm

The fire extinguisher is filled with a chemical under pressure which smothers flames. It can be used on all types of fires (wood, petroleum, electric, etc.) and is reuseable.

COMBINATION IR/LI GOGGLES TL-9

Weight: 200 grams

Price: Cr 1250

These goggles combine light intensification and infrared radiation detection in one unit which are worn like eyeglasses. They allow vision in anything more than total darkness and can detect heat sources up to 50 meters away. Most types have automatic sensitivity control in the LI mode to prevent blinding by a bright light source and can be adjusted manually in both the LI and IR mode by a knob mounted on the earpiece.

FORWARD OBSERVER BINOCULARS TL-10

Weight: 1600 grams

Height: 8 cm

Length: 39 cm

Price: Cr 5000

Width: 20 cm

Forward Observer Binoculars combine IR/LI goggles, 10X to 45X zoom binoculars, and a low-power laser rangefinder in one unit. Its controls, mounted on the upper surface, are large for ease of use while wearing gloves and the device has an adjustable neck strap for carrying. Power is supplied by a battery pack which lasts for up to 12 hours (2 hours if laser rangefinder is used). The twin eyepieces are individually adjustable for perfect focus and adjust for width between eyes. The device can be mounted on a tripod and is water- and air-tight allowing its use submerged (with special viewplate for image resolution) or in vacuum. Underwater viewplate weighs 250 grams and costs 500 Cr. Laser is ineffective underwater at distances more than 10 meters.

PERISCOPE TL-3

Weight: 1000 grams

Diameter: 5 cm

Height: 35 cm

Price: Cr 25

A periscope uses prisms in a 'Z'-shaped tube to allow vision around corners or over walls. Some types telescope from 20 cm to 40 cm and can magnify the image up to 40 times. Advanced versions use twin periscopes for stereo vision or rangefinding. Lens caps are usually provided.

POCKET MICROSCOPE TL-5

Weight: 75 grams

Diameter: 1.5 cm

Length: 4 cm

Price: Cr 25

The pocket microscope is a small tube which can magnify images up to 100 times with attached lens covers which are hinged to flip open out of the way. The tube is made of plastic and the lenses are made with coated, hardened glass. The device allows the user to detect microorganisms in water, flaws in forgeries, etc.

CONTACT LENSES TL-6

Price: Cr 100/pair

These are small disks of soft plastic which are worn on the lens of the eye. Most are designed to correct optical deficiencies and are available in different colors (for glare protection or to change eye color). An arctic version is designed for high-glare situations and prevents snow blindness.

STILL IMAGE CAMERA TL-4

Weight: 900 grams

Height: 8 cm

Length: 15 cm

Price: Cr 300

Width: 4 cm

The camera is a device for permanently recording visual scenes. It uses a lens system which focuses the scene onto a strip of film with a chemical coating sensitive to light. Early models are bulky and use a liquid coating on a glass plate which must be applied just before exposure. More advanced versions have through the lens sighting, interchangeable lenses, electronic exposure control, and lighting strobe and use a strip of self-developing film with up to 30 exposures. Different lenses include Zoom, telephoto, wide-angle, and special effects (e.g. 'fisheye', light intensifier, etc.) which interchange using a twistmount.

CAMERA ACCESSORIES TL-6

FILM MAGAZINE

Weight: 125 grams

Height: 6 cm

Length: 10 cm

Exposures: 30

Width: 2 cm

Price: Cr 5

Thirty exposures in a snap-in cartridge. Photos are self-developing in 30 to 90 seconds.

STROBE LIGHT

Weight: 350 grams

Height: 9 cm

Length: 5 cm

Price: Cr 50

Width: 3 cm

Battery powered strobe light which 'fires' when camera is tripped. Recycle time is ten seconds (6 flashes per minute) and batteries are good for up to 500 flashes.

TELEPHOTO/ZOOM LENS

Weight: 600 grams

Diameter: 5 cm

Length: 15 cm

Price: Cr 150

High light-gathering capability with coated lenses and standard twist-mount. Resolution from 10 centimeters to infinity. Adjustment is made by rotating rings on the lens.

TRIPOD

Weight: 2500 grams

Height: 55 cm to 1.5 m

Price: Cr 60

Three-legged stand with adjustable angle camera mount and crank height adjustment to provide a stable platform for time exposures or no-blur photos. Folds for carrying.

CAMERA BAG

Weight: 550 grams

Height: 20 cm

Length: 30 cm

Price: Cr 40

Width: 15 cm

Padded vinyl case with zippered main compartment and three snap side pouches. With adjustable shoulder strap.

LIGHT METER

Weight: 350 grams

Height: 20 cm

Length: 8 cm

Price: Cr 80

Width: 6 cm

Hand-held electronic device which gives a reading on ambient light levels. Powered by batteries which last for up to 100 uses.

LIGHT INTENSIFIER LENS

Weight: 550 grams

Diameter: 5 cm

Length: 10 cm

Price: Cr 650

Used for night photography, intensifies available light to level camera can use.

MOVIE CAMERA TL-5

Weight: 1300 grams

Height: 9 cm

Length: 17 cm

Price: Cr 250

Width: 4 cm

The movie camera records visual scenes on a strip of photosensitive film. Film is loaded into the side of the camera and is packed in a film cassette or on a reel. Early models are powered by a hand-wound spring while later versions use a battery and motor to move the film past the shutter. A variety of lenses and accessories are available to allow the camera to be used in different conditions and many models have features such as slow-motion and sound recording. Versions manufactured after technology level 8 use self-developing film. Lenses from the Still Camera can be used with the movie camera.

MOVIE FILM TL-5

Weight: 175 grams

Width: 15 mm

Length: 20 minutes

Price: Cr 10

Either cassette or open-reel color or black-and-white. Made from flexible plastic.

MOVIE PROJECTOR TL-5

Weight: 6 kilograms

Height: 15 cm

Length: 30 cm

Price: Cr 150

Width: 25 cm

This projector is designed to allow viewing of developed movie film by using a bright light and magnifying lenses to project the scenes on a wall or screen. Film is loaded on a reel and fed into the machinery where it is passed in front of the shutter and light source and then is wound onto another reel. Many models have stop-action and variable speed and most can project scenes clearly up to 15 meters. Power is provided from standard power outlets and the projector can handle film lengths of up to two hours. Sound capability is possible.

MOVIE SCREEN TL-5

Weight: 6 kilograms

Length: 100 cm

Diameter: 9 cm

Height: 100 cm open

Height: 1.5 meters (frame)

Price: Cr 50

The movie screen is a flexible plastic screen covered with a reflective material which rolls up into a tube for storage. It is mounted on a light metal tripod frame which folds also.

VIDEO CAMERA TL-6

Length: 35 cm

Weight: 8 kilograms

Width: 9 cm

Price: Cr 900

Height: 28 cm

This is a hand-held color camera which records scenes on a magnetic tape. It has a 4-centimeter-square viewer, zoom lens which can focus from 20 centimeters to infinity, switches to adjust for color temperature, and a directional microphone which telescopes from 4 centimeters to 80 centimeters. Controls are mounted on a pistol-grip handle which can fold for storage and which can control the remote recorder, recording volume, color setup, and lens focus/zoom. The lens system has a bayonet-mount so that different lenses and accessories can be used. The camera connects to a recorder by a 3 meter long cable.

VIDEO RECORDER TL-6

Weight: 8 kilograms

Length: 30 cm

Width: 9 cm

Height: 30 cm

Price: Cr 900

The Video Recorder is a portable device which puts the signal from a video camera onto a magnetic tape. It uses either two open reels or a cassette tape which records up to three hours of vision and sound. The device is controlled by push-buttons and has pause and slow-motion, and records in color. A battery pack worn on the belt supplies power and is rechargeable. The recorder can also use standard power outlets. A variety of input and output jacks allow the use of this recorder with different types of cameras and processing equipment. The recorder comes with a water-resistant case which has adjustable straps and can be worn like a backpack or over-the-shoulder.

VIDEO TAPE; REEL OR CASSETTE TL-6

Weight: 450 grams

Length: 15 cm

Width: 8 cm

Height: 3 cm

Price: Cr 15

The video cassette is a plastic case which holds three hours of video tape and is inserted into the machine without the chance of touching the tape. Reel type is hand threaded.

BATTERY BELT TL-6

Weight: 1500 grams

Width: 9 cm

Thickness: 4 cm

Price: Cr 40

Provides power for three hours before needing recharge. The belt has eight

battery packs mounted on an adjustable belt worn at the waist and can be used with holster or other equipment. The individual battery packs can be replaced for 10 Cr each.

VIDEO CAMERA EXTENSION CABLE TL-6

Weight: 550 grams

Diameter: 8 mm

Length: 6 meters

Price: Cr 25

Extension cable allows the use of the video camera away from the recorder.

EARPIECE COMMUNICATOR TL-7

Weight: 35 grams

Height: 1 cm

Length: 5 cm

Price: Cr 150

Width: .5 cm

This is a short-range communicator worn behind the ear. It is difficult to detect due to its small size and flesh coloring. Power is supplied by a small battery which lasts for up to 12 hours continuous use. The device uses a voice-operated transmit circuit and has continuous monitoring capability. When communicator is in standby mode, it vibrates gently to signal an incoming call.

RELAY SATELLITE TL-6

Weight: 50 Kilograms

Diameter: 2 meters

Price: Cr 10,000

This device is used to relay communications over a planetary horizon. The satellite has solar power cells, or can operate from internal batteries for up to 72 hours, accepting and relaying up to 10 channels of audio or 2 channels of video and 4 audio. The device can be remote-controlled and can accept and hold messages until a coded signal is received. Modifications can be made to allow the use of burst communication which compresses a ten-minute message to only about two seconds of transmission time. The satellite has no motive power other than small attitude jets which use a compressed gas to change the orientation of the sphere. Assuming a stable orbit, the relay satellite has a useful life of about five years. The devices can be overhauled and used again. Three satellites orbiting equidistant from each other can relay communications to almost any point on a planetary surface. Equipped with a long-range communicator, the device has a range of about 80,000 kilometers at maximum power.

AUDIO RECORDER TL-5

Weight: 900 grams

Height: 3 cm

Length: 15 cm

Price: Cr 65

Width: 8 cm

Tape Price: Cr 5/60 minutes

The audio recorder uses a magnetic tape to record sounds. It is hand-size and battery powered with a built-in microphone and automatic recording level control. The device has a small speaker for playback or can hook to an extension speaker. One button controls all functions and the recorder stops automatically at the end of a tape. Cassette tapes are 10 X 6 X 1 centimeter, weigh 35 grams and cost 5 Cr for one-hour length. Battery power lasts for up

to eight hours before requiring recharge and an optional adapter is available, to use standard outlets. It weighs 100 grams and costs 5 Cr. Record/Play head should be cleaned and demagnetized after 30 hours use.

DIRECTIONAL ANTENNA TL-6

Weight: 3500 grams	Length: 30 cm
Height: 95 cm	Price: Cr 650
Diameter: 45 cm	

This antenna uses a paraboloid dish to direct the signal in one direction. Very little leakage of signal occurs to the sides or back of the dish and focus can be narrowed so that signal width at one kilometer distance is only about 30 meters, depending on optical telescope mounted through the dish center.

LISTENING DEVICE DETECTOR TL-6

Weight: 350 grams	Height: 3 cm
Length: 15 cm	Cr 975
Width: 5 cm	

This device detects listening devices, or 'bugs', giving a visual signal if one is within five meters. It is powered by a battery which lasts for up to eight hours. The detector works by picking up the signals a 'bug' sends (radio or wire) and comparing them with the noises it detects in its range. It can be used to clear a room of listening devices by detecting the location of each and some advanced models can 'jam' the signal.

CONCEALABLE LISTENING DEVICE TL-6

Weight: 35 grams
Diameter: 15 mm
Price: Cr 400

This device combines a miniature microphone and transmitter which can be hidden by attaching to a concealed surface with a tape strip. The 'bug' transmits when a voice is speaking and can reach up to ten kilometers to a remote receiver. Various types and sizes are available and can be camouflaged to resemble ordinary items. Use on some planets is restricted. The internal battery lasts for about one week.

COMMUNICATION JAMMER TL-5

Weight: 5 kilograms	Height: 30 cm
Length: 45 cm	Price: Cr 850
Width: 45 cm	

The jammer creates an electronic signal which blankets all but the most powerful transmitters using a wide-band oscillator to make noise on receivers. The device is powerful (long range) and can damage receiving gear which is nearby. The unit is powered from standard outlets and has a telescoping antenna which extends to three meters.

WRISTWATCH COMMUNICATOR TL-7

Weight: 40 grams

Thickness: 7 mm

Diameter: 3 cm

Price: Cr 250

Short-range communicator with digital chronometer in a wristband. Powered by a small battery which lasts for about six months. Extension watchband for use with vacc suits costs 30 Cr.

COMMUNICATIONS HEADSET TL-6

Weight: 100 grams

Price: Cr 50

This is a set of lightweight earphones with a small microphone on a rigid arc extending close to the mouth. It is designed to leave the hands free and is voice operated. Some models require a cord to be plugged in while other types have a small transceiver built in.

BANDOLIER/GUNBELT TL-4

Weight: 450 grams

Width: 7 cm

Length: up to 130 cm

Price: Cr 35

This is a convertible bandolier/gunbelt which has six pockets with snap flaps and elastic loops for carrying ammunition. It can be worn over one shoulder or can be strapped on around the waist where it can support a holster and sidearm. It is made of heavy webbing and is water and rot resistant. The belt has a hook and eye closure and is adjustable with snap clips.

BIPOD TL-4

Weight: 550 grams

Diameter 1.5 cm

Length: 25 cm

Price: Cr 50

The bipod attaches to a rifle-length weapon's barrel and is used to provide a steadier aim. It folds when not needed and is secured by a lockscrew. When used, the two legs are extended and placed on a stable surface. The mount uses a ball and socket joint to allow movement in any direction and advanced models have a fluid brake to lessen recoil. When used, the bipod gives +1 DM to hit at all ranges except close and short, which have a -1 DM due to the difficulty of moving the barrel to a new aim at such short distances.

SIDEARM CLEANING KIT TL-4

Weight: 450 grams

Height: 5 cm

Length: 15 cm

Price: Cr 25

Width: 10 cm

The sidearm cleaning kit is designed for projectile weapons with barrel lengths of less than 35 centimeters. It contains three diameters of 12 centimeter long cleaning rods which screw together for longer length, cleaning fluid in a 100 milliliter bottle (5 Cr each), assorted swabs, small screwdriver, needle-nose pliers, and gun oil (100 milliliters, 5 Cr each) in a rigid plastic case.

LONGARM CLEANING KIT TL-5

Weight: 650 grams

Length: 20 cm

Width: 10 cm

Height: 5 cm

Price: Cr 35

This cleaning kit is designed for projectile weapons with barrels less than one meter length. It contains three diameters of 18 centimeter long cleaning rods (12 total) which screw together, cleaning fluid (100 milliliters, 5 Cr), swabs, screwdriver and needle-nose pliers in a rigid plastic case.

GUNSMITH TOOL KIT TL-7

Weight: 25 kilograms

Length: 50 cm

Width: 20 cm

Height: 30 cm

Price: Cr 5000

This tool kit has all the necessary tools and instruments to make repair on most non-energy weapons. It has a small machining tool and a large assortment of basic spare parts, most of which can be modified (with the machining tool) to fit particular weapons. It also has an assortment of gunsmithing tools, springs, pins, fasteners, etc. and comes in a metal case with lock and full length hinge.

STILLETTO TL-3

Weight: 250 grams

Price: Cr 35

Length Retracted: 12 cm

Length Extended: 22 cm

This is a dagger-equivalent blade weapon which has a metal blade that retracts into the handle when not needed and snaps straight out of the end of the handle when a small button is depressed. It is designed for concealment and can be disguised as other items (flashlights, cane head, etc.).

KNIFE HONE TL-1

Weight: 450 grams

Length: 15 cm

Width: 5 cm

Height: 3 cm

Price: Cr 10

This is an abrasive stone used for sharpening blades. It is used by holding the blade edge at an angle and drawing it across the hone. Oil, water, or some other lubricating liquid is spread on the stone.

WEAPON CASES TL-4

HANDGUN CASE

Weight: 450 grams

Length: 35 cm

Width: 20 cm

Height: 10 cm

Price: Cr 125

LONG GUN CASE

Weight: 1400 grams

Length: 125 cm

Width: 8 cm

Height: 10 cm

Price: Cr 125

BLADE CASE

Weight: 300 grams

Length: 35 cm

Width: 8 cm

Height: 15 cm

Capacity: 3 blades

Price: Cr 40

Padded plastic, metal or wood case to store weapon and ammunition. Most types lock and have a carrying handle, with full length hinge and clips to hold weapons in place. Non-rigid vinyl cases are available for most weapons and have similar dimensions as the weapon, cost half as much as prices given and weigh from 100 grams to 650 grams.

DETACHABLE SCOPE MOUNT TL-6

Weight: 150 grams

Length: 8 cm

Price: Cr 45

The detachable scope mount uses a baseplate mounted on the weapon and a scope mounting which snaps to the base plate to allow the use of one scope on different weapons or different scopes on one weapon. Both parts of the mount weigh 75 grams each and cost 30 Cr each if purchased separately.

REMOTE CONTROL GUN/CAMERA MOUNT TL-6

Weight: 4500 grams

Length: 30 cm

Width: 30 cm

Height: 25 cm

Price: Cr 1500

The remote-control gunmount is designed to allow the firing of a weapon from a remote location. It has a motorized mounting operated from a battery pack which rotates and tilts as directed by a control box connected to the device by a multi-conductor cable. Mainly used for security applications, the mount (and weapon) can be concealed in a tree, etc., where it can be operated without the firer being exposed. The device can also be used with a camera. A solenoid operates the trigger of the weapon and is attached to it by an adjustable chain. The device has a twenty-meter control cable and extension cables cost 50 Cr. Setup takes about fifteen minutes during which time the top and sides are folded down and the weapon attached to the mount by adjustable clamps. Battery power lasts for about eight hours before needing recharge. An optional servo kit can be purchased for use with a camera which controls focus, aperture, and zoom and plugs into a socket already mounted on the device. The servo kit weighs 300 grams and costs Cr 450.

SWORD CANE TL-4

Weight: 1200 grams

Length: 85 cm

Price: Cr 275

Walking stick conceals a hidden foil which is drawn by a quick twist of the handle and a tug. The wooden sheath can be used to parry an opponent's blow, giving him a -1 DM to hit with a blade or brawling weapon. Sheathed, it is as Cudgel -1 when used as a weapon.

SHOCK CANE TL-6

Weight: 1200 grams

Length: 85 cm

Price: Cr 100

This cane uses batteries and a transformer to give a powerful electric shock to anything touching its tip when a button on the handle is pushed. Batteries last for fifty ten second shocks. Damage to an assailant is not permanent but the shock can be enough to cause him to drop a weapon and can even stun him into unconsciousness. The device causes 3d6-4 hit points for one combat round. If the shock causes the opponent's dexterity to fall to zero he drops his weapon (if not already unconscious). Cane is as Cudgel -1 and gives the opponent a -1 DM to hit with blade or brawling weapon if used to parry.

DERRINGER CANE TL-4

Weight: 750 grams (total)

Length: 85 cm

Weight: 375 grams (derringer handle)

Length: 15 cm (derringer handle)

Price: Cr 750

This cane has a two shot derringer built into the handle which is drawn with a twist and tug. When drawn, a trigger which fires one or both barrels extends and a concealed cocking pin can be pulled to ready the derringer for firing. The device fires as a Body Pistol -1. The derringer is reloaded with body pistol ammunition by twisting the barrels 90° which reveals the cartridges. Reloading takes one combat round. Cane is as a Cudgel-1 and gives an opponent a -1 DM to hit with blade or brawling weapons, if it is used to parry.

HYPODERMIC CANE TL-5

Weight: 1000 grams

Length: 85 cm

Price: Cr 200

This cane has a hypodermic needle syringe built into the tip which is spring loaded and extends by the push of a button in the handle. The syringe can be filled with up to three doses of a drug which is injected by a pressurized charge when the needle meets resistance (such as entering the skin). Filling the drug reservoir and replacing the pressure vial takes two combat rounds. Pressure vials weigh 100 grams, cost 5 Cr for five vials, and each vial lasts for six injections. Replacement needles are available in different sizes and hardnesses and cost 3 Cr each. The cane hits as a Foil with damage being dependent upon the drug being injected.

COMMUNICATOR CANE TL-6

Weight: 750 grams

Length: 85 cm

Price: Cr 150

This cane has a short range communicator built into the handle with a battery which provides power for up to five hours. The body of the cane has an antenna which helps boost the signal to the strength of a medium range communicator. The cane can be used in combat with values as noted above.

SHIP JUMPSUIT	One-piece zip-up synthetic coveralls with many pockets	45
SHIP UNDERWEAR	Lightweight ventilated vest and shorts	15
SHIP UNIFORM	Two-piece synthetic suit	40
SHIP FOOTWEAR	Non-rigid slippers with non-slip soles	20
SHIP VEST	Lightweight synthetic, with many pockets and equipment loops	10
DRESS PANTS	Synthetic breeches with stripe on side of each leg	50
DRESS SHIRT	Button long sleeve	40
DRESS SOCKS	Ankle-high	10
DRESS SHOES	Lace	45
DRESS VEST	Sleeveless	25
DRESS SASH	White	10
DRESS BOOTS	High-top lace	60
DRESS BOOTS	Low-top lace	50
DRESS BELT	White	20
DRESS GLOVES	White	25
DRESS JACKET	Lightweight	65
DRESS JACKET	Heavyweight.	80
DRESS COAT	Lightweight	75
DRESS COAT	Heavyweight.	90
DRESS CAPE	Synthetic lined	40
DRESS TIE	Bow tie	10
DRESS TIE	Straight tie.	10
PANTS	Jeans.	20
SHIRT	Shortsleeve.	20
SHIRT	Longsleeve	25
UNDERWEAR	Shorts and vest	15
UNDERWEAR	Insulated 'long johns'	20
UNDERWEAR	Heated battery-powered (6 hours)	40
SOCKS	Common	5
SOCKS	Athletic.	5
SOCKS	Insulated	7
SOCKS	Heated battery-powered (6 hours)	25
SHOES	Lace	35
SHOES	Slippers	20
BOOTS	Lace low-top	35
BOOTS	Lace high-top	40
BOOTS	Climbing	75
BOOTS	Slip over shoes and buckle, waterproof	35
BOOTS	High-top cleated	65
BELT	Natural material buckle	25
BELT	Synthetic, buckle	18
BELT	Equipment.	25
GLOVES	Work type, nonslip palms and fingers	5
GLOVES	Heated battery-powered (6 hours)	25
JACKET	Lightweight	35
JACKET	Heavy insulated.	40

COAT	Light.	50
COAT	Heavy insulated.	50
CAPE	Lined synthetic.	35
HOOD	Insulated	15
HOOD	Heated battery-powered (6 hours)	30
SKI CAP	Knit, head only.	8
SKI CAP	Knit, full face.	12
CAP	' Baseball'	7
COVERALLS	Work.	45
COVERALLS	Insulated	55
FATIGUES	Full outfit	85
BATTERIES	For heated items 450 grams each set.	5

REFEREE'S INFORMATION

Each item in the referee's section gives the names of three manufacturers, the Availability Factor, the Reliability Factor, and some information about drawbacks and features. The Availability Factor (AF) is used in a formula which the referee uses to determine if an item can be found in the area. The Reliability Factor (RF) is used to determine how sturdy or prone to breakdown each item is.

Availability is determined by four things: the local technological level, the manufacturer's technological level, the local starport type (for imports) and the Availability Factor. The formula below is used to determine the Availability Roll:

$$\frac{\left(\frac{\text{local tech level}}{\text{manufacturer's tech level}} \right) + \text{Starport Index} + \text{AF}}{2} = \text{Availability Roll}$$

The Availability Roll or less is rolled on 2d6 to determine whether the item can be found.

The reliability of an item is its sturdiness or resistance to malfunction and the Reliability Factor (RF) gives an indication of this quality. The RF, plus or minus the appropriate modifiers, or less must be rolled on 2d6 to avoid a breakdown of some kind which is determined by the referee. Reliability rolls may be made at regular game-time intervals or during periods when the item is subjected to unusual stress. The higher the RF number, the less likelihood of a malfunction occurring. In addition, the higher the RF, the more it costs (sometimes - referee's discretion).

STARPORT INDEX TABLE

Starport Type	DM
A	+5
B	+4
C	+3
D	+2
E	+1
X	0

RELIABILITY MODIFIERS

- 3 Manufacturer's tech level lower than normally first available.
- 1 Non-Industrial
- 1 Agricultural
- +1 Rich
- +1 Manufacturer's tech level 1 higher than normally first available.
- +2 Industrial
- +2 Manufacturer's tech level 2 to 3 higher than normally first available.
- +3 Manufacturer's tech level 4+ than normally first available.

CAMPING GEAR

SLEEPING BAG TL-4

GRYF Outdoor Products (7)	AF: 10	RF: 10
Ruffit Manufacturing Corp. (9)	AF: 6	RF: 12
Ahabitronics (6)	AF: 12	RF: 7

BACKPACK TL-4

GRYF Outdoor Products (7)	AF: 10	RF: 9
Ruffit Manufacturing Corp. (9)	AF: 7	RF: 11
Pateno Incorporated (7)	AF: 11	RF: 10

CHEST PACK TL-4

Chesterton Services (6)	AF: 9	RF: 9
Ruffit Manufacturing Corp. (9)	AF: 6	RF: 11
Balini & Associates (5)	AF: 10	RF: 8

WEBGEAR TL-6

Duckfoot & Son (7)	AF: 7	RF: 11
Bartonian Arms (15)	AF: 10	RF: 12
Pateno Incorporated (7)	AF: 9	RF: 11

DUFFEL BAG TL-4

Stane Corporation (7)	AF: 11	RF: 11
Ruffit Manufacturing Corp. (9)	AF: 9	RF: 12
Duckfoot & Son (7)	AF: 9	RF: 11

2-MAN TENT TL-1

Androkiston Company (3)	AF: 10	RF: 6
GRYF Outdoor Products (7)	AF: 9	RF: 10
Ahabitronics (6)	AF: 11	RF: 8

TENT HEATER TL-6

Anderson Thermitics (8)	AF: 9	RF: 8	Flammable Fuel. Fire danger due to heat or thermostat breakdown.
GRYF Outdoor Products (7)	AF: 10	RF: 8	
NeyRoKen Industries (9)	AF: 7	RF: 10	

CAMPSTOVE TL-6

Anderson Thermitics (8)	AF: 9	RF: 9	Flammable Fuel. Fire danger from open flames. Explosion danger from fuel canister.
NeyRoKen Industries (9)	AF: 7	RF: 10	
GRYF Outdoor Products (7)	AF: 8	RF: 10	

INFLATABLE MATTRESS TL-6

Ruffit Manufacturing Corp. (9)	AF: 8	RF: 7	Easily punctured by sharp objects and can be melted. Weight limit 125 kilograms. Do not over inflate.
Stane Corporation (7)	AF: 7	RF: 8	
Comfor Corp. (6)	AF: 9	RF: 5	

ELECTRIC CAMP LANTERN TL-6

Collins Corporation, Inc. (8)	AF: 10	RF: 10	Susceptible to hard shock. Submersible to 3 meters. As Club if used as weapon.
NeyRoKen Industries (9)	AF: 9	RF: 10	
Berndet Lighting Supply (6)	AF: 10	RF: 8	

MANUAL TORCH TL-6

Collins Corporation, Inc. (8)	AF: 10	RF: 11	Power is provided by squeezing trigger, hand may become fatigued. As Club-1 if used as a weapon.
NeyRoKen Industries (9)	AF: 9	RF: 11	
Berndet Lighting Supply (6)	AF: 10	RF: 10	

CANTEEN TL-2

Balini & Associates (5)	AF: 11	RF: 10
Pateno Incorporated (7)	AF: 11	RF: 11
Androdiston Company (3)	AF: 8	RF: 9

MESSKIT TL-4

Ruffit Manufacturing Corp. (9)	AF: 8 RF: 11
Stane Corporation (7)	AF: 9 RF: 10
Balini & Associates (5)	AF: 11 RF: 10

INFLATABLE BOAT TL-5

GRYF Outdoor Products (7)	AF: 7 RF: 9	May be punctured by sharp objects. Do not over-inflate.
NeyRoKen Industries (9)	AF: 8 RF: 10	
Stane Corporation (7)	AF: 8 RF: 8	

SNOWSHOES TL-4

Platypads Unlimited (9)	AF: 8 RF: 10	Dexterity is reduced. Running is difficult, and falls are common until the wearer has practice.
Shanke Services (5)	AF: 9 RF: 8	
Duckfoot & Son (7)	AF: 7 RF: 11	

SNOW SKIES TL-4

Platypads Unlimited (9)	AF: 8 RF: 11	Requires instruction and practice. Damage from falls at high speed is 2d6. Most require waxing to improve speed.
Shanke Services (5)	AF: 9 RF: 10	
Duckfoot & Son (7)	AF: 7 RF: 10	

BICYCLE TL-4

Shanke Services (5)	AF: 6 RF: 7	Requires Dexterity 6+ with instruction and practice. Dex 6- roll 2d6 Dex- each ten minutes to avoid falls. Damage 2d6.
Cahillian Transport Co. (7)	AF: 9 RF: 9	
NeyRoKen Industries (9)	AF: 5 RF: 10	

SURVIVAL RATIONS TL-5

Trail-Pak Foods (8)	AF: 9 RF: 11	Storage without spoilage for up to five years. Spoiled food causes 1d6 damage per eight hours if untreated. Tastes like processed cardboard and may be toxic to non-humans.
York Processing (5)	AF: 9 RF: 9	
Gordon Goods (10)	AF: 5 RF: 12	

INSECT REPELLANT TL-6

Bugs-B-Gone (6)	AF: 8 RF: 6	Can be ineffective away from planet of origin and in some cases attracts insects. Pressurized can may explode from heat. May be toxic to other life-forms.
Parasite Prevention Inc. (8)	AF: 6 RF: 7	
Gordon Goods (10)	AF: 6 RF: 8	

DISPOSABLE BUTANE LIGHTER TL-6

Matchstix Incorporated (7)	AF: 11 RF: 10	Explosion and fire hazard. Demolitions skill can use to make small bombs (2d6+4 damage).
Ahabitronics (6)	AF: 10 RF: 8	
Collins Corporation (8)	AF: 9 RF: 11	

CAMP TOILET TL-5

Ruffit Manufacturing Corp. (9)	AF: 7 RF: 9	Waste leakage possible. May be punctured and could become brittle at low temperatures.
Comfor Corp. (6)	AF: 8 RF: 7	
Patenoe Incorporated (7)	AF: 6 RF: 10	

INSULATED COOLER TL-5

Anderson Thermitics (8)	AF: 10 RF: 10	Uses 'dry ice' or ice to keep food cool for RF number hours.
Arpad Industries (9)	AF: 7 RF: 11	
Outdoors Inc. (7)	AF: 10 RF: 8	

AIR PURIFIER TL-7		
Grange Atmospheric (9)	AF: 5 RF: 9	May encourage pathogen formation if filters are not cleaned regularly. Cleans a 20 cubic meter volume in 3 hours.
Aerometrics Incorporated (7)	AF: 7 RF: 7	
Enviro-Gear (8)	AF: 8 RF: 8	
WATER DISTILLER TL-6		
Aerometrics Incorporated (7)	AF: 8 RF: 8	Requires frequent cleaning with very dirty water. Some contaminants may not be completely removed.
Enviro-Gear (8)	AF: 9 RF: 10	
Drismella Trading (8)	AF: 7 RF: 11	
FOOD ANALYZER TL-8		
Dreyruger (10)	AF: 5 RF: 9	Use of this device does not guarantee poisons are not present.
Enviro-Gear (8)	AF: 6 RF: 8	
Nutritester Corporation (8)	AF: 7 RF: 3	
FISHING ROD & REEL TL-4		
Drismella Trading (8)	AF: 10 RF: 10	Fishing line may tangle taking 1d6 hours to correct. Stronger lines may be available.
Modoc Manufacturing (8)	AF: 7 RF: 9	
Ballni & Associates (5)	AF: 10 RF: 7	
FOLDING GRAPNEL TL-6		
GRYF Outdoor Products (7)	AF: 7 RF: 10	Roll 2d6, 6- the grapnel does not hook properly and must be cast again.
Bartonian Arms (15)	AF: 5 RF: 11	
Mountain Mate Company (6)	AF: 8 RF: 9	
CLIMBING KIT TL-6		
Carbolite Tool & Die (12)	AF: 5 RF: 10	Requires instruction for safe use. Cable can support up to 200 kilograms.
Mountain Mate Company (6)	AF: 8 RF: 9	
Cristal Lifts (8)	AF: 7 RF: 10	
CLIMBING HOIST TL-8		
Cristal Lifts (8)	AF: 6 RF: 10	Failure of clutch and/or brake may result in a fall at the rate of five meters per second (up to 5d6 damage) in a 1-g field.
Carbolite Tool & Die (12)	AF: 5 RF: 11	
Collins Corporation, Inc. (8)	AF: 7 RF: 9	

PERSONAL GEAR

WHEELED STORAGE CASE TL-3		
Armstrong Travel Gear (8)	AF: 9 RF: 11	Fast changes of pressure could cause implosion or explosion of trapped air in airtight cases.
NeyRoKen Industries (9)	AF: 7 RF: 11	
Androkiston Company (3)	AF: 9 RF: 7	
FOOTLOCKER TL-3		
Androkiston Company (3)	AF: 10 RF: 7	
Drismella Trading (8)	AF: 8 RF: 10	
Execucrat Products (10)	AF: 6 RF: 11	
EQUIPMENT BAG TL-0		
Androkiston Company (3)	AF: 10 RF: 9	
Execucrat Products (10)	AF: 8 RF: 11	
GRYF Outdoor Products (7)	AF: 10 RF: 11	
PADLOCK TL-3		
Gradam Security Devices (6)	AF: 10 RF: 10	Most types can be picked easily. Casing and bolt can typically take 100 hit points before breaking.
Carbolite Tool & Die (12)	AF: 5 RF: 12	
NeyRoKen Industries (9)	AF: 8 RF: 11	

FOLDING UMBRELLA TL-3

Ahabitronics (6)	AF: 10 RF: 7	Susceptible to strong winds.
Mallon Manufacturing (8)	AF: 9 RF: 8	As club if used as a weapon.
Androkiston Company (3)	AF: 5 RF: 5	

PERSONAL GROOMING KIT TL-5

Cultured Cosmetics (9)	AF: 10 RF: 11	Some products may affect allergies or sensitive skin. Razor as dagger+2. Aromas may affect non-humans.
Dreyrgr (10)	AF: 8 RF: 11	
Matchstix Incorporated (7)	AF: 12 RF: 9	

COSMETIC CASE TL-5

Cultured Cosmetics (9)	AF: 10 RF: 11	Some products may affect allergies or sensitive skin. Scents may affect non-humans.
Dreyrgr (10)	AF: 8 RF: 10	
Matchstix Incorporated (7)	AF: 12 RF: 10	

ATTACHE CASE TL-5

Execucrat Products (10)	AF: 7 RF: 11
NeyRoKen Industries (9)	AF: 8 RF: 11
Armstrong Travel Gear (8)	AF: 10 RF: 8

ATTACHE CASE INSERTS TL-5

Execucrat Products (10)	AF: 6 RF: 11
NeyRoKen Industries (9)	AF: 7 RF: 10
Armstrong Travel Gear (8)	AF: 0 RF: ---

LIFE SUPPORT DEVICES**VACC SUIT TL-7**

Enviro-Gear (8)	AF: 6 RF: 10
Aerometrics Incorporated (7)	AF: 7 RF: 6
Grange Atmospheric (9)	AF: 4 RF: 11

LIFE SUPPORT PACK TL-7

Enviro-Gear (8)	AF: 6 RF: 10	Damage to pack could result in explosion due to high-pressure air tanks. Up to 4d6 damage from blast and shrapnel.
Aerometrics Incorporated (7)	AF: 7 RF: 9	
Grange Atmospheric (9)	AF: 4 RF: 11	

L/S PACK CONTROL UNIT TL-7

Enviro-Gear (8)	AF: 6 RF: 10	Susceptible to strong magnetic fields. L/S Pack goes to standby if control is damaged.
Aerometrics Incorporated (7)	AF: 7 RF: 11	
Grange Atmospheric (9)	AF: 4 RF: 11	

VACC SUIT GAUNTLETS TL-7

Enviro-Gear (8)	AF: 6 RF: 10	Palms and fingers wear faster than other parts of the suit due to increased chance of abrasion.
Aerometrics Incorporated (7)	AF: 7 RF: 7	
Grange Atmospheric (9)	AF: 4 RF: 11	

TYPE I VACC SUIT HELMET TL-7

Enviro-Gear (8)	AF: 6 RF: 10	Exposure to abrasive particles may scratch or opaque the plastic. Armor as Cloth+1.
Aerometrics Incorporated (7)	AF: 7 RF: 10	
Grange Atmospheric (9)	AF: 4 RF: 11	

TYPE II VACC SUIT HELMET TL-8

Enviro-Gear (8)	AF: 6 RF: 9
Grange Atmospheric (9)	AF: 4 RF: 11

VACC SUIT BOOTS TL-7		
Enviro-Gear (8)	AF: 6 RF: 10	Armor protection for the soles is as Battle Dress+2 and for the uppers is as Colth - 1.
Aerometrics Incorporated (7)	AF: 7 RF: 10	
Grange Atmospheric (9)	AF: 4 RF: 11	
MAGNETIC SOLES TL-7		
Enviro-Gear (8)	AF: 6 RF: 7	Easily broken and collects metal filings which could scratch decks, etc. Magnetic attraction is weak-sudden movements could cause loss of contact.
Aerometrics Incorporated (7)	AF: 7 RF: 7	
Grange Atmospheric (9)	AF: 4 RF: 8	
REACTION PACK TL-7		
Aerometrics Incorporated (7)	AF: 6 RF: 7	Explosion could result if reaction nozzles become plugged or if tanks are ruptured. 4d6 damage from blast.
Mancole Manufacturing (10)	AF: 5 RF: 10	
Lieste Jetpack Company (9)	AF: 7 RF: 4	
EMERGENCY VACC SUIT PATCHES TL-7		
Aerometrics Incorporated (7)	AF: 10 RF: 9	
Enviro-Gear (8)	AF: 11 RF: 10	
Grange Atmospheric (9)	AF: 8 RF: 11	
VACC SUIT DEODORANT TL-7		
Dreyrgr (10)	AF: 9 RF: 9	May cause skin irritation and may not be effective on non-humans.
Cultured Cosmetics (9)	AF: 10 RF: 8	
Ar-Kem Products (7)	AF: 8 RF: 4	
OXYGEN LEAK DETECTOR TL-7		
Aerometrics Incorporated (7)	AF: 8 RF: 5	Damage to probe renders unit inoperative.
Carbolite Tool & Die (12)	AF: 6 RF: 10	
Grange Atmospheric (9)	AF: 7 RF: 9	
EPLS BAG TL-7		
Enviro-Gear (8)	AF: 10 RF: 9	Damage could cause explosion from high-pressure air tank. 3d6+2 damage.
NeyRoKen Industries (9)	AF: 10 RF: 10	
Mancole Manufacturing (10)	AF: 6 RF: 12	
REFLECTIVE TARPAULIN TL-6		
Mallon Manufacturing (8)	AF: 6 RF: 10	
GRYF Outdoor Products (7)	AF: 7 RF: 9	
Survival Inc. (10)	AF: 4 RF: 11	
NON-RIGID FILTER/RESPIRATOR HELMET TL-5		
Aerometrics Incorporated (7)	AF: 10 RF: 9	The bag is not sealed at the bottom completely so contaminants may leak in. Armor as Jack +1.
Survival Inc. (10)	AF: 6 RF: 5	
Grange Atmospheric (9)	AF: 7 RF: 10	

TOOLS

OXYACETYLENE TORCH TL-5		
Carbolite Tool & Die (12)	AF: 4 RF: 11	Highly flammable and could explode causing 6d6 damage from the explosion and 3d6 per round from fire.
Crithe Incorporated (6)	AF: 9 RF: 8	
Anderson Thermitics (8)	AF: 9 RF: 5	
AIR COMPRESSOR-MANUAL POWERED TL-1		
Carbolite Tool & Die (12)	AF: 4 RF: 11	
Crithe Incorporated (6)	AF: 9 RF: 10	
Androkiston Company (3)	AF: 8 RF: 5	

AIR COMPRESSOR-MOTOR POWERED TL-5

Crithe Incorporated (6)	AF: 8 RF: 7
Grange Atmospherics (9)	AF: 6 RF: 11
Mancole Manufacturing (10)	AF: 7 RF: 10

AIRLESS SPRAY GUN TL-6

Crithe Incorporated (6)	AF: 8 RF: 6
NeyRoKen Industries (9)	AF: 9 RF: 10
Pateno Incorporated (7)	AF: 9 RF: 9

STICK-STRIPS TL-6

Modoc Manufacturing (8)	AF: 8 RF: 10
Ahabitronics (6)	AF: 10 RF: 8
Gordon Goods (10)	AF: 6 RF: 10

SOLDERING IRON TL-5

Carbolite Tool & Die (12)	AF: 6 RF: 11	Produces heat - could cause fire. Heat damage is 3d6-2, and iron can be used as Dagger - 2.
Crithe Incorporated (6)	AF: 9 RF: 9	
Zyton Tool Works (10)	AF: 7 RF: 10	

SOLDER TL-5

Carbolite Tool & Die (12)	AF: 6 RF: 11
Crithe Incorporated (6)	AF: 9 RF: 9
Zyton Tool Works (10)	AF: 7 RF: 10

HACKSAW TL-4

Zyton Tool Works (10)	AF: 10 RF: 9	As Blade when used as a weapon with damage 2d6-4. Saw blade breaks if 4- is rolled to hit.
Modoc Manufacturing (8)	AF: 9 RF: 8	
NeyRoKen Industries (9)	AF: 8 RF: 10	

PORTABLE WINCH TL-5

Cristal Lifts (8)	AF: 7 RF: 10	Capacity 1.5 metric tons.
Mountain Mate Company (6)	AF: 8 RF: 9	
Carbolite Tool & Die (12)	AF: 5 RF: 10	

SCROLL SAW TL-6

Carbolite Tool & Die (12)	AF: 7 RF: 11	As Blade-2 when used as a weapon with damage 2d6+4 (powered) or 2d6-3 if unpowered. Saw blade breaks if 4- is rolled to hit.
Zyton Tool Works (10)	AF: 8 RF: 10	
Crithe Incorporated (6)	AF: 10 RF: 8	

HAND DRILL TL-4

Zyton Tool Works (10)	AF: 10 RF: 10	As Dagger - 1.
Crithe Incorporated (6)	AF: 11 RF: 9	
Pateno Incorporated (7)	AF: 9 RF: 10	

POWER DRILL TL-5

Zyton Tool Works (10)	AF: 9 RF: 10	As Dagger - 1 when unpowered, Blade - 1 when powered.
Pateno Incorporated (7)	AF: 9 RF: 6	
Modoc Manufacturing (8)	AF: 7 RF: 10	

ZERO-G DRILL TL-7

Zyton Tool Works (10)	AF: 8 RF: 9	Rotational force is not entirely cancelled and user should be anchored. Drill can puncture vacc suit easily.
Carbolite Tool & Die (12)	AF: 5 RF: 10	
NeyRoKen Industries (9)	AF: 7 RF: 6	

DRILL BITS TL-4

Zyton Tool Works (10)	AF: 10 RF: 6	As Dagger - 1 with damage 2d6 - 4.
Carbolite Tool & Die (12)	AF: 6 RF: 11	
Crithe Incorporated (6)	AF: 8 RF: 4	

VACUUM CLEANER TL-5		
Ahabitronics (6)	AF: 9 RF: 9	Suction is less when refuse bag is full. As club when used as a weapon.
Drismella Trading (8)	AF: 7 RF: 5	
Collins Corporation, Inc. (8)	AF: 10 RF: 8	
OPEN-END WRENCHES TL-4		
Carbolite Tool & Die (12)	AF: 6 RF: 12	Failure of wrench causes 1d6 damage to dexterity (damage to hand).
Zyton Tool Works (10)	AF: 10 RF: 10	
Balini & Associates (5)	AF: 10 RF: 4	
SOCKET SET TL-4		
Carbolite Tool & Die (12)	AF: 6 RF: 12	Failure of socket causes 1d6 damage to dexterity and failure of wrench causes 1d6+2 to dexterity (hands).
Zyton Tool Works (10)	AF: 10 RF: 10	
Balini & Associates (5)	AF: 10 RF: 6	
SCREWDRIVER SET TL-4		
Carbolite Tool & Die (12)	AF: 6 RF: 11	As Dagger - 1 when used as a weapon.
Zyton Tool Works (10)	AF: 11 RF: 10	
PocketPal Corporation (8)	AF: 12 RF: 10	
LOCKING ADJUSTABLE PLIERS TL-5		
Carbolite Tool & Die (12)	AF: 6 RF: 11	Crushing damage 2d6+1.
Zyton Tool Works (10)	AF: 9 RF: 9	
PocketPal Corporation (8)	AF: 10 RF: 10	
TOOLBOX TL-3		
Crithe Incorporated (6)	AF: 10 RF: 9	
Androkiston Company (3)	AF: 4 RF: 5	
Zyton Tool Works (10)	AF: 9 RF: 11	
POCKET TOOL KIT TL-4		
PocketPal Corporation (8)	AF: 10 RF: 11	
Balini & Associates (5)	AF: 8 RF: 4	
Gordon Goods (10)	AF: 8 RF: 12	
ARMOR REPAIR KIT TL-8		
Bartonian Arms (15)	AF: 10 RF: 12	Patches are glued then sewn to armor types Jack, Mesh Cloth, Ablat, or Reflec. Use with Reflec gives +2 to hit with laser weapons.
Carbolite Tool & Die (12)	AF: 7 RF: 12	
Collins Corporation (8)	AF: 8 RF: 9	
CLOTHING REPAIR KIT TL-3		
Ahabitronics (6)	AF: 12 RF: 9	
Dreyrgr (10)	AF: 8 RF: 10	
Androkiston Company (3)	AF: 10 RF: 6	
FIRE EXTINGUISHER TL-6		
Ar-Kem Products (7)	AF: 9 RF: 10	Rapture of tank could cause up to 4D6 damage from explosion. Chemical used is non-toxic but could cause suffocation.
Gradam Security Devices (6)	AF: 7 RF: 9	
Lieste Jetpack Company (9)	AF: 8 RF: 11	

VISION AIDS

COMBINATION IR/LI GOGGLES TL-9		
Orizon Optical (9)	AF: 5 RF: 8	Failure of automatic sensitivity control could cause blindness if relatively bright light source hits while using Light Intensification.
Bartonian Arms (15)	AF: 9 RF: 12	
Mancole Manufacturing (10)	AF: 7 RF: 11	

FORWARD OBSERVER BINOCULARS TL-10

Visi Products (10)	AF: 8 RF: 9	LI function can not be used with laser rangefinder as blindness could result.
Bartonian Arms (15)	AF: 9 RF: 10	
Mancole Manufacturing (10)	AF: 7 RF: 9	

PERISCOPE TL-3

Androkiston Company (3)	AF: 6 RF: 5	Some models have cross-hairs. Binoculars or cameras may be attached in some types.
Orizon Optical (9)	AF: 9 RF: 10	
Patnoe Incorporated (7)	AF: 9 RF: 10	

POCKET MICROSCOPE TL-5

Balini & Associates (5)	AF: 8 RF: 5
Collins Corporation (8)	AF: 9 RF: 10
Orizon Optical (9)	AF: 7 RF: 11

CONTACT LENSES TL-6

Orizon Optical (9)	AF: 6 RF: 10	May cause eye irritation. Versions after tech level 7 are flexible (unbreakable).
Execucrat Products (10)	AF: 5 RF: 9	
Aerometrics Incorporated (7)	AF: 8 RF: 8	

STILL IMAGE CAMERA TL-4

Digicorder Products (9)	AF: 8 RF: 10	Many types require instruction for use. Inadequate light or other conditions may cause poor quality photos. Not waterproof.
Visi Products (10)	AF: 9 RF: 9	
Patnoe Incorporated (7)	AF: 10 RF: 8	

FILM MAGAZINE TL-6

Visi Products (10)	AF: 10 RF: 10	Load in low light levels if possible.
Patnoe Incorporated (7)	AF: 10 RF: 9	
Digicorder Products (9)	AF: 8 RF: 12	

STROBE LIGHT TL-6

Digicorder Products (9)	AF: 8 RF: 10
Berndet Lighting Supply (6)	AF: 9 RF: 9
Orizon Optical (9)	AF: 7 RF: 11

TELEPHOTO/ZOOM LENS TL-6

Visi Products (10)	AF: 8 RF: 10
Orizon Optical (9)	AF: 8 RF: 11
Digicorder Products (9)	AF: 8 RF: 10

TRIPOD TL-6

Patnoe Incorporated (7)	AF: 10 RF: 11
Mancole Manufacturing (10)	AF: 7 RF: 12
Digicorder Products (9)	AF: 9 RF: 10

CAMERA BAG TL-6

Execucrat Products (10)	AF: 8 RF: 11
Stane Corporation (7)	AF: 7 RF: 9
Ahabitronics (6)	AF: 9 RF: 6

LIGHT METER TL-6

Digicorder (9)	AF: 7 RF: 9
Berndet Lighting Supply (6)	AF: 8 RF: 10
Mancole Manufacturing (10)	AF: 8 RF: 12

LIGHT INTENSIFIER LENS TL-9

Digicorder Products (9)	AF: 5 RF: 10
Visi Products (10)	AF: 9 RF: 9
Mancole Manufacturing (10)	AF: 7 RF: 11

MOVIE CAMERA TL-5

Digicorder Products (9)	AF: 8 RF: 9
Visi Products (10)	AF: 9 RF: 5
Patnoe Incorporated (7)	AF: 10 RF: 7

MOVIE FILM TL-5		
Digicorder Products (9)	AF: 8 RF: 11	Load film in low light levels only.
Visi Products (10)	AF: 10 RF: 10	
Patenoee Incorporated (7)	AF: 10 RF: 8	

MOVIE PROJECTOR TL-5		
Digicorder Products (9)	AF: 8 RF: 10	Film is plastic and can jam in projector if bent or sprocket holes are torn. Roll 2d6+2 to find how many centimeters of film are destroyed.
Visi Products (10)	AF: 10 RF: 10	
Patenoee Incorporated (7)	AF: 10 RF: 7	

MOVIE SCREEN TL-5		
Mallon Manufacturing (8)	AF: 10 RF: 11	
Visi Products (10)	AF: 9 RF: 10	
Ballini & Associates (5)	AF: 9 RF: 5	

VIDEO CAMERA TL-6		
Digicorder Products (9)	AF: 7 RF: 9	Does not operate well in low light levels. Exposure to bright light sources may burn the image in permanently and require major overhaul (up to 50% value).
Linke Broadcast (8)	AF: 4 RF: 11	
Gradam Security Devices (6)	AF: 8 RF: 7	

VIDEO RECORDER TL-6		
Digicorder Products (9)	AF: 7 RF: 8	Tape heads require frequent cleaning and are delicate. Do not expose to strong magnetic fields.
Linke Broadcast (8)	AF: 4 RF: 10	
Gradam Security Devices (6)	AF: 8 RF: 6	

VIDEO TAPE: REEL OR CASSETTE TL-6		
Digicorder Products (9)	AF: 8 RF: 8	Exposure to magnetic field erases information on tape. Oils, etc. from fingers can damage recorder tape heads and reduce the quality of the image. Reel type: roll 2d6 5-, tape is threaded incorrectly and could be damaged
Ingramics Incorporated (10)	AF: 5 RF: 11	
Linke Broadcast (8)	AF: 5 RF: 12	

BATTERY BELT TL-6		
Discrete Devices (9)	AF: 9 RF: 11	If batteries are short-circuited fire and toxic fumes could result. 3d6 damage per combat round from fire and 2d6 damage per combat round from fumes.
Linke Broadcast (8)	AF: 5 RF: 12	
Survival Inc. (10)	AF: 7 RF: 10	

VIDEO CAMERA EXTENSION CABLE TL-6		
Gradam Security Devices (6)	AF: 8 RF: 9	If wires become short-circuited, recorder may be damaged. Cable should not be bent sharply as wires could break.
Linke Broadcast (8)	AF: 5 RF: 12	
Digicorder Products (9)	AF: 8 RF: 10	

COMMUNICATIONS GEAR

EARPIECE COMMUNICATOR TL-7		
Bartonian Arms (15)	AF: 9 RF: 11	Feedback could cause hearing damage if brought too close to a powerful transmitter.
Discrete Devices (9)	AF: 7 RF: 10	
Patenoee Incorporated (7)	AF: 10 RF: 9	

RELAY DATELLITE TL-6

Beacon Bouy (8)	AF: 8 RF: 10
Ingramics Incorporated (10)	AF: 4 RF: 11
Gradam Security Products (6)	AF: 7 RF: 5

AUDIO RECORDER TL-5

Linke Broadcast (8)	AF: 6 RF: 10	Do not expose recorder or tape to magnetic fields.
Discrete Devices (9)	AF: 8 RF: 10	
Ingramics Incorporated (10)	AF: 7 RF: 9	

DIRECTIONAL ANTENNA TL-6

Pateno Incorporated (7)	AF: 9 RF: 9
Discrete Devices (9)	AF: 8 RF: 10
Ingramics Incorporated (10)	AF: 5 RF: 8

LISTENING DEVICE DETECTOR TL-6

Discrete Devices (9)	AF: 6 RF: 9	Some types of listening devices may not be de- tected.
Gradam Security Devices (6)	AF: 6 RF: 6	
Linke Broadcast (8)	AF: 7 RF: 10	

CONCEALABLE LISTENING DEVICE TL-6

Discrete Devices (9)	AF: 6 RF: 10
Gradam Security Devices (6)	AF: 5 RF: 8
Linke Broadcast (8)	AF: 7 RF: 10

COMMUNICATIONS JAMMER TL-5

Discrete Devices (9)	AF: 7 RF: 8	Not always effective against some communicators.
Bartonian Arms (15)	AF: 9 RF: 10	
Ingramics Incorporated (10)	AF: 5 RF: 9	

WRISTWATCH COMMUNICATOR TL-7

Digi Chronics (8)	AF: 9 RF: 10
Ingramics Incorporated (10)	AF: 7 RF: 11
Pateno Incorporated (7)	AF: 8 RF: 9

COMMUNICATIONS HEADSET TL-6

Gradam Security Devices (6)	AF: 8 RF: 9
Linke Broadcast (8)	AF: 7 RF: 11
Digicorder Products (9)	AF: 8 RF: 11

WEAPONRY & ACCESSORIES**BANDOLIER/GUNBELT TL-4**

Bartonian Arms (15)	AF: 10 RF: 12
Trans-Core Armory (9)	AF: 9 RF: 11
The Weapon Shoppe (5)	AF: 7 RF: 9

BIPOD TL-4

Bartonian Arms (15)	AF: 8 RF: 11
The Weapon Shoppe (5)	AF: 6 RF: 9
Pateno Incorporated (7)	AF: 7 RF: 10

SIDEARM CLEANING KIT TL-4

Bartonian Arms (15)	AF: 10 RF: 11
Trans-Core Armorer (9)	AF: 10 RF: 10
The Weapon Shoppe (5)	AF: 9 RF: 9

LONGARM CLEANING KIT TL-5

Bartonian arms (15)	AF: 10 RF: 11
Trans-Core Armorer (9)	AF: 10 RF: 10
The Weapon Shoppe (5)	AF: 7 RF: 8

GUNSMITH TOOL KIT TL-7

Bartonian Arms (15)	AF: 8 RF: 10	Tool kit can repair weapons up to its technology level and some weapons beyond.
Carbolite Tool & Die (12)	AF: 9 RF: 10	
Modoc Manufacturing (8)	AF: 7 RF: 9	

STILLETTO TL-3

The Weapon Shoppe (5)	AF: 10 RF: 9
Trans-Core Armorer (9)	AF: 7 RF: 10
Androkiston Company (3)	AF: 5 RF: 5

KNIFE HONE TL-1

Bartonian Arms (15)	AF: 10 RF: 12
Androkiston Company (3)	AF: 9 RF: 7
The Weapon Shoppe (5)	AF: 10 RF: 11

WEAPON CASES TL-4

Bartonian Arms (15)	AF: 9 RF: 11
Sportsman's Supply (8)	AF: 10 RF: 11
The Weapon Shoppe (5)	AF: 7 RF: 8

DETACHABLE SCOPE MOUNT TL-6

Bartonian Arms (15)	AF: 9 RF: 11	Each scope must be calibrated to each weapon or accuracy suffers a -4 DM. Can be precalibrated.
Trans-Core Armorer (9)	AF: 9 RF: 10	
Patnoe Incorporated (7)	AF: 7 RF: 9	

REMOTE CONTROL GUN/CAMERA MOUNT TL-6

Bartonian Arms (15)	AF: 7 RF: 9	Device is difficult to aim from a remote location and has a DM - 2 to hit. Only sidearms are recommended.
Orizon Optical (9)	AF: 7 RF: 8	
Sportsman's Supply (8)	AF: 8 RF: 5	

SWORD CANE TL-4

Bartonian Arms (15)	AF: 8 RF: 10	Foil is somewhat fragile and breaks if hit wrong.
The Weapon Shoppe (5)	AF: 9 RF: 9	
Trans-Core Armorer (9)	AF: 6 RF: 9	

SHOCK CANE TL-6

Sportsman's Supply (8)	AF: 7 RF: 9	Handle is insulated. Device could malfunction if subjected to hard physical shock.
Crithe Incorporated (6)	AF: 8 RF: 7	
Discrete Devices (9)	AF: 6 RF: 10	

DERRINGER CANE TL-4

Bartonian Arms (15)	AF: 9 RF: 10	Failure to uncock before replacing in sheath could result in the derringer firing causing up to 3d6 damage from shrapnel.
The Weapon Shoppe (5)	AF: 6 RF: 7	
Trans-Core Armorer (9)	AF: 8 RF: 9	

HYPODERMIC CANE TL-5

The Weapon Shoppe (5)	AF: 5 RF: 5	Needles pierce woven armor easily but usually break on combat armor, battle dress, etc. 1d6 damage if pressure vial is ruptured.
HypoJet Injector Company (9)	AF: 8 RF: 10	
Medijector Incorporated (8)	AF: 9 RF: 9	

COMMUNICATOR CANE TL-6

Linke Broadcast (8)	AF: 6 RF: 10	If subjected to hard physical shock, roll 2d6, 4- and the communicator is damaged.
Patnoe Incorporated (7)	AF: 7 RF: 9	
Ingramics Incorporated (10)	AF: 5 RF: 11	

CLOTHING

Androkiston Company (3)	AF: 8 RF: 9	Clothing comes in sizes for men, women, and children and most come in a variety of styles and colors.
Comfor Corp. (6)	AF: 9 RF: 9	
Dreyrgr (10)	AF: 6 RF: 11	

Aerometrics Incorporated (7)
 Ahabitronics (6)
 Anderson Thermitics (8)
 Androkiston Company (3)
 Ar-Kem Products (7)
 Armstrong Travel Gear (8)
 Arpad Industries (9)
 Balini & Associates (5)
 Bartonian Arms (15)
 Beacon Bouy (8)
 Berndet Lighting Supply (6)
 Bugs-B-Gone (6)
 Cahillian Transport (7)
 Carbolite Tool & Die (12)
 Collins Corporation (8)
 Comfor Corp. (6)
 Cristal Lifts (8)
 Crithe Incorporated (6)
 Cultured Cosmetics (9)
 DigiChronics (8)
 Digicorder Products (9)
 Discrete Devices (9)
 Dreyrgr (10)
 Drismella Trading (8)
 Duckfoot & Son (7)
 Enviro-Gear (8)
 Execucrat Products (10)
 Gordon Goods (10)
 Gradam Security Devices (6)
 Grange Atmospheric (9)

GRYF Outdoor Products (7)
 HypoJet Injector Company (9)
 Ingramics Incorporated (10)
 Lieste Jetpack (8)
 Linke Broadcast (8)
 Mallon Manufacturing (8)
 Mancole Manufacturing (10)
 Matchstix Incorporated (7)
 Medijector Incorporated (8)
 Modoc Manufacturing (8)
 Mountain Mate Company (6)
 NeyRoKen Industries (9)
 Nutritester Corporation (8)
 Orizon Optical (9)
 Outdoors Incorporated (7)
 Parasite Prevention Company (6)
 Patenoe Incorporated (7)
 Platypads Unlimited (9)
 PocketPal Corporation (8)
 Ruffit Manufacturing Corp. (9)
 Shanke Services (5)
 Sportsman's Supply (8)
 Stane Corporation (7)
 Survival Inc. (10)
 The Weapon Shoppe (5)
 Trail-Pak Foods (8)
 Trans-Core Armorer (9)
 Visi Products (10)
 York Processing (5)
 Zyton Tool Works (10)

