Fuzion: 2300 AD Equipment Guide

2300AD

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CURRENT SERVICE RIFLES

The following rifles are currently being used by major military forces in the 24th century.
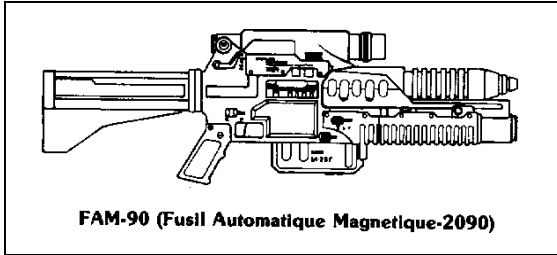
FAM-90 (Fusil Automatique Magnetique-2090)

FAM-90 (Fusil Automatique Magnetique-2090): The standard infantry weapon of first line French infantry, the FAM-90 Gauss rifle fires single shots at high velocity, giving good aimed fire accuracy, and fires bursts at a much lower velocity, giving the rifle excellent controllability on automatic fire. The optic sights incorporate a low-power laser range finder for aimed fire. An HR- 17 30mm grenade launcher is mounted below the barrel.

Type: 4.5mm Gauss rifle with integral 30mm grenade launcher Country: France Weight (Empty): 4.5 kg Length: 76 cm Action: Single shot or bursts Ammunition: 4.5 x 20mm flechette Magazine: 60-round box magazine with integral power cell Magazine Weight: 0.3 kg Price: Lv490 (Lv2 for 60-round disposable magazine)

M-4A1: The M-4A1 is an American designed gauss rifle which replaced the M-2 as the standard infantry weapon of the American Army and Marines. The M-4 uses the same ammunition and clips as the FAM-90. The M-4 has a replaceable energy cell located in the stock of the weapon and serves to supplement the ammo clip energy cell. The stock mounted battery has enough charge to fire one "dead" clip of 60 rounds. The M-4A1 is also a "silence enhanced" weapon. This makes the M-4 highly sought after by special forces units.

Type: 4.5mm Gauss rifle with integral 30mm grenade launcher Country: France Weight (Empty): 4.5 kg Length: 76 cm Action: Single shot or bursts Ammunition: 4.5 x 20mm flechette Magazine: 60-round box magazine with integral power cell Magazine Weight: 0.3 kg Price: Lv380 (Lv2 for 60-round disposable magazine Lv1 for stock power cell)

AS-89 (Automat Segetov 2289): The standard Soviet Russian infantry weapon, the AS-89 incorporates a reliable optic sight and an integral 30mm G-2 grenade launcher. The AS-89 found a home for a time in the hands of hired mercenaries of the French Arm. In fact, this weapon became the trademark of men who were for hire, and as such is an institution in and of itself.

Type: 4.54mm Gauss rifle with integral 30 mm grenade launcher Country: RSFSR Weight (Empty): 4 kg Length: 73 cm (bulk = 2) Action: Single shot or burst Ammunition: 4.54 x 21 mm flechette Magazine: 60-round box magazine with integral power cell Magazine Weight: 0.3 Price: Lv420 (Lv2 for 60-round disposability)

FTE-10 (Fusill Tiralleur d'Ellite-10): Generally, each French squad contains one FTE-1 0 (or similar) sniper rifle to use for long-range aimed fire. The Fusil Tiralleur d'Elite- 10 is a very low-noise weapon, which makes it excellent for harassment fire from concealment. The FTE- 10 can also penetrate light armor at reasonable ranges, Due to its great physical length, the FTE- 10 has gained the nickname ''Kentucky long rifle among American soldiers. Soldiers who are assigned to use the FTE- 10 often carry it under protest.

Type: 10mm Gauss sniper rifle Country: France Weight (Empty). 12.5 kg Length. 184 cm Action: Single shot Ammunition: 10 x 37mm flechette Muzzle Velocity: 1400 mps Magazine: 10-round box magazine. Separately loaded 30-round power cell. Magazine Weight, 0.2 kg Power Cell Weight: 0.2 kg Price: Lv450 (Lv2 for box of 100 flechettes; Lv1 for disposable power cell)
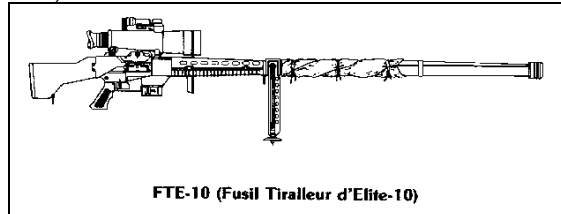
FTE-10 (Fusil Tiralleur d'Elite-10)

Type-81 Storm Gun: Shortly before the Central Asian War, there was a flurry of interest in man-carried heavy caliber "storm guns," mostly brought on by Manchuria's adoption of the Type-81. The storm gun was intended to provide light antivehicle and antibunker fire, and the exploding round was expected to give a good area fire capability. In service, however. the weapon proved disappointing so although it is still in service, no replacement is planned, and private interest in this type of weapon has largely dried up. One problem with early versions involved the exposed recoil cylinder of the telescoping shock absorbing shoulder stock. Sand and grit contaminated the lubricants of the cylinder, fouling it to the point that Manchurian troops (those not discarding the weapon altogether) were often forced to brace the shoulder stock against a rock or tree when firing. After the Central Asian War, most Type-81s were fitted with a flexible fabric stock cover to prevent this.

Type: 20mm binary propellant storm gun Country: Manchuria Weight (Empty): 12 kg Length: 163 cm Action: Single shot Ammunition: 20x31 mm APHE

Magazine: 10-round box magazine; separately loaded internal gas bottles with charge for 100 rounds Magazine Weight: 2 kg Recharge Bottle Weight: 2 kg Price: Lv520 (Lv2 for box of 20 rounds Lv2 for recharge bottle)

SURPLUS SERVICE RIFLES

The surplus service rifles described below are no longer the primary small arms of their countries' military forces. Nonetheless, the weapons are still in widespread use by a number of smaller forces.

SG-77(Sturmgewehr-2277): The Sturmgewehr-2277 has now been replaced by more modern types of weapons in Germany's arsenal; however, the weapon was once widely exported, and it can still be found in private hands, as well as in the hands of many smaller armed forces and militias.

The Sturmgewehr-2277 was originally produced under license in Japan as the Type-79 assault rifle, and it remains in use as Japan's standard service weapon. However, Kurita Arms is now rumored to be working on the development of a Gauss rifle of exceptional performance as a replacement for the Sturmgewehr-2277. At this time, it remains to be seen if this Kurita Arms replacement model for the Sturmgewehr-2277 will be put on the world market and made generally available.

Type: 5.5mm conventional assault rifle Country: Germany Weight (Empty): 3 kg Length. 75 cm (Bulk = 2) Action: Single shot or bursts Ammunition: 5.5 x 40mm fixed cartridge ball Muzzle Velocity: 1200 mps Magazine: 40 rounds Magazine Weight: 0.3 kg Price: Lv280 (Lv2 for box of 100 rounds)

Wu-Beijing Type-49 Assault Rifle
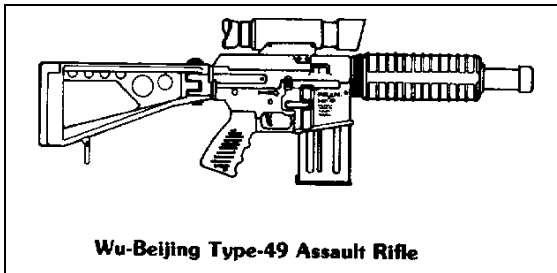
Wu-Beijing Type-49 Assault Rifle: The Wu-Beijing Type-49 Assault Rifle is unique among modern military arms, its uniqueness stemming from a return to an older design which uses a trigger-magazine-barrel design layout rather than the more efficient "bullpup" layout (a magazine-trigger-barrel design).

The Type-49 trigger-magazine-barrel design layout results in a longer rifle with no gain in effective barrel length, a shortcoming the Type-95 dealt with by shortening the barrel to carbine length and providing the weapon with a folding stock. With the stock folded, the weapon is very handy, but aimed fire is effectively impossible.
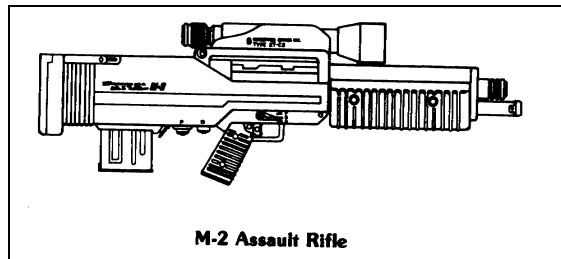
Type: 7.5mm conventional assault rifle Country: Manchuria Weight (Empty): 3 kg Length: 86 cm (Bulk = 3); 58 cm with stock folded Action: Single shot or

bursts *Ammunition: 7.5x32mm fixed cartridge ball Muzzle Velocity: 880 mps Magazine: 25 rounds Magazine Weight: 0.4 kg Price: LV21 0 (LV2 for box of 100 rounds)*

Ramirez-Abruggo BF-1: The Ramirez-Abruggo BF-1 was the first mass-produced binary propellant rifle in use, but it has now been replaced by more modern weapon designs. Even when in first line service, the Ramirez-Abruggo BF-1 binary propellant weapon's performance was always considered to be disappointing.

The Ramirez-Abruggo BF-1 currently remains widely used only because it was originally produced in extremely large numbers. While the Ramirez-Abruggo BF-1 was initially quite expensive to produce, surplus models are now generally available for purchase at a fairly inexpensive price.

Type: 7.5mm binary propellant assault rifle Country: Brazil Weight (Empty): 3.5 kg Length: 81 cm Action: Single shot or bursts Ammunition: 7.5 x I I mm ball Muzzle Velocity: 900 mps Magazine: 40-round box magazine with separately loaded internal gas bottles with charges for 200 aimed shots or 20 bursts Magazine Weight: 0.3 kg Recharge Bottle Weight: 0. 3 kg Price: Lv200 (Lv2 for box of 100 rounds)

M-2 Assault Rifle

M-2 Assault Rifle: The Traylor Arms M-2 "nine-forty-four" assault rifle was one of the most popular weapons of its day in U.S. service and is still a favorite among paramilitary organizations on the fringes of human space. Simple and reliable. the M-2 was the first mass-produced weapon to use a 9mm APHE round.

Type: 9mm conventional assault rifle Country: USA Weight (Empty): 3 kg Length: 79 cm Action: Single shot or bursts Ammunition: 9 x 44mm fixed cartridge APHE Muzzle Velocity: 800 mps Magazine: 30 rounds Magazine Weight: 0.4 Price: Lv260 (Lv4 for box of] 00 rounds)

CIVILIAN AND HUNTING WEAPONS

Of the numerous civilian rifles available in the 24th century, some of the most common are listed here.

Stracher SS-7 (Scharfshutzen Model 7): The Stracher SS-7 is the only mass-produced air rifle currently in use as a hunting weapon (although a variety of low-power air rifles are used for recreation target shooting). The weapon is powered by compressed air from a central reservoir, which holds sufficient pressure for 20 shots at high pressure and 30

more at low pressure. The weapon can be recharged by hand, but only to the low pressure level.

Type: 4mm sporting rifle Country: Austrovenia Weight (Empy): I kg Length: 72 cm Action: Single shot Ammunition: 4mm flechette Muzzle Velocity: 480 mps Magazine: aground box Magazine Weight: 0. 1 kg Air Recharge Bottle: 0.5 kg Price: Lvl40 (Lv1 for box of 1000 rounds Lv1 for recharge bottle)

Guiscard FC-68 (Fusil Chasseur 2268)

Guiscard FC-68 (Fusil Chasseur 2268): The FC-68 was designed with the Frontier colonist in mind, and is widely used by French civilians on a variety of worlds. It combines a bullpup configuration (giving it a distinctly military look-one of its strongest selling features) with full automatic fire.

Type: 5mm sporting rifle Country: France Weight (Empty): I kg Length: 75 cm Action: Single shot or bursts Ammunition: 5 x I 5mm fixed cartridge ball Muzzle Velocity: 630 mps Magazine: 70-round box Magazine Weight: 0.3 Price: Lv240 (Lv2 for box of 300 rounds)
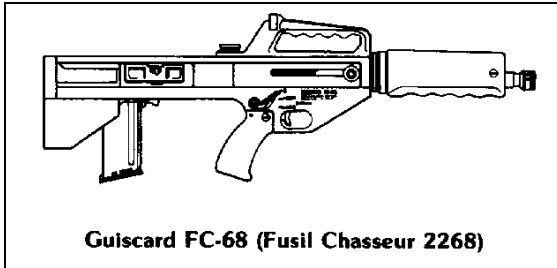
Guiscard FC-70 (Fusil Chasseur 2270): The FC-70 was designed to make use of the large quantities of 7.5mm surplus ammunition available on the open market, and low firing cost has made it (and other similar rifles) popular. It is widely used both as a target rifle and for medium sized game hunting.

Type: 7.5mm hunting rifle Country: France Weight (Empty): 3 kg Length: 102 cm Action: Single shot Ammunition: 7.5 x 40mm fixed cartridge ball Muzzle Velocity: 910 mps Magazine: 5-round box Magazine Weight: 0.2 Price: Lv220 (Lv2 for box of 00 rounds)

Rockwell "Twelve-Eighty-One Magnum"
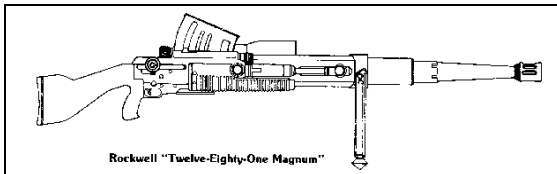
Rockwell "Twelve-Eighty-One Magnum": Deservedly enjoying a reputation as the most powerful sporting rifle in known space, the 12-8 1 can only be fired from a rest with the integral bipod extended, and even then the provision of an in-stock shock absorber is necessary to avoid injury to the firer. The rifle was originally designed to provide a weapon with a high

first-round killing capability against the giant lizards of Wolf-424B-1 I , but has since enjoyed wide use in the armed forces of several nations as a long-range sniper rifle. The French FTE- 10 Gauss rifle is in many ways a more modern version of the Rockwell 12-81 Magnum.

Type: 12mm big game and sniper rifle Country: United Kingdom Weight (Empty): 14 kg Length: 144 Action: Single shot Ammunition: 12 X 81 mm fixed cartridge ball Muzzle Velocity: 1100 mps Magazine: 6 rounds Magazine Weight: 0.5 kg Price: Lv400 (Lv5 for box of 100 rounds)

SHOTGUNS

Two examples of shotguns. one pump and one automatic, are listed below.

Traylor Model 10 Riot Gun: *Type: 18mm pump shotgun Country: USA Weight (Empty): 3 kg Length: 96 cm Action: Single shot Ammunition: 18 X 60mm fixed cartridge buckshot (10 6mm slugs) Muzzle Velocity: 428 mps Magazine: 8-round tubular Price: Lv300 (Lv2 for box of 100 rounds)*

DunArmCo Close Assault Gun
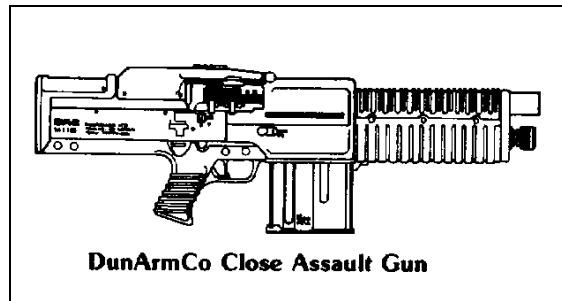
DunArmCo Close Assault Gun: *Type: 18mm automatic shotgun Country: Australia Weight (Empty): 4 kg Length: 68 cm Action: Single shot or bursts Ammunition: 18 x 60mm fixed cartridge buckshot (10 6mm slugs) Muzzle Velocity: 410 mps Magazine: I 0-round box Magazine Weight: 0.5 kg Price., Lv330 (Lv2 for box of 100 rounds)*

HANDGUNS

As with civilian rifles, a plethora of handgun types can be found in the 24th century. The weapons which are listed below represent some of the range of capabilities in 24th-century handguns.

Arno Five-Fifteen: *Type: 5mm automatic Country: Brazil Weight (Empty): 1 kg Length: 24 cm Action: Single shot Ammunition: 5 x I 5mm Muzzle Velocity. 600 mps Magazine: 14-round box Magazine Weight: 0. 1 kg Price: Lv130 (Lv2 for box of 300 rounds)*

Hancock Nine-Twenty-Three Enforcer: *Type: 9mm police revolver Country: USA Weight (Empty): 0.5 kg Length: 21 cm Action: Single shot Ammunition: 9x23mm fixed cartridge ball Muzzle Velocity: 390 mps Magazine: 6-round cylinder Weight of 6 rounds in reloader: 0. 1 Price: Lv 170 (Lv2 for box of 100 rounds)*

Traylor Model 57 (Chip Traylor Special): *Type: 9mm automatic Country: USA Weight (Empty): 0.6 kg Length: 20 cm Action: Single shot Ammunition: 9x24mm fixed cartridge ball Muzzle Velocity: 460 mps Magazine:]0-round box Magazine Weight: 0.1 kg Price: Lv150 (Lv2 for box of 100 rounds)*

Stracher P-11mm (Pistolle 11mm Magnum): *Type.- 11mm automatic Country Weight (Empty): 1.5 kg Length: 35 cm) Action: Single shot Ammunition:11 x35mm fixed cartridge ball Muzzle Velocity: 580 mps Magazine: 7-round box Magazine Weight: 0.2 kg Price: Lv350 (Lv4 for box of 100 rounds)*

Smith & Wesson ISP 106: First introduced in 2298, this pistol was fated from the first to be known almost exclusively by its nickname, the `shoot and whisper.' The first AIA interdepartmental memo describing the gun contained a single typo (an omitted space) that rendered the gun's classification as the S&WISP 106. Given the extreme silence of the weapon, S&WISP immediately was jokingly translated into `shoot and whisper.' The weapon itself is anything but a joke, however.

With the exception of its barrel, the S&W ISP fits into the palm of a hand, and is almost 100% constructed from advanced plastics. Those pieces which are not made of plastic are easily removable (making the gun quickly `invisible' to a great many security detection systems) and have been architectured to give the weapon optimal balance and recoil-absorption characteristics. The Shoot and Whisper is unusual in that it uses a binary propellant system, rather than fixed cartridges. However, the nature of these binary propellants is quite uncommon. The gas molecules produced by the exothermic reaction are ionized with a weak positive charge. This is makes it possible for the S & W ISP to incorporate the compact return-sleeve (or u-turn) integral silencer design. As the bullet clears the barrel, an electro-magnetic ring at the muzzle puts out a brief, high-power negative pulse. This slows the expanding, positively-ionized gas via electromagnetic repulsion, redirecting much of it into baffles that travel `backwards' toward the firer. The gas that maintains its forward direction (roughly 35%) is channeled through the forward-leading baffles that continue for approximately 5 cm beyond the muzzle. This results in a very silent weapon with a very short overall profile. The S & W ISP also features an integrated laser sight with 100% coherence out to 15 meters. The numerical designation for the weapon --106-- is shorthand that refers to the fact that it takes a 10 round clip of 6mm bullets. These bullets are another unusual feature in the `Shoot and Whisper' design. Comprised of a teflon-treated depleted uranium core (of approximately 3.5 mm) and a simple lead `overjacket', these rounds have excellent effectiveness against both armored and unarmored targets. In effect, the lead serves as a discarding sabot that discards only upon contact with a target, allowing the frictionless armor penetrating core to continue on. It also means that `soft' targets will not simply have a neat 6mm hole drilled in them; the expanding properties of the lead ensure that the weapon packs a significant whallop to targets which offer only light resistance to penetration. AIA agents refer to the ammunition (technically referred to as `target-shedding sabot' or TSS) as a `hammer and pancake' round.

Clearly, the Shoot and Whisper is not a particularly good multipurpose weapon, but then again, it is not intended to be. It is a highly concealable, silent, and potent short range weapon --ideal for the special requirements of field agents and/or undercover law enforcement personnel. The Shoot and Whisper is not available on the general market, and the only foreign nations which have been permitted to purchase the weapon are Australia, Germany, England, Canada, and Italy. Efforts are underway in France, Manchuria, and Austrovenia to duplicate the weapon.

Type: 6mm binary propellant automatic Country: USA Weight (empty): .4 kg Length: 17 cm Action: single shot Ammunition: 6x14mm target shedding sabot Muzzle velocity: 450 mps Magazine: 10 round box Magazine weight (including filled, disposable propellant cells): .1 kg Price: Lv390 (Lv25 per magazine, Lv10 for a box of 100 rounds)

AUTOGUNS

Autoguns provide a fire team with more range and power than rifles provide, yet the autoguns remain more portable than the rifles. The following listing includes a few examples of these autoguns.

MG-7 (Maschinengewehr Model 7): *Type: 5.5mm conventional machine gun Country: Germany Weight (Empty): 4 kg Length: 107 cm Action: Single shot or bursts Ammunition: 5.5x 40mm fixed cartridge ball Muzzle Velocity: 1200 mps Magazine: 75-round drum or 200-round cassette Magazine Weight: 0.6 kg (drum), I kg (cassette) Price: Lv870 (Lv2 for box of 100 rounds: Lv5 for empty drum or cassette)*

Wu-Beijing Type 381 Machinegun: *Type: 7.5mm conventional machine gun Country: Manchuria Weight (Empty): 7 kg Length: 122 cm Action: Single shot or bursts Ammunition. 7.5x32mm fixed cartridge ball Muzzle Velocity: 940 mps Magazine: 150-round cassette Magazine Weight: 2 kg Price: LV870 (Lv2 for box of 100 rounds; Lv5 for empty cassette)*

DunArmCo Mini-12: *Type:12mm conventional machine gun Country: Australia Weight (Empty): 24 kg Length: 144 cm Action: Single shot or bursts Ammunition:]2x 95mm fixed cartridge ball Muzzle Velocity: 940 mps Magazine: 100-round cassette Magazine Weight.- 7 kg Price: Lv91 0 (Lv3 for box of 100 rounds: Lv5 for empty cassette)*

DunArmCo Mini-12
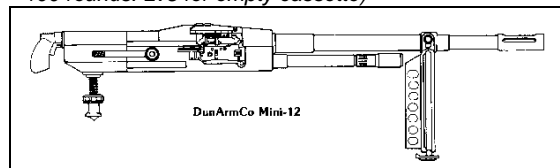
Maxwell LMG-2303: After the Battle of Armstrong's Mountain (Kimanjano), the Texas military saw the need for a fairly light weight squad assault weapon. The weapon which eventually won the contract was designed by the Maxwell Firearms Division of AusCo. The Maxwell Light Machine Gun 2303 utilizes proven technology to produce a squad assault weapon that is light weight and effective. It fires a 4.9mm caseless

round and the buttstock area holds a 300 round clip. The clips are quick and easy to change, plus the caseless ammunition eliminates jammed rounds. The design incorporates an integral folding bipod, which when folded under the barrel creates a foregrip area for firing while on the move. It has proven itself as an excellent weapon during trials with the Elite Texas Rifles.

Type: 4.9mm Light Machine Gun, Country: Texas Weight (Empty): 7.0 kg (1.3 kg full ammo drum) Length: 90 cm, Action: Single shot or bursts Ammunition: 4.7mm caseless ball , Muzzle Velocity: 1000 mps, Magazine: 300 rounds, Price: Lv600 (Lv15 for 300 round disposable magazine)

LASERS

A number of laser weapons are available in the 24th century. Several are listed here.

Mueller-Rivera P-3 (Pistole-3) The P-3 is a very handy lightweight laser. The combination of a low power output and the high discharge rate of the Quinn seven-megajoule FDLMS power cell makes for a high cyclic rate of fire and a reasonable area fire capability.

The pistol's power cell is worn on the belt and connected to the pistol by means of a 50-gauge teleflex photonic link cable.

Type: 20-01 laser pistol Country: Argentina Weight:1 kg Length: 27 cm Action: Single shot Pulse Energy: 0.2 megajoules Muzzle Velocity: 0 Magazine: 7mj FDLMS cell (35 pulses) Magazine Weight: 1 kg Price: Lv750 (Lv5 for disposable power cell)

Mueller-Rivera F-7 (Fusille-7): The F-7 was one of the first practical hand held laser weapons and the first to use the now-standard 0.01 -second pulse. Although superseded by more modern types in the armed forces of the major powers, it remains in widespread use by second line troops.

Type: 30-01 laser rifle Country: Argentina Weight: 2 kg Length: 76 cm Action: Single shot Pulse Energy: 0.3 megajoules Muzzle Velocity: 0 Magazine: 5mj LMS cell (16 pulses) Magazine Weight: I Price: Lv 7 60 (Lv5 for disposable power cell)
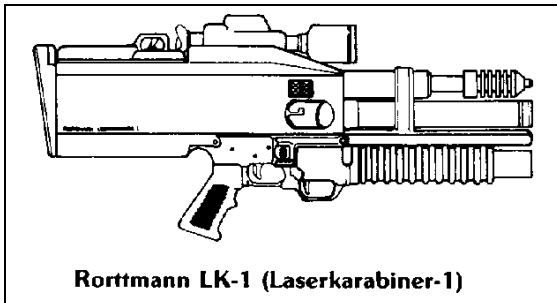
Rorttmann LK-1 (Laserkarabiner-1)

Rorttmann LK-1 (Laserkarabiner-1): A very modern and deadly assault weapon, the LK- I uses the now-popular combination of a 30mm grenade launcher

for area fire and a precision weapon for aimed fire. The 35-01 power laser is optimized for maximum damage consistent with a reasonable power cell duration.

Type: 35-01 laser rifle Country: Germany Weight (Empty): 2.5 kg Length: 65 cm Action: Single shot Pulse Energy: 0.35 megajoules Muzzle Velocity: 0 Magazine: 7 mj FDLMS cell (20 pulses) Magazine Weight: I kg Price: Lv850 (Lv5 for disposable cell)

Gonzalves-Brazilia "Luce-3": One of the oldest laser weapons still in service, the Luce-3 was a fairly clumsy and inefficient design which remains in use primarily because very large numbers were produced. Captured Luce-3s, for example, are the main sniping weapon used by the armed forces of the Incan Republic.

Type: 45-02 laser rifle Country: Brazil Weight: 4 kg Length: 95 cm Action: Single shot Pulse Energy: 0.9 megajoules Muzzle Velocity: 0 Magazine: 5mi LMS cell (5 pulses ...) Magazine Weight: 1 kg Price: LV6 20 (Lv5 for disposable power cell)

Gonzalves-Brazilia "Luce-7B": The Luce-7B replaced the Luce-4 in Brazilian service, Although lower powered than most laser rifles, it has enough punch to deal with most targets, and an integral 30mm GB-30B grenade launcher gives it a good area fire capability.

Type: 40-01 laser rifle with integral 30mm grenade launcher Country: Brazil Weight (Empty): 3kg Length: 69 cm Action: Single shot Pulse Energy: 0.4 megajoules Muzzle Velocity: 0 Magazine: 5 mj LMS cell (12 Pulses) Magazine Weight: I kg Price: Lv720 (Lv5 for disposable power cell)

Mueller-RiveraF-19 (Fusile-19): The Mueller-Rivera F- 19 is the current service laser with Argentine troops and is widely exported as well. It pioneered the use of the Quinn Optronics fast-discharge seven-megajoule LMS cell and is a Powerful, accurate, and efficient weapon.

Type: 70-01 laser rifle Country: Argentina Weight: 1.5 kg Length: 69 cm Action: Single shot Pulse Energy: 0.7 megajoules Muzzle Velocity: 0 Magazine: 7 mj FDLMS cell (10 Pulses) Magazine Weight: 1 kg Price: Lv730 (Lv5 for disposable power cell)


SVB (Snayperskaya Vintovka Belnikarpov)

SVB (Snayperskaya Vintovka BellnikarPov): Although the Belnikarpov is the highest energy man-portable laser in service with any army, more modern designs signs produce the same damage at lower power levels. Nevertheless, the SVB remains effective and is the standard service laser in use by the RFSFR, where it serves as the squad sniper weapon,

Type: 80-01 laser rifle Country., RFSFR Weight: 2 kg Length: 83 cm Action: Single shot Pulse Energy: 0.8 megajoules; Muzzle velocity: 0 Magazine: 5mi LMS cell (6 pulses)disposable Power cell)

I Price: Lv770 (Lv5 for Magazine Weight.

PLASMA GUNS, MAN-PORTABLE

Some of the most powerful man-portable weapons in the 24th century are plasma guns.
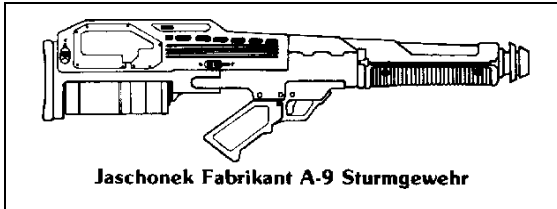
Jaschonek Fabrikant A-9 Sturmgewehr

Jaschonek Fabrikant A-9 Sturmgewehr: The A-9 is the newest man-portable plasma gun intended as an assault rifle instead of a squad support weapon. While not seriously considered as an SK- 19 replacement, the A-9 is issued on an experimental basis to back up the SK- 19.
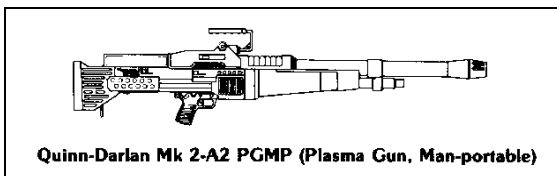
Type: Man-portable 5-MW plasma gun Country: Germany Weight (Empty): 4.5 kg Length: 83 Action: Single shot Ammunition: 10 x 70mm 5-MW photonic core plaser cell Ammunition Weight: 0.3 kg Magazine: 6 cells in rotating cylinder magazine. Price: Lv1 600 (Lv8 per disposable cell)

Type I High Energy Assault Gun: The Type I was the first man-portable plasma gun to see service. Although outclassed by many new types, it is still popular and extensively exported.

Type: Man-portable 1 0-MW plasma gun Country Manchuria Weight (Empty): 12 kg Length: 137 Action: Single shot Ammunition: 12 x 120mm I O-MW photonic core plaser cell Ammunition Weight: 0.4 kg Magazine: 4 cells in internal tubular magazine Price: Lv 1300 (Lv12 per disposable cell)

Kurita Type-21 F: The Type-21 F man-portable plasma gun incorporates more punch in a very efficient design, It is the standard squad heavy support weapon with the Japanese Army. The Type-21 F also serves in many other armies, and Sumatro-Fabrique recently concluded a license production agreement with Kurita for equipping the Indonesian Army with the weapon.

Type: Man-portable 15-MW plasma gun Country: Japan Weight (Empty): 9 kg Length: 121 cm (Bulk = 4) Action: Single shot Ammunition: 12 x 121 mm 15-MW photonic core plaser cell Ammunition Weight: 0.4 kg Magazine: 4 cells in internal tubular magazine Price: Lv1 400 (Lv 14 per disposable cell)

Quinn-Darlan Mk 2-A2 PGMP (Plasma Gun, Man-portable)

Quinn-Darlan Mk 2-A2 PGMP (Plasma Gun, Man-portable): The result of a joint venture by Quinn Optronics, Inc. and Darlan Optophysique, the Mk 2-A2 is the heaviest of the man-portable plasma weapons now in service with American and French armed forces and is used as a heavy point fire weapon against hard targets at the squad level. The impact of the plasma bolt can cause considerable concussion and fragmentation effects.

Type: Man-portable 20-MW plasma gun Country: France/USA Weight (Empty): 12 kg Length: 166 cm Action: Single shot Ammunition: 17 x 91 mm 20-MW photonic core plaser cell Ammunition Weight: 0.8 kg Magazine: 10 cells in internal tubular magazine ROF: I Aimed Fire Range: 1700 m Price: Lv 1800 (Lv 18 per disposable cell)

HEAVY PLASMA GUNS

Although less mobile, the following provide heavy firepower in more fixed locations.

CLP-1A (Cannon Legere Pyrotechnique-1A) Field-mounted Plasma Gun: The first field-mounted plasma gun to enter service, it incorporates a complex cruciform mount to allow more stable, accurate and rapid fire for a weapon of this type. Because it is virtually immobile on the battlefield, it has been withdrawn from front-line service, but can often be found in fixed locations. Many CLP-1 As have been exported, often as light vehicle armament upgrades.

Type: Field-mounted 175-MW plasma gun Country: France Weight (Empty): 344 kg Length (Gun Tube Only): 274 cm Action: Single shot Ammunition Weight: 3.5 kg Magazine:10-cell clip fed into overhead hopper Magazine Weight: 38 kg Price: Lv9300 (Lv500 for disposable 10-cell clip)

Jaschonek Fabrikant A-4T Sturmgewehr

Jaschonek Fabrikant A-4T Sturmgewehr: The A-4T is a modification of the A-4 plasma gun mounted in the Kz-7 Combat Walker. Specifications for the two weapons are the same, but the A-4T is a crew-served, tripod-mounted regular infantry version. The A-4T proved very effective in the German War of Reunification and has since become standard issue.
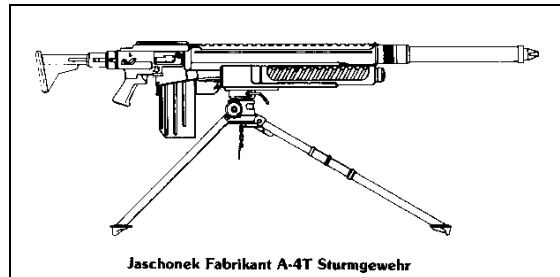
Type: 30-MW plasma gun Country: Germany Weight (Empty): 20 kg Length: 166 cm Action: Single shot Ammunition: 20 x 107mm 30MW photonic core plaser cell Ammunition Weight: I kg Magazine: 5-round box Magazine Weight: 5 kg) Ammo Price: Lv24 per disposable cell

G-2/ HR-17 30mm Grenade Launcher
These grenade launchers are designed to be used with an a rifle (mounted on the undercarriage). They cannot be used as an independent grenade launcher. It must be attached to an service rilfe M16. It holds three 30mm rounds. This pump action launcher fires 30mm grenades -- HEDP, HEAA, smoke, flare, or gas. The grenades are normally set for "flight-range arming" or a simple timer (see grenade description).

30mm Grenades
These are the type of grenade you launch from an G-2 or Hr-17 (or other 30mm launcher). Most can be set for "flight-range arming" or put on a timer. On flight-range arming, the grenade will arm itself after flying a certain distance (normally, 10 meters minimum, but this can be lowered or increased) then arm itself to detonate on impact. Should the firer blast the grenade into a nearby object by accident, it will (hopefully) not go off. However, the range could be reset to zero, thus eliminating this safety (it's a manual dial on the grenade). For a timer setting the gunner must set each grenade to detonate a certain number of seconds after being fired, normally five to ten seconds. Most flares are set a timer, detonating after 5 seconds (at their peak altitude).
There are many different types of 30mm grenades available.

HEDP 30mm
High Explosive Dual Purpose grenade is simply a standard anti-personal explosive grenade. It creates a big bang and lots of shrapnel. It is not Armor Piercing, but does do a lot of damage. On explosion, the HEPD 30mm grenade does 8DC of damage, and as an area of effect of 8m (using Area Effect rules). It costs Lv100 and weighs 0.3 kgs.

HEAA 30mm
Like the HEDP, but designed for maximum armor penetration. The High Explosive Anti-Armor 30mm grenade inflicts 8DC damage, and is Armor Piercing against all armor. It has a forward focused area effect of 8 meters, using Focused Area Effect rules. It costs Lv150 and weighs 0.3 kgs.

Smoke
This is a grenade which sprays a field of quickly expanding, line-of-sight obscuring could of colored smoke (many colors are available). In the first second after activation, it covers a one meter radius. It will expand at one meter per Phase (3 seconds) after that, up to a radius of six meters . All objects in this area, or attempting to look through it, have fully visual penalties for smoke. It can cause 4DC damage if it directly impacts something. A smoke grenade costs Lv50 and weighs 0.2kgs.

Flare
The flare grenades are used as a signaling device, or to illuminate darkened areas. It will explode shortly after being launched, creating enough light to illuminate the field of battle with "moon-bright" light. The more flares active the more light will be available. Each flare will last just 20 seconds (5 Phases). The phosphorous/magnesium compound can cause damage if it directly impacts something (4DC impact damage, plus 1DC burning damage for 5 Phase, unless removed). Flares come in a variety of colors. A flare costs Lv20 and weighs 0.2 kgs.

Buckshot Grenades
Turn your grenade launcher into one honking-huge shotgun! When the buckshot grenade is fired, it blasts for 26 quarter-inch ball barings capable of massive destruction. With the buckshot grenade, treat the weapon as a 12DC shotgun with a x0.75 range modifier an a +1 to-hit bonus. Each round cost Lv20 and weights 0.2kgs.

Fléchette Grenades
Another shotgun adaptation, the fléchette grenade, turns you grenade launcher into a meat-grinder. When fired, 50 armor-piercing needle-like darts will tear out from the barrel, turning any near-by targets into hamburger. When used, treat the grenade launcher as a 8DC shotgun with a range modifier of x1.5 and a +1 to-hit bonus. This attack is considered to be Armor Piercing against Soft and Medium armor. It is, however, expensive, due to the rarity of the ammunition. Each round cost Lv200 and weighs 0.2 kgs.

<div style="background:yellow">Bombs and Explosives</div>

High Explosive
This is a bomb that uses standard high yield, lightweight explosives. It can be placed anywhere and has an effective blast radius with a fair amount of damage. Explosives do 10DC damage and has a blast radius of 10 meters *per k*g. Cost Lv300 per kg.

Plastique
This is a malleable explosive, similar to clay in texture. It can be formed to whatever shape is needed. However, the blast radius is not as high as that of High Explosives. Plastique does a total of 12 DC damage per kg, but its blast raidus is only 6 meters per kg (or 1 meter per 2 DC). Plastique cost Lv600 per kg.

Shaped-Charge Bomb
Using plastique, or other similar type of explosive, this can produce a focused blast to devastating effect. It can be placed on walls, hulls, or heavy doors to blast though. There is no blast 'radius', as the explosion is focused in one direction. Instead, use the Focused Area Effect rules. Shaped-Charge bombs do 10DC damage per kg, and have a Focused blased of 10 meters. This type of bomb also works as a Claymore mine. It costs Lv800 per kg.

Land Mines
Land mines may use any of the above types of bombs (except plastique. Plastique is impractical for mines) plus the special mine equipment, listed below. Add the price and extra weight of the mine equipment to the price and weight of the bomb.

Pressure Mine
This type of mine is set to detect any pressure on it from any object over 50 kgs (or lower or higher if desired, but it must be preset). If an object of this weight come to be on top of the mine, it will set the integrated bomb off. Pressure mine equipment adds Lv300 to the cost and 2 kgs to the weight.

Trip Wire Mine

This is a set up where a trip wire is strung low to the ground across a small area (such as a forest path or a door way). When someone triggers it, the mine will go off, normally catching the victim(s) in the blast radius. A trip wire can be spotted on a Competent perception roll (or Heroic if the mine was very well lain). Trip wire mine equipment adds Lv150 to the cost and 2 kgs to the weight.

Laser Trip Mine
Just like the trip wire mine, only a laser beam is used. When someone breaks the beam the mine will go off, normally catching the victim(s) in the blast radius. The laser beam cannot be detected in daylight. However, at night (or with IR goggles) it can be seen on a Heroic perception roll. A laser trip mine adds Lv700 to the cost and 2 kgs to the weight.

Hand Grenades
US M2300 Fragmentation Grenade
The M2300 is an advanced hand grenade now used by the US Armed Forces. It is smaller and lighter than the older Mk 12, but arguably as just powerful. It is shaped somewhat like a light bulb, with the pin and clip at the top. When the pin is pulled and clip removed (by throwing it), the grenade will arm itself after two seconds. On impact it will detonate, exploding and showering the area of red-hot shrapnel. Alternatively, the grenade can be set to a timed delay between three and seven seconds (one or two Phases), with or without the impact detonator active.
area effect of 3 meters. Everything in that area also catches fire. It will burn as a 3DC fire until its is extinguished, but could also spread if on a flammable surface.

Smoke Grenade
Works as the 30mm smoke grenade

Flare Grenade
Works as the 30mm flare grenade

RIFLE NOTES
There are three general types of rifles in use in the 24th century: conventional rifles, binary propellant rifles, and Gauss rifles.

Conventional rifles fire fixed cartridge rounds which consist of a bullet embedded in a solid rectangular block of propellant. The bullet is generally constructed of a dense metallic core and a nonmetallic composite sheath, The bullet itself is smaller than the caliber of the rifle and is encased in a low friction ablative sabot. The bore of the rifle constricts toward the muzzle and the sabot abrades away as the round approaches the muzzle. The remains of the sabot fall away from the round as it emerges from the barrel. Virtually all civilian rifles are conventional rifles, but they have mostly been replaced in military service by Gauss and binary propellant rifles.

Binary propellant rifles fire a bullet identical in design to that fired from a conventional rifle, but there is no propellant directly associated with the round. Much of the bulk of the propellant in a conventional round is a stabilizer which makes the ammunition safe to store and use in the field. The binary propellant rifle eliminated this bulk and instead uses two gasses (a variety of types are used) which separately are stable but. when combined. are volatile. Stored apart they, are safe, and are not combined until injected into the ignition chamber.

Gauss rifles are linear magnetic accelerators which fire fin stabilized flechettes. Usually the magazine for the Gauss rifle also contains a battery pack which powers the gun.

Virtually a// rifles incorporate optic sights to assist in aimed fire. Also, as muzzle velocities have increased, weapons have incorporated more elaborate recoil absorbing features, such as telescoping stocks. Most combat weapons capable of automatic fire have gyro Stabilization to assist the soldier in keeping the weapon on target. Most long-range rifles also have a gunner-activated laser range finder.

HANDGUN NOTES
The principal types of handguns are revolvers and automatics. Revolvers are fed from a revolving cylinder, while automatics are clip-fed. Automatics are more efficient but revolvers are more safe. (A revolver is carried the firing pin resting on an empty chamber, which is not possible for an automatic unless the pistol is carried without a round in the chamber in which case, it must have the slide worked to chamber a round from the magazine before firing.)

All handguns listed in this chapter fire conventional fixed cartridge ammunition. Although some experimental work has been done with binary propellant and Gauss pistols. the expense was not deemed worth the results, and no large-scale production has been undertaken. Referees are free to include a few limited issue (expensive) binary or Gauss pistols

LASER NOTES
Lasers emit beams *of co*herent light which can cause damage to a target. A kilogram *of* TNT produces five million joules *of* energy (five megajoules). Since one watt for one second equals one joule, a one-second, five-megawatt beam produces the energy equivalent *of* one kilogram *of* TNT.

In combat it is very difficult to maintain a laser on a target for one second, and in any event, a five-megawatt beam lasting one second requires more power than a man can carry with him. However, a short-duration, high-energy beam produces such a rapid temperature change in a target's surface that it explosive- vaporizes, causing shock damage to the target.

Lasers are powered by high -efficiency liquid metallic suspension (LMS) battery packs. Since a battery's discharge rate is insufficient to directly power a strong beam, the battery "pumps" a fast-discharge homopolar generator, which comprises most *of* the laser mechanism. The generator stores energy in a rapidly spinning flywheel (about 50,000 rpm) until it has enough for a pulse.

Lasers are generally referred to by their output power (In megawatts) and their pulse duration (in hundredths of a second). Thus a 40-01 laser would have an output of 40 megawatts for one one-hundredth of a second- Actual beam energy is a function *of* the power output multiplied by the pulse duration. Since one watt for one second produces one joule, a 40-megawatt pulse for one one-hundredth of a second would produce fourth of a megajoule.

PLASMA GUN NOTES

The plasma gun contains a laser ignition system in the weapon which super-heats a hydrogen fuel pellet to a plasma state. The plasma is contained in the ignition chamber briefly and then allowed to escape through a magnetically focused field along the weapon's barrel. The high velocity plasma bolt is initially about two millimeters in diameter but tends to begin to dissipate at once. Dissipation is minimized by having the bolt ride a "funnel" *of* heated air generated by a laser beam from the weapon. Because the plasma bolt rides a laser beam to its target, plasma guns are also sometimes referred to as plasers.

The ammunition for the weapon consists *of* photonic core plaser cells, each containing a fast discharge battery to pump the weapon's laser ignition and pathfinder beam, and the fuel pellet for the plasma bolt, After firing, the spent cells are ejected and are not reusable. Some care must be exercised in the selection *of* the location *of* the plasma gunner as the ejected cells are extremely hot, with semimolten centers and can cause minor burn injuries to other troops in the way.

Autofire Rules

There are four different RoFs. These are listed as S/B/F/E (i.e., 2/3/10/30). (S)ingle shot, (B)urst shot, (F)ull auto, and (E)xtended.

Single Shot (or Semi-Auto)

The first mode is Single Shot (S), or Semi-Auto. Most weapons have S-mode capability. In S-mode the gun can be fired one to three times (as listed) in a single Action. That is to say, if a pistol has an autofire S-mode of 2, then you can fire it twice in one round, making a separate skill role for each. Each shot can be fired at a different location or different target. However, each subsequent shot is at a -1 Penalty due to recoil factors. This is not an issue on weapons with little or no recoil, but most modern weapons do have recoil.

Burst Fire

The (B) mode is Burst. This is almost always 3 (or 0 for weapons with no Burst mode). With one trigger squeeze it fires a Burst of 3 bullets. In one Action you may actually fire a Burst a number of time equal to your S-mode. Therefore, an SMG with 2/3/10/30 RoF can fire 2 Burst of 3 bullets in one round! For each burst you make a separate task roll, however, you are at an accumulating -1 penalty due to the weapon jumping around. The first Burst has no to-hit penalty. However, the second Burst is at -1, and the third is at -2 to hit.

If you were targeting a specific location, only the first round of the first Burst will hit the location, all others should be random (GM's discretion).

Full Auto Modes

The (F) and (E) modes are full auto. In full auto mode you can fire a controlled burst (F), which is the approximate number of rounds the gun can fire in just one second. As an optional rule, this may vary by +1D6 rounds, depending on how long you hold the trigger. Firing F-mode gives a -1 penalty due to recoil and bucking around. You can also fire an E-burst (E for Extended, Extreme, Entire Magazine, Empty Out, Eradicate, etc.). Basically, this is just holding back the trigger for the entire 3-second Phase, spitting out as many bullets as possible. Most SMGs and assault rifles can completely empty their magazine in three seconds. However, doing this gives a -2 penalty. In all cases, if there are fewer bullets in the magazine than you can fire in (B), (F), or (E) modes, the weapon will of course stop short and click a lot.

Service Rifles	WA	DC	ROF	Ammo	Range(m)	Cost	Notes
Fam-90	+2	7	3/3/15/45	60	800		Gauss, AP
AS-89	+2	7	3/3/14/30	60	800		Gauss, AP
FTE-10	+3	10	2/0/0/0	10	1400		Gauss, AP
M-4A2	+2	7	3/3/15/45	60	800		Gauss, AP
Surplus Rifles	WA	DC	ROF	Ammo	Range(m)	Cost	Notes
SG-77	1	6	10	40	700		
Type 49	0	6	10	25	700		
BF-1	1	6	10	40	800		
M-2	2	4	10	30	500		AP
Civilian Rifles	WA	DC	ROF	Ammo	Range(m)	Cost	Notes
SS-77	+0	3	3/0/0/0	70	500		
FC-68	+0	6	3/0/0/0	70	500		
FC-70	+1	7	3/0/0/0	5	800		
12-81 MAGNUM	+2	9	2/0/0/0	6	1000		
Shotguns	WA	DC	ROF	Ammo	Range(m)	Cost(OP)	Notes
Traylor Model 10	+0	8	2/0/0/0	8			
DunArm CAG	+1	8	3/3/0/0	10			
Handguns	WA	DC	ROF	Ammo	Range(m)	Cost(OP)	Notes
Arno 5-15	+0	4	2/0/0/0	14	50		
Hancock 9-23	+0	3	2/0/0/0	6	40		
Model 57	+0	4	3/0/0/0	10	60		
Stratcher P-11	+0	3	2/0/0/0	7	80		
S&W ISP-106	-1	2	1/0/0/0				
Rawling Redbird		4	2/0/0/0	6	70		
Autoguns	WA	DC	ROF	Ammo	Range(m)	Cost(OP)	Notes
MG-7	+0	6	0/0/15/45	75/200	700		
Type-81	+1	7	0/0/9/27	150	800		
Mini-12	+0	9	0/0/9/27	100	800		
LMG-2303	+1	6	0/0/15/45	300	700		

Laser Rifles	WA	DC	ROF	Ammo	Range(m)	Cost(OP)	Notes
P-3	+2	4	2/0/0/0	35	200		Energy Attack
F-7	+4	7	2/0/0/0	16	1000		
LK-1	+4	7	2/0/0/0	20	1000		
Luce-3	+4	7	2/0/0/0	5	1000		
Luce-7B	+4	7	2/0/0/0	12	1000		
F-19	+4	7	2/0/0/0	10	1000		
SVB	+4		2/0/0/0	6	1000		
Plasma Guns-MP	WA	DC	ROF	Ammo	Range(m)	Cost(OP)	Notes
A-9	+1	1K	1/0/0/0	6	900		Area Effect
Type-1	+1	1K	1/0/0/0	4	1000		
Kurita Type 21F	+1	1K	1/0/0/0	4	1000		
Mk 2A2 PGMP	+1	2K	1/0/0/0	10	1700		
Heavy Plasma Guns	WA	DC	ROF	Ammo	Range(m)	Cost(OP)	Notes
CLP-1A	+1	3K	1/0/0/0	10	1600		
A-4T	+1	3K	1/0/0/0	5	700		
30mm Grenade Launchers	WA	DC	ROF	Ammo	Range(m)	Cost(OP)	Notes
G-2	+0	Type	1/0/0/0	1			
HR-17	+0	Type	1/0/0/0	1			

Grenades

	WA+	DC	AP	Fuze	Cost	Notes
30mm HEDP	+0	8	N	Impact	100Lv	
30mm HEAA	+0	8	Y	Impact	Lv150	AP
30mm Smoke	+0	-	N	3-7 sec	Lv50	Smoke
30mm Flare	+0	-	N	3-7 sec	Lv30	Flare
30mm Buckshot	+1	12	N	NONE	Lv20	Shotgun
30mm Flechette	+1	8	Y	None	Lv150	AP (S,M0
USM2300	+0	8	N	3-7 sec	Lv60	
Smoke	+0	-	N	3-7 sec	Lv20	Smoke
Flash	+0	-	N	3-7 sec	Lv20	Flash

Armor

Name	PD	EKD	EV	Area Protected	Wieght	Cost
Helmet	6	1	0	Head	.5 kg	Lv5
High Threat Combat Helmet	14	2	0	Head	1kg	Lv20
Rigid Breatplate	18	25	1	Torso	8kg	Lv20
None Rigid vest	6	1	0	Torso	2kg	Lv20
Intertial Armor Vest	14	2	0	Torso	6kg	Lv 100
Full Body Nonrigid Armour	6	1	0	Torso and limbs	10kg	Lv60
Full body Intertial Armour	16	5	-1	Torso and limbs	10kg	Lv350
Full-Body Combat Armor	15	25	-1	Torso andLimbs	20kg	Lv650
Light Duty P-Suit	5	5	-1	Torso and Limbs	10kg	Lv1500
General Purpose P-Suit	8	5	-2	Torso and limbs/head	20kg	Lv2500
Hostile Environment P-suit/ Miilitary P-suit	16	10	-3	Torso, limbs and Head	25kg	Lv3500

Equipment

Technology is a sword that cuts two ways. In the 24th century, it has given humanity more lethal weapons and the capability to reach new and dangerous worlds, but it has also provided advances in medicine to help combat those dangers.

MEDICAL EQUIPMENT

Medkit:
The Medkit is a portable first-aid kit containing limited diagnostic equipment, sprayon bandages, and autoinjectors of antishock, antitoxin, antibiotic, stimulant, and anesthetic drugs. Given Medical or First Aid skill, the Medkit contains equipment needed to diagnose and treat minor injuries and stabilize serious conditions. A Medkit contains enough materials for 20 uses. Each point of stun treated counts as one use; and each resuscitation (body point treated) counts as eight uses.
 Weight:1 kg Price: Lv500

Medkit Resupply Package:
A Medkit resupply package is used to replace Medkit materials that have been used up. Each resupply package replaces five uses worth of materials.
 Weight: 200 g Price: Lv 100

Lightweight Automed:
 Portable and inexpensive, the lightweight automed is popular with emergency teams and is often used in large numbers for disaster relief. It has all the capabilities of a static automed (see below), but is intended only for temporary care. (See the tasks in the sidebar.) The medical supplies carried in a lightweight automed can maintain a patient for an average of 24 hours before resupply is necessary. The batteries run for approximately 10 hours of operation.
A lightweight automed's batteries can be recharged wherever normal electrical power is available. Its medical supplies can be resupplied at any medical facility containing static automeds.
Weight: 300 kg Price: Lv2000

Static Automed:
The static automed is a large, immobile piece of equipment designed for long-term care of a patient and, as such, requires permanent emplacement in a hospital ward (such as on a starship). With the static automed, a patient's condition can be accurately diagnosed and treated over a long period of time. (See the tasks in the sidebar.) This piece of equipment runs off the power supply of the facility in which it is emplaced, but in the event of a power outage, it does contain 12 hours worth of emergency battery power.
 Weight: 1000 kg Price: Lv8000

Bounce:
 Bounce is a drug used primarily by people operating in zero-G environments. Its effect is to counteract the reduction of dexterity experienced by those operating in a lower gravity than that of their native world. A character using Bounce treats each gravity level as if it were one higher than it is: Zero-G is treated as if it were low-G, low-G as if it were normal-G, and normal-G as if it were high-G. The effects of each dose last an average of 10 hours (roll 3D6 for duration).
Multiple doses of Bounce can be taken in a 24-hour period to further counteract the effects of gravity upon dexterity or to extend the drug's duration, but side effects are not uncommon in such cases. The most common side effect is a short-term paralysis, lasting until the drug wears off. When taking more than one dose of Bounce in a 24-hour period, a character should roll the task in the sidebar.
 Weight: Insignificant Price: Lv20 for five doses (available only at the space facilities of major colony worlds)

Herc:
 Herc is a drug made popular by physical laborers, and it has also been used on occasion by ground military forces. Each dose of the drug increases a character's strength by five points for a period of approximately seven hours (roll 2D6 for duration), after which time the user must rest (do nothing more strenuous than walking unencumbered) for an equivalent period of time. For example, if the drug's effect lasts for three hours, the character must rest afterwards for three hours.
If the rest period is ignored, or if multiple doses of the drug are taken in a 24-hour period, the character risks painful muscle spasms and possible permanent damage .
Weight., Insignificant Cost: Lv100 per 10 doses

SECURITY EQUIPMENT

It has been said that a locked door will keep an honest man honest but will not thwart a determined thief. This is because as fast as technology provides new means to secure a door, other technology develops the means to circumvent that protection. The equipment in this chapter covers both ends of that spectrum.

SECURITY LOCKING SYSTEMS
One of the primary uses of technology in the security field is the creation of various lock mechanisms.

Mechanical Lock:
The most primitive method of securing an entrance is to use a mechanical lock. Mechanical locks vary widely in the durability of their materials and the sophistication of their workings, but all can be circumvented with a little bit of skill or force.
In 2300 AD, mechanical locks are rated in terms of how difficult a task it is to circumvent them. To open a mechanical lock without a key or combination, a character must either pick the lock or break it. Because mechanical locks will open to anyone (authorized or unauthorized) who has the correct key or combination,

they are less secure than other types of locks, and therefore, cost less.

The weight and price of a lock depends upon the lock's difficulty value. *(Add 20 percent to the price if the lock is designed to trip an alarm.) Weight: 0.25 kg (Simple), 0.75 kg (Routine), 2.5 kg (Difficult), 7.0 kg (Formidable), 22.5 kg (Impossible), Price: Lv1 (Simple), Lv3 (Routine), Lv450 (Difficult), LV2500 (Formidable), Lv102,000 (impossible)*

Electronic Lock:

An electronic lock is opened by use of a number combination keyed into its control panel or by use of a magnetic keycard. As with a mechanical lock, it is possible for a combination or keycard to be possessed by unauthorized persons, and it is also possible for an electronic lock to be picked or broken, but it requires greater skill or strength to do so.

Electronic locks in 2300 AD are rated in terms of task difficulty to open them by skill or force. To pick or break an electronic lock is a task, as listed in the sidebar. The more secure an electronic lock, the higher its cost.

(Add *25 percent to the price of the lock if it is designed to trip an alarm.) Weight: 0. 1 kg (Simple), 0.35 kg (Routine), 1.0 kg (Difficult). 3.0 kg (Formidable), 9.5 kg (Impossible) Price: Lv2.5 (Simple), Lv8 (Routine), Lv600 (Difficult), Lv3000 (Formidable), 1_05,000 (Impossible)*

Handprint Analyzer:

The handprint analyzer is one of the most common forms of security systems available in the 24th century. In its simplest form, the device is an image-scanning plate connected to a computer storage system. The computer contains a limited number of prerecorded handprints. Most often, the analyzer is used as a door lock. A person wishing access through the door places his hand upon the plate, and if his print matches one in the computer's memory, the door opens. If his print does not match, the door remains closed. In many applications, an alarm is also attached to call attention to unauthorized persons attempting access.

On the Core worlds, where wide computer networks provide access to multitudes of handprint files, handprint analyzers commonly serve as verifiers of purchases. A customer "signs" his credit account by placing his hand upon a screen after his purchases have been tallied into a shop's computer. The computer is connected to a city-wide network and has access to other computer networks around the world. Portable handprint analyzers also exist. They are used to verify identification or to restrict access to such things as briefcases. It is possible to fool a handprint analyzer; see the task in the sidebar.

Weight: 5 kg Price: Lv700 (Lv850 if designed to trigger an alarm)

Voice Analyzer:

Voice recognition security units use a simple vocal input unit to obtain a voice print of a person seeking access to a secured area. This voice print is then compared against a file of voice prints stored in a computer memory system. If a match is found, access is granted; if not, further security systems may be activated. Voice recognition technology is very accurate in the 24th century. To attempt to bypass a voice analyzer, see the task in the sidebar.

Weight: 8 kg Price: Lv4500 (Lv4800 if designed to activate an alarm)

Retina Scanner:

The retina scanner is among the most advanced pieces of security, equipment available. Like the handprint analyzer. it consists of an imager and a computer file. but in this case. the file contains images of the vein network on the retina of a human eye. A person wishing access to a room guarded by a retina scanner places his eyes against the scanner's visor. The scanner then compares his retinal patterns to those in its memory. If they match, access is allowed. If they do not match, access is denied, and further security measures (an alarm. for instance) may be initiated.

Because the human eye is constantly in motion. some retina scans will fail erroneously. Many retina scanners are programmed to inform the subject that the scan has failed, and a second try may be allowed.

It is incredibly difficult to foil a retina scanner (see the task in the sidebar). Only an exact copy of the correct retina, or direct tampering with the scanning mechanism, will produce an identification match result where none actually exists.

Weight: 20 kg Price: Lv.30.000 (Lv36.000 if designed to trigger an alarm)

ALARMS

Alarms are intended to announce the presence of an intruder in a security system.

Klaxon:

A klaxon is any sort of noise-making alarm. Volume can be set from a whisper to painfully loud. At maximum volume, a klaxon can be heard 2000 meters away, but physical obstructions (such as walls and doors) and background noise often shortens this range considerably. Some klaxons are installed close to the item that they are keyed to (as an alarm above a locked door, for instance). and they are set for high volume. Others are installed at a location distant from the item that they are keyed to (as a remote alarm in a guard's office, for example), and they are set for low volume. A klaxon usually runs on power from the facility in which it is installed, but it may be purchased with a limited duration battery pack.

Weight: I kg Price: Lv16 (Lv30 with 10-hour battery pack)

Security Gas System:

Some security systems trigger the release of a gas rather than, or as well as, triggering a klaxon. Such systems require an enclosed, sealable area and a pumping system to flood the area with the gas and evacuate it afterward, Various gases can be used in such a system. A few common types are listed below. The weight and cost of such a system is based upon the area of the space it is intended to flood.

Weight: 0.25 kg/ml to be affected Price: Lv500 (base cost)+ Lv2/ml to be affected

Doze:

Doze is a gas that is very commonly used in security gas systems. It is a chemical agent that produces sleep in its subjects. (Each combat round that a character is subjected to Doze, he receives stun damage with a DC 9.) As such. it is an excellent aid in capturing intruders without injury to intruder or security personnel.

Doze should be used with care, however, as prolonged exposure to concentrated amounts can be lethal. (When a character has accrued from Doze stun points equal to 10 times his body level, he is dead). As a

consequence, most local governments require that a facility be licensed to use Doze. The cost of Doze is based upon the volume of the area it is to fill.
Weight: 0.5 kg small canister (holds 10 ml), 10 kg large canister (holds 300 ml) Price: Lvl.5/m1

Foraline Gas:
Foraline gas is a substance typically used for crowd control by many police forces on the Core worlds. Its effect is to stimulate a feeling of panic or fear at the slightest threat of danger. As a consequence, a handful of riot police can disperse large crowds of Foraline-treated rioters, simply by marching forcefully toward them. When used in a security system, Foraline leaves its victims feeling unable to resist security forces. The typical response is surrender. (Foraline's effects are more fully explained in the sidebar.) The use of Foraline gas by civilians also requires a license, and it may only be purchased at Tirane. As with Doze, the cost of Foraline depends upon the volume of the area it is to fill. *Weight: : 0.5 kg small canister (holds 10 ml), 10 kg large canister (holds 300 ml) Price: Lv2.5/ml*

SECURITY CIRCUMVENTION
Some items are not intended to provide security measures. but rather to circumvent them.

Locksmith Kit:
A locksmith kit contains tools for opening mechanical locks. On most worlds, it is illegal to possess a locksmith kit without a local license,
Weight: 2 kg Price: Lv450

Electronic Security System Kit:
An electronic security system kit is not intended to pro-vide electronic security. but to circumvent it. It is usually even more illegal to own than a locksmith kit.
Weight: 3 kg Price: Lv1000 minimum

ALARM TRIGGERS
Alarms can be triggered by attempts to pick locks or bypass other security systems. They can also have a separate trigger of their own.

Pressure Sensor:
A pressure sensor is simply an electronic mechanism that reacts to pressure, or lack of pressure. upon it. Some sample installations include a sensor that registers when someone walks upon it, a sensor that notes changes in air pressure, and a sensor that registers when an item (such as a gem) is removed from its resting place. The price is rated by sensitivity to pressure changes.
Weight: 200 gm Price: Lv20 (40 kg change or greater), Lv80 (5 to 40 kg), Lv400 (100 gm to 5 kg), Lv 1600 (5 to 100 gm)

Beam Sensor:
A beam sensor consists of two parts: a beam generator and a beam receiver. If an object moves between the two, the beam is broken, triggering an alarm. The beam can either be visible or invisible (infrared) light.
Weight: 0.5 kg Price: Lv35 (visible). Lv 150 (invisible)

INTELLIGENCE-GATHERING EQUIPMENT
Intelligence and law enforcement agencies require the use of sophisticated equipment in garnering information for their use.

Criminology Kit:
The basic criminology kit is an item commonly used by agents from near.1y every settled world to gather evidence toward solving crimes. The kit attaches to the common portacomp and includes an array of visual and chemical sensors, data analyzers, and specialized memory chips. An agent using the kit can match fingerprints with sets in the kit's memory chips, perform forensic ballistics analysis on weapons rounds, and make limited chemical tests such as blood type determination. The crimonology kit also includes a polygraph and a program that will allow the portacomp to indicate the truthfulness of a subject's statements, although much of the judgment is left up to the operator's skill.
Weight: 2.5 kg Price: Lv800

Burrowvarg:
The burrowvarg is an easily domesticated, omnivorous hunter that is indigenous to Beta Canum Venaticorum-4. It is a short-furred quadruped with extended incisors and a long, flexible tail.
Trained burrowvargs are used for tracking humans and animals alike. They are also frequently trained by drug enforcement agencies to sniff out illegal substances, and they are highly valued as security and guard animals. (The average burrowvarg has a Tracking skill of 6; referees can vary this for individual animals.) Although temperamental and cross, they are fiercely loyal and protective of their handlers.
Price: Lv500

"J":
"J' is a drug that was developed in a memory-enhancement study by members of the Foundation for Practical Knowledge. The drug works very well as a temporary memory enhancer (add four points to a character's intelligence and education statistics when using "J"), but the effect does not last long (roll 2D6 for duration in hours).
The real usefulness of "J" in security circles is in the drug's side effect-it causes extreme talkativeness in the user. The user becomes so caught up in the clarity of his memory that he does not realize he is talking aloud to himself about them. For those using "J" solely to combat memory loss, this is an annoyance, but it works wonderfully for interrogation purposes. When asked a direct question, a "J' user must roll for the task in the sidebar to avoid answering truthfully and completely. (The only problem for the interrogators is to sort the important facts from the volume of associated information given.)

Cortescan 2000:
The Cortescan 2000 is the result of decades of advanced study of the electrochemical processes of the human brain and its applications in computer technology. Even as early as the 20th century, study of brain function was being conducted with an eye toward possible computer applications. Japan, in particular, promoted research into brain function, hoping to develop artificial organic brains, electronic computers that emulated human thought processes. and devices

that could be controlled directly by the human nervous system.

The Twilight War brought a halt to this work, but during the early decades of the 23rd century, a computer simulation of the human brain was finally developed, The computer brain had no self-awareness and was completely passive, functioning only when commanded. It was discovered that the slight inductance field generated by the computer brain could be affected by the even weaker capacitance field generated by an organic brain. In this way, anomalies in an organic brain's function could be detected by the computer. The procedure found widespread use as a diagnostic tool in the fields of medicine and psychology.

Later research demonstrated that some individuals were, in turn, sensitive to changes in the computer brain's inductance field. Such individuals could directly monitor the computer brain's inductance field as it scanned another individual's brain. In this way, the sensitive individual could share the emotions and surface thoughts of the patient being scanned. With this discovery, the Cortescan 2000 was born.

PsiTechCorp has developed this technology to its fullest. A random sampling of 2000 people from nearly every nation and ethnic group was taken, and a standard computer brain was developed. Next, hundreds of sensitive individuals were recruited and trained as monitors. The Cortescan 2000 was soon being used not only as a diagnostic tool for mental aberrations, but it was also used for mental therapy, accelerated learning programs, dream research, and paranormal activity investigations. But one of the device's most frequent uses is as an investigative tool for law enforcement agencies.

With the Cortescan 2000, a trained monitor can detect the mental activity of a person being questioned and gain some indication of the truthfulness of that person's replies. In some cases, monitors also claim to be able to detect unspoken thoughts that the subject might be concealing. The legality of evidence obtained by the use of Cortescan 2000 is presently being argued in Terran courts.

The Cortescan 2000 is composed of a metal cylinder a meter and a half in diameter (the sensing core), with a padded couch protruding from either end. A control panel on one side of the cylinder is operated by a trained medical technician; the monitor lies on one couch, and the subject takes the other. Both monitor and subject lie with their heads within the cylinder. Operation of the Cortescan 2000 requires a major energy source free of power fluctuations; a source such as that provided by a starship will suffice.
 Weight: 1300 kg *Price:* Lv25,000

SURVEILLANCE DEVICES
The following devices are often used by security teams, police, and government agencies.

Shotgun Microphone:
 Shotgun microphones are commonly used low-technology listening devices. A shotgun microphone is directional, meaning that it can be aimed at a specific spot up to 200 meters away, and can pick up any conversation from that spot. A shotgun mike must have a direct line of sight to its target. Normal sounds outside the target area will not be picked up, but loud noises (such as shouts and gunshots) will be.
Weight: 2 kg Price: Lv400

Laser "Ear":
This is a much more sophisticated (and expensive) version of the shotgun mike. Basically, it bounces a laser beam off of a resonating object near the target. Sound waves cause all objects they strike to resonate, or vibrate. These vibrations affect the reflected laser beam, which is received by the unit. The computer in the base unit compares the modulated return signal with the original signal (retained in memory) and converts the results into digital sound. The resonating object can be almost anything, such as a window pane, a door. the side of a vehicle, a rock, even a concrete slab. It only has to meet three criteria: It must be relatively close to the target; it must be relatively hard; and it must be in line of sight (but the target need not be in sight). Conversations are usually recorded in some fashion (any computer can record such things digitally). *Weight: 20 kg Price: Lv8000*

Bug:
The average bug is a cylinder one millimeter in diameter and four millimeters long, with a one centimeter, hair-thin antenna. It can be hidden almost anywhere in a room, and will pick up even whispered conversations within five meters. Most bugs are voice-activated and have a transmission range of up to two kilometers. The device will transmit for up to 72 hours on internal power, then it is dead. Depositing the bug activates it. Since it broadcasts constantly, it is relatively easy to detect by simply scanning the relevant frequencies. Any backpack or vehicle communicator can be tuned to this bug.
 Weight: Insignificant Price: Lv500

Improved Bug:
This is an improvement to the standard bug. A 0. 1 -millimeter sensor cable is run from the room to be bugged to the main unit, a cube about two centimeters on a side, up to 10 meters away. The cable can be threaded through ventilator shafts. pipes. electrical conduits, or cracks in wall plaster (it can even be concealed under a very thick coat of paint). Only the end of the cable needs to be in the room being bugged. One end of the sensor cable detects sounds within 10 meters and carries it to the main unit. The main unit records the sound, and can do so for up to 72 hours before it needs to be recharged (although if can be hooked into a building's power supply for permanent emplacement). At any time, the user may either retrieve the main unit or activate it with a coded wave signal. If activated, the main unit then broadcasts its recording as a high-speed, condensed "squirt , ' transmission (lasting a few seconds).

This means that it is almost impossible to find, since it is emitting no signal most of the time. Detectors have to key on the faint power emissions from the main unit, which can be up to 10 meters away, and which can be easily confused with signals from other low-power electrical equipment. Any backpack or vehicle communicator can be tuned to receive the signals from this bug.
 Weight: Insignificant Price: Lv2000

Video Bug:
This operates like the improved bug described above, but it picks up light in addition to sound. A one-millimeter fiber-optic light guide, with a fisheye lens at one end, is connected to a recording/broadcast unit up to one meter away. The unit is not up to full tridee

broadcast quality, but it is good enough for most surveillance purposes and has limited low-light capabilities as well. Total darkness (which is rare) will foil this system. Any backpack or vehicle communicator can be tuned to this bug.
Weight: Insignificant Price: Lv6000

Cable Tap:
This device is used to tap into electronic communications cables. Electric current produces a magnetic field, which can be detected and "read" to tap the signal. This does not require cutting into the cable, it produces no drop in voltage, and it is impossible to detect without physical inspection of the complete run of the cable (the tap need only be within 0. 1 meter of the cable). More sophisticated communications cables. however, are of the fiber-optic type, which transmit light instead of electricity. This requires a much more sophisticated (and expensive) tap. This type does not require cutting into the cable either, but it does require that the tap be in direct physical contact with the cable. A tap can be attached to a broadcast unit
or a recording unit, like any of the bugs described. Both audio and Video signals can be acquired. Because of the danger of taps, important communications are always scrambled.
Weight: Insignificant Price: Lv7500 (electric), Lv 12,000 (fiber-optic)

The following items can be used to counter electronic surveillance.

Sensortects:
Sensortects are simple detection units found on most military and some civilian vehicles, which are used to indicate when the vehicle has been scanned by a sensor of some kind. When one of these units picks up electromagnetic radiation matching certain characteristics, it indicates the fact (by an aural and/or visual signal). Simple units only key to one type of sensor (radar, laser, microwave, etc.). Units available at three times the base price will be able to pick up all commonly used sensor systems.
Weight: .5 kg Price: Lv200

Radar Jammer:
Radar works by bouncing a signal off its target and interpreting the results. Jamming a radar is as simple as broadcasting random noise on the radar's frequency at a higher power level than the reflected signal. Jammers usually broadcast on a wide band of frequencies and negate the effects of all radars within their range (one to 10 kilometers, depending on price). Jammers are usually operated remotely because they become easy targets for ARMs (antiradiation missiles) when they are activated. Jammers do not affect laser-based detectors, such as rangefinders and missile homing guidance systems.
Weight: 4 kg Price: Lv 1000 to Lv 10,000

Bug Detector:
Bug detectors are used to find electronic surveillance devices. For the basic broadcast bug, this is simply a matter of scanning the relevant frequencies until the bug's signal is picked up, then triangulating until it is found (it can then be destroyed or neutralized). More sophisticated bugs are tougher to find. (The task statements for finding each type are in the sidebar.)
Weight: .3 kg Price: Lv3000

Bug Jam:
Bug jammers work like radio jammers, as described above. Note: If a bug never broadcasts (that is, if the bug is used to tape a conversation, which is physically retrieved later), a jammer will not work. It also will not work against the laser "ear."
Weight: .05 kg Price: Lv500

Sensuppress:
Sensuppress units transmit a field of "white-noise" which washes out any normal conversation within one meter of the unit. Extremely sophisticated computer programs (like the filter program described below) can remove 90 percent of the noise, however, given enough time. A Sensuppress unit will work against the laser "ear," but will not affect the video portion of a video bug. *Weight: .3 kg Price: Lv500*

Scrambler:
Scramblers attach to a normal communicator and scramble any transmission according to a prearranged pattern, which can only be descrambled by a unit with the same scrambler settings.
Weight: 0.2 kg Price: Lv200

Filter Program Chip:
The filter program chip contains a program (for any computer, but portacomps do not usually have enough memory for it to work properly) which analyzes and extracts random noise from electronic transmissions. It generally takes about 10 minutes to "clean" one minute of conversation, but this can be made longer or shorter at the referee's option.
Weight: 1 kg Price: Lv 1000

The term "exploratory equipment" is intended to cover various types of gear that are of use when exploring a planet's surface. But this equipment is not only used by exploratory teams, much of it is of use in many other situations and other career fields as well.

Wilderness survival gear includes equipment which is usually used by exploratory teams, but this equipment might be stored in a starship's escape pod or used by a military mission team as well.

Water Purifier:
The water purifier is a battery- operated microfilter and chemical treatment machine used for purifying natural water sources. The machine can also be used to recycle biological waste water. Fifteen minutes are required to treat each liter of water.
Weight: 5 kg Price: Lv750

Compact Rations:
Each ration pack is a complete, prepackaged meal, providing about 1000 calories and fortified with a full day's requirement of vitamins and minerals. Each meal comes in its own self-heating (or self-chilling for some

dishes) serving tray. The heating/cooling process is activated by breaking the seals and takes a total of about 30 seconds.
Weight: I kg Price: Lv5

Food Synthesizer:
A food synthesizer can be used to detoxify local food sources and add essential elements for human consumption when compact rations are not available. Sometimes a food synthesizer can even make the result palatable.
When using a food synthesizer, an operator packs the mixing chamber with native foodstuffs (plants and plant analogues work best, but animal tissue can be processed if enough time is allowed). The synthesizer chemically analyzes the contents, irradiates them to kill local pests, neutralizes or filters out toxic elements, adds missing vitamins and minerals, and ejects the result in either a dried or pulpy form (operator's choice). The amount of food produced and the time required to do so is dependent upon the "edibility rating" of the beginning foodstuffs. The referee should assign each type of native foodstuff a rating of I to 10, with 1 being the most edible and 10 the most dangerous. The edibility rating is the number of hours the food synthesizer requires to process the foodstuff into one meal.
Weight: 25 kg Price: Lv1500

Biomonitor:
The biomonitor is a broad-purpose monitor about eight centimeters square and usually carried on the belt. It can give body function read-outs for medical diagnosis, can monitor breathability of atmospheres (noting presence of various gases, harmful pollens, and other toxins), and can give a good analysis of edibility of local plant and animal tissue.
Weight: 0.5 kg Price: Lv500

Goggles:
Goggles come in two different types: the first being nothing more than an inexpensive piece of protective eyeware, and the second being a photosensitive, autoclarkening piece of equipment to protect against steady bright light or sudden flares.
Weight: Insignificant Price: Lv1 (normal goggles) or Lv100 (photosensitive)

Backpack:
A backpack is used to carry equipment (as well as protect it) while keeping hands free. Small items can also be suspended from its frame.
Weight: 1 kg Price: Lv10

Flares:
Flares are used to signal at a distance, such as in the marking of temporary landing areas. They typically come six to a set.
Weight: 2 kg Price: Lv3

Cold Climate Clothing:
Cold climate clothing consists of a lightweight, adjustable body suit, with hood, goggles, and lower face cover. The suit contains a battery pack and internal heating elements with the ability to maintain a stable temperature down to temperatures of - 20 degrees C. Battery life is about eight hours under coldest conditions, but closer to 36 hours under more typical cool weather conditions.

Weight: 2 kg Price: Lv 100 (More expensive versions are available for the fashion-conscious)

Neurotronics

Neurotronics are microchip implants wired directly into the brain. The chips listed below act as an extension of the brain, giving users the advantages and disadvantages imposed by the chip. Optionally, the chips may be external and removable, which requires a Neural Interface Plug on the side of you head, usually near the temple or behind the ear. Such quick-chip neurotronics can be easily removed or added.
Chips wired directly into the brain do not require you to have some sort of basic CPU processor to 'interpret' the data. It is assumed that neuro-cyber technology is refined enough that the neuro-electrical connections are compatible with your brain and nervous system, operating with their own independent signal interpreter. All implants are covered by 3 different stats: Cost, Surgery, Humanity.   Cost is the cost of the implant in Livres, Surgery is based upon the following chart which shows severity of surgery and duration of recovery, and Humanity which shows the number of humanity points lost for each specific type of Neurotronic implant.

Surgery
Cybertech must be implanted surgically, and so each type has a Surgery Code. This represents the minimum level of medical care required to install the component, the time and difficulty value of the surgery, and the damage taken by the cyborged character.

Negligible (N): Any mall clinic or back alley shot. Takes 1 hour, does 1 killing damage.
Minor (M): Medical center. Takes 2 hours, does 1D6 killing damage.

Major (MA): Full hospital. Takes 4 hours, does 2D6 killing damage.
Critical (CR): Full hospital. Takes 6 hours, does 3D6 killing damage.

Psychiatric Implants
Cost: Lv 3000-Lv 10,000
This implanted chip can add or remove a single psychological complication, personality trait, or compulsive behavior. However, each chip gives a -1 to INT.
Meta-REM Chip
Cost: Lv 15,000
You need very little sleep because your EEG is regulated to make up for the loss. You only need about six hours of sleep each week. On the down side, you are a Light Sleeper.

Pain Buffer Chip
Cost: Lv3,000
Probably the single most popular chip around. The body's pain sensors are numbed, so the user does not feel as much pain and shock when he or she takes damage.

Arithmetic Logic Unit
Cost: Lv6,000
Popular with students and engineers. This is a chip that has an on-board clock and timer accurate to the pico second. You always know exactly what time it is. It

maybe used as an alarm clock or timer. This chip can also function as an advanced floating-point scientific calculator. It gives the user the Time Sense and Lightening Calculator Talent and can do almost all types of math, including graphs, advanced calculus, and matrices. With optic readout it can display equations and graphs.

Eidetic RAM
Cost: Lv3,000
This chip lets the user record what he or she sees and senses, effectively granting the Eidetic Memory Talent, but this device can only store up to a day's worth of memories.

Neural Operating System
Cost: Lv6,000
This amazing new chip is an operating system for the brain. Using 1 terabyte RAM, it lists all your memories and knowledge in an advanced file structure. When you want to remember something, the chip knows where it is stored in your brain and finds it. In effect this chip grants Eidetic Memory and gives a +1 INT. If the chip is destroyed or removed, you loss all memories and have total amnesia.

Skill Chips
Cost:Lv2,000 per level
A Skill Chip give the user a skill as long as it is installed. It gives +1 in the skill for every level, up to a max of three levels. This chip will override, not augment, an existing natural skill of the same type. You may have as many skill chips as equal to your INT. Many people have a bag full of skill chips and an external chip slot for quickly clipping in an clipping out the chips.

Data Chips
Cost: Lv1,000-3,000
Data Chips are ROMs that hold information. They are accessed as if they were a "on-line" manual or book, complete with indices and pages. It may take several seconds to locate a specific piece of data. A few of the available chips are:
The Complete Works William Shakespeare
A modern law book
A world telephone directory
Encyclopedia Britannica

Emotion Chip
Cost: Lv3,000
An Emotion Chip gives you a constant emotional feeling. Any emotion is available, from bliss to anger, from love to fear, from excitement to hatred. Only one emotion can be accessed per chip, and you cannot have more than one turned on at a time. It may be activated at will. While chip is off you feel emotions normally.

Null-Emotion Chip
Cost: Lv3,000
Have too much Humanity? Want to be on the side of the Machine, or join the latest Cyber-Goth cult? This quickest, cheapest, best way to lose Humanity in a hurry A variation of the Emotion Chip, this device prevents any emotions from occurring at all. You are totally emotionless. On the positive side, you never

react emotionally to any situation, keeping a calm, purely intellectual perspective at all times.

Empathy Chip
Cost: Lv5,000
This is a more advanced form of the Emotion Chip. The Empathy chip allows the you to select any emotional state, including none at all. If you are angry, you can select calmness. If you are sad, you can easily cheer up. This chip allows a user to negate any emotion he or she is currently having, replacing it with a new one whenever he or she wishes it. The effect is that you can never really be upset or hatefully angry, unless, of course, you want to. You are in full control of your emotions, which effectively gives you a +1 to PRE.

Memory Implant
Cost: Variable
These are chips that allow you to have an certain set of experiences (i.e., go on vacation somewhere). A 1 hour tour of Yosemite, for example would Lv 1000;
a day trip on a luxury cruse would cost Lv2000
A week as a secret agent on Mars would cost Lv 80000
vacation with your favorite vid stars costs Lv 10,000
The memory stays as long as the chip is in. You will recall the trip or vacation as if you had really been there.

Neural Interfaces
These neural interfaces are the command/control processes for translating data to neural commands, images, signals, and impulses. You must also buy one or more Neural Interface Plugs (see below), as well as the Interface chips or Neurotronics chips for the desired features.

Neural Interface Plug
Cost: Lv 5,000
You may have all the Interface or Neurotronics chips you want, but to use them you must have one or more interface plugs. This is the external socket where a neural device is connected, by wire or direct contact. Usually plugs are installed in the wrist, palm (for Smart-weapons), temple, behind the ear, but conceivably they could be placed anywhere. One plug can serve all the interface translation chips, but only one at a time. To use more than one interface at a time, you will need multiple plugs.

Wireless Interface
Cost: Lv 2000
Same as above, but this device is internal and completely wireless. There is no plug at all; the signals are sent by an IR or RF signal from an external jack/plug. Typically the external unit is worn on the belt, in a pocket, backpack etc. There are several types of external units which utilize the wireless interface.

Basic Unit-this unit is supplied with the wireless interface. .25kg and holds one chip.

Multi Chip Unit-this unit holds 2-8 chips depending on the model and has a selector switch to allow one chip at a time to interact with the interface.
 Cost: Lv2,000-8,000

MultiChannel Unit- This unit is holds 2-8 chips and can transmit on separate bands to multiple interfaces.

Thus if a character has 4 interfaces and wishes to run 4 chips at once, this is the unit they would need.
Cost: Lv 3,000-9,000

Neural Computer Interface Chip
Cost Lv4,000
This popular chip allows a human and computer to directly interface. A computer user basically becomes "one with the machine". The default effects are +2 to all computer skills.

Neural Vehicle Interface Chip
Cost: Lv5,000
This chip gives its user direct neural control of a vehicle. Any vehicle can be neurally controlled, including cars, jets, and battlesuits. By default, this grants a +2 to the skill (or skills) to control the vehicle. If weapons are an integrated component of the vehicle, such as with combat walkers, you have a +1 chance to hit when using these weapons.

The cost of making the vehicle neurally controllable Depend upon several variables.

Neural Tech Interface Chip
Cost: Lv3,000
This chip gives its user direct control over heavy machinery, diagnostic equipment, scientific equipment, or any TECH related unit which has a compatible interface system. This direct control gives a +2 to operate that machine when linked.

Smart-Targeting Interface Chip
Cost:Lv1,000 per level
In order to use this chip, you must have a smart-link on the gun. The smart-link system on the gun acts as an active location tracking system, so you see via your eye a targeting cross-hair in front of you which tracks with where the gun is pointing. The gun must also have a smart-link interface, usually a Lv2,000 modification.