



## Equipment

Each item is listed with the Technology Level needed to manufacture it, its mass (in kg) and its cost. If an item's mass or cost is not listed, then its mass or cost is negligible. The following section lists examples of common equipment that adventurers may want. Aside from armor and weapons, each listing notes the object's name and a basic description. The technological level indicates local technology required to manufacture something with the capabilities listed. Price and weight are for an item manufactured by an interstellar society of tech level 10-15; items produced at lower tech levels will probably be bulkier and more expensive. An item with no weight or size given can be carried or worn without difficulty. Additional lines of explanation are given where considered necessary.

## Currency

The Credit (Cr) is the standard unit of currency in the continuum. Larger denominations include the KiloCredit (KCr; 1,000 Credits) and the MegaCredit (MCr; 1,000,000 Credits). 90% exists only as numbers in a ledger, physical currency is either plastic notes, or titanium metal coins. While it can be counterfeited, law enforcement is usually fairly efficient about catching the perpetrators. The credit basically relies

on a floating peg to kilowatts of power generation, however that is more a convenience than hard rule as the Unity, and Republic of Terra have no ideology. Economics is based on growth of the population, and most of them manage accounts through their phone.

## Technology Levels

Technology Levels measure the scientific capacity of a world, the complexity and effectiveness of a vehicle, or piece of equipment.

TL 0: (Neolithic) No technology.

TL 1: (Classical) Roughly on a par with Bronze or Iron age technology.

TL 2: (Medieval) Renaissance technology.

TL 3: (Pre-industrial) The advances of TL 2 are now applied, bringing the germ of industrial revolution and steam power.

TL 4: (Industrial) The transition to industrial revolution is complete, bringing plastics, radio and other such inventions.

TL 5: (Industrial) TL 5 brings widespread electrification, telecommunications and internal combustion.

TL 6: (Industrial) TL 6 brings the development of fission power and more advanced computing.

TL 7: (Pre-Stellar) A pre-stellar society can reach orbit reliably and has telecommunications satellites.

TL 8: (Pre-Stellar) At TL 8, it is possible to reach other worlds in the same system, although

terraforming or the full founding of new communities are not within the culture's capacity.

TL 9: (Early Stellar) The defining element of TL 9 is the development of the Jump Drive, which makes space travel vastly safer, and faster.

TL 10: (Early Stellar) With the advent of higher Jump numbers, nearby systems are opened up.

TL 11: (Early Stellar) The first true artificial intelligence becomes possible, as computers are able to model synaptic networks.

TL 12: (Average Stellar) Weather control revolutionises terraforming and agriculture.

TL 13: (Average Stellar) The battle dress appears on the battlefield in response to the new weapons.

TL 14: (Average Stellar) Fusion weapons become shoulder fired

TL 15: (High Stellar) The development of synthetic anagathics means that the human lifespan is now vastly increased.

Higher Technology Levels exist and may appear in other worlds, or be discovered by pioneering scientists.

## Consolidated Equipment List

<i>Item by Group</i>	<i>TL</i>	<i>Mass (kg)</i>	<i>Price (Cr)</i>
Communicators			
Long Range	6	15	500
Medium Range	5	10	200
Short Range	5	5	100
Personal	8	0.3	250
Comm or Phone	6-10	—	50-500
Commdot	10	—	10
Computer, Battle	9	18	100,000
Gun Cam	8	—	150
Holographic Projector	11-13	—	1,000-10,000
Radio Jammers	6-10	varies	500-20,000
Rescue Transponder	8-13	—	50-750
Satellite	7-12	1000-0.1	varies
Tactical Relay Network	6+	—	50-350
Transceiver	5-13	20-1	50-1,000
Laser	9-13	1.5-0.5	100-500
Surveillance Bug	5-15	—	50-500
Computer			
Computer/0	7	10	50
Computer/1	8	5	100
Computer/1	9	5	250
Computer/2	10	1	350
Computer/2	11	1	500
Computer/3	12	0.5	1,000
Computer/4	13	0.5	1,500
Computer/5	14	0.5	5,000
Computer Terminal	7	—	200
Hand Computer	7	—	2x normal
Data Display/Recorder	13	—	5,000
Data Chip	10	—	5
Computer Software			
Database	7	—	—
Interface	7	—	—
Security 0	7	—	—
Security 1	9	—	200
Security 2	11	—	1,000
Security 3	12	—	20,000
Translator 0	9	—	—
Translator 1	10	—	500
Intrusion 1	10	—	1,000
Intrusion 2	11	—	10,000
Intrusion 3	13	—	100,000
Intrusion 4	15	—	N/A
Intelligent Interface 1	11	—	100
Intelligent Interface 2	13	—	1,000

<i>Item by Group</i>	<i>TL</i>	<i>Mass (kg)</i>	<i>Price (Cr)</i>
Intelligent Interface 3	17	—	—
Expert 1	11	—	1,000
Expert 2	12	—	10,000
Expert 3	13	—	100,000
Agent 0	11	—	500
Agent 1	12	—	2,000
Agent 2	13	—	100,000
Agent 3	14	—	250,000
Intellect 1	12	—	2,000
Intellect 2	13	—	50,000
Intellect 3	14	—	—
Cybernetics			
Active Camouflage	10	—	50,000
Ballistic Tracking Lenses	12	—	40,000
Battle Dress	13	—	500,000
Organic Core Ext. LS	13	—	250,000
Brain Implant	12	—	75,000
Chip Jack	12-13	—	10–15,000
Cyber-claw	10	—	20,000
Enhanced Vision	13	—	25,000
Exoskeleton	10	—	90,000
Faraday Cage	11		25,000
Fingers			
Dart Gun	9	—	15,000
Flashlight	9	—	5,000
Electric Lock Pick	9	—	10,000
Intelligence Augment			
Intelligence +1	12	—	500,000
Intelligence +2	14	—	1,000,000
Intelligence +3	16	—	5,000,000
Life Support	10	—	20,000
Medkit	9	—	25,000
Neural Comm	10	—	250+
Neural Lace	13-14	—	20–25,000
Physical Char. Enhance			
PCE +1	11	—	500,000
PCE +2	12	—	1 MCr
PCE +3	15	—	5 MCr
Sensoria AI	13		105,000
Skill Augmentation	12	—	50,000
Smuggling Container	9	—	15,000
Subdermal Armor			
Armor Value 1	10	—	25,000
Armor Value 2	12	—	50,000
Armor Value 3	14	—	100,000

<i>Item by Group</i>	<i>TL</i>	<i>Mass (kg)</i>	<i>Price (Cr)</i>
Weapon Implant			
Dagger	10	—	5,000
Stunstick	10	—	10,000
Autopistol	10	—	12,000
Laser Pistol	12	—	25,000
Organics	+3	—	2x
Devices			
Magnetic Compass	3	—	10
Wrist Watch	4	—	100
Geiger Counter	5	1	250
Metal Detector	6	1	300
Hand Calculator	7	0.1	10
Spider Paws	8	—	100
Inertial Locator	9	1.5	1,200
Electromagnetic Probe	10	—	1,000
Hand Computer	11	0.5	1,000
Holographic Projector	11	1	1,000
Densitometer	14	5	20,000
Bioscanner	15	3.5	350,000
Neural Activity Sensor	15	10	35,000
Drugs			
Medicinal Drugs	5	—	5+
Anti-Radiation Drugs	8	—	1,000
Panaceas	8	—	200
Stim Drugs	8	—	50
Clotting Aid	9	—	200
Nervous R Dampener	9	—	100
Adrenalizer	10	—	150
Combat Drug	10	—	1,000
Fast Drug	10	—	200
Metabolic Accelerator	10	—	500
Meta-Perf. Enhancer	10	—	600
Medicinal Slow Drug	11	—	500
Starlight Drops	12	—	500
Anagathics	15	—	2,000
Medical Care			varies
Medical Supplies			
Adhesive Bandages			
Normal	6	—	10
Five use spray	8	—	50
Ten use roll on	10	—	75
Twenty Use Applicator	12	—	100
Hundred use gel gun	14	—	500
Cryoberth	10	200	50,000
Medichines	10+	—	20,000

<i>Item by Group</i>	<i>TL</i>	<i>Mass (kg)</i>	<i>Price (Cr)</i>
Medkit			
All are 3 kg			
+0 DM	8		1,000
+1 DM	10		1,500
+2 DM	12		5,000
+3 DM	14		10,000
Trauma Pack			
+ 1d6 points	8	2	750
" "	10	1	1,500
" "	12	0.5	3,500
" "	14	—	7,500
Robots and Drones			
Add. Manufacturing Sta.	12	1,000	100,000
Autodoc	12	250	40,000
Cargo Arm	11	500	50,000
Cargo Robot	11	2,000	75,000
Combat Drone	12	150	90,000
Dumbot	9	75	40,000
Killdozer	11	10,000	100,000
Loader Robot	9	125	80,000
Loitering Munition	8	25	35,000
Manipulator Arm			
Str. 6 Dex. 4	5	25	80,000
Str. 12 Dex. 8	8	50	180,000
Str. 18 Dex. 12	11	75	280,000
Str. 24 Dex. 16	14	100	380,000
Medic Robot	12	125	60,000
Minesweeper Drone	10	150	95,000
Personal Drone	11	3	2,000
Probe Drone	11	25	15,000
Recon Drone	9	50	200,000
Repair Robot	11	60	10,000
Servitor	13	80	120,000
Spotter Drone	10	5	12,000
Robot Options			
Armor (+5)			+25%
Integral System			+50%
Self-Destruct			+25%
Advanced Controls	8		10,000 +10%
Robot Brain			
Linear Computer/1	9	—	22,500
Parallel Computer/2	11	—	40,000
Synaptic Computer/3	13	—	90,000
Sensors			
Torch	1	0.25	1
Candle, Wax	2	—	1
Lamp Oil	2	—	2

<i>Item by Group</i>	<i>TL</i>	<i>Mass (kg)</i>	<i>Price (Cr)</i>
Oil Lamp	2	0.5	10
Binoculars	3	1	75
Electric Torch	5	0.5	10
Cold Light Lantern	6	0.25	20
Infrared Goggles	6	—	500
Light Intensifier Goggles	7	—	500
Motion Sensor	7	0.25	500
<i>Shelters</i>			
Tarpaulin	1	2	10
Tent	2	3	200
Pre-Fabricated Cabin	6	4,000	10,000
Basic LS Supplies	7	2	100
Pressure Tent	7	25	2,000
Advance Base	8	6,000	20,000
<i>Shelter Options</i>			
Self-Assembling	11	—	5,000
Self-Sealing	13	—	2,000
<i>Survival Equipment</i>			
Cold Weather Clothing	1	2	200
Filter Mask	3	—	10
Swimming Equipment	3	1	200
Combination Mask	5	—	150
Oxygen Tanks	5	5	500
Respirator	5	—	100
Underwater Air Tanks	5	5	800
Rebreather	6	10	250
Artificial Gill	8	4	4,000
Environment Suit	8	—	500
+ Cloth AV 10	8	2	900
Rescue Bubble	9	3	600
Thruster Pack	9	5	2,000
Portable Generator	10	15	500,000
<i>Toolkits</i>			
Mechanical	4	12	1,000
Electronics	5	12	1,000
Lock Pick Set	5	—	10
Medical	7	10	1,000
Forensics	8	12	1,000
Engineering	9	12	1,000
Scientific	9	12	1,000
Surveying	9	12	1,000
<i>Vehicles</i>			
Sailboat	3	2,000	7,000
Steamship	4	80,000	720,000
Biplane	5	1,000	46,000
Dirigible	5	5,000	65,000

<i>Item by Group</i>	<i>TL</i>	<i>Mass (kg)</i>	<i>Price (Cr)</i>
Ground Car	5	3,000	6,000
Motor Boat	5	10,000	530,000
Motorcycle	5	500	2,000
Corvette	6	60,000	2.3 MCr
Helicopter	6	2,000	250,000
Submersible	6	150,000	1.7 MCr
Twin Jet Aircraft	6	4,000	480,000
ATV	7	10,000	30,000
Armored Car	7	10,000	55,000
Hovercraft	7	6,000	880,000
Speedboat	7	1,000	5,000
Jet Fighter	8	10,000	16 MCr
Tank	8	60,000	1.78 MCr
Truck	8	10,000	35,000
Destroyer	9	120,000	4.8 MCr
Locomotive	9	20,000	670,000
Air/Raft	12	2,800	500,000





<i>Item by Group</i>	<i>TL</i>	<i>Mass (kg)</i>	<i>Price (Cr)</i>
AFV	12	10,000	65,000
ATV	12	8,000	50,000
Speeder	13	3,200	890,000
Grav Scooter	14	250	50,000
G/Carrier	15	12,000	15 MCr
Grav Belt	16	20	100,000
<i>Vehicle Options</i>			
Advanced Controls	8	—	10k +10%
Anti-missile System	8	200	180,000
Autopilot	11	—	3,000
Enclosed	—	—	+10%
Extended Life Support	—	300	+10%
Heavy Armor	—	2x	+25%
High Performance	—	—	+50%
Neural Link	12	—	50k +100%
On-board Computer	11	0.5	1,000
Sealed	—	—	+20%
Sensor Suite	8	20	10,000
Smoke Dischargers	3	50	1,000
Style	—	—	200–2,000
<i>Armor and Weapons</i>			
Jack	1	1	50
Cloth	6	2	250
Flak Jacket	7	2	150
Mesh	7	2	150
Vacc Suit	9	8	9,000
Combat Armor	11	18	20,000
Hostile Env. Vacc Suit	12	40	18,000
Battle Dress	13	60	200,000
Light Battle Dress	13	36	120,000
<i>Armor Options</i>			
Computer Weave	10	—	500
Eye Protection	6	—	50
Extended Life Support	10	5	10,000
Helmet Mounted Display	8	—	300
IR Chameleon	12	—	50,000
LED Chameleon	10	—	5,000
Medkit	10–11	—	5–10,000
Smart Fabric	10	—	1,000
Spider Paws	8	—	100
Thruster Assist	9	—	11,000
<i>Melee Weapons</i>			
Cudgel	0	1	10
Dagger	0	0.25	10
Spear	0	1.5	10
Staff	0	2	10

<i>Item by Group</i>	<i>TL</i>	<i>Mass (kg)</i>	<i>Price (Cr)</i>
Axe	1	2	20
Axe, Throwing	1	1.5	20
Mace	1	3	20
Pike	1	8	40
Sword	1	1	150
Broadsword	2	2.5	20
Halberd	2	3	75
Nunchaku	2	1	40
Sap	2	1	30
Stiletto	2	0.25	50
Bayonet	3	0.25	10
Blade	3	0.35	50
Cutlass	3	1.25	100
Katana	3	1.5	2,000
Rapier	3	0.5	100
Shuriken	3	0.15	10
Club	4	1.5	200
Spring Blade	4	0.5	200
Fighting Knife	6	0.5	100
Mace (Tear Gas)	7	—	50
Monoblade	8	1	1,000
Pepper Spray	8	—	85
Taser	8	0.25	300
Stun Baton	10	1.5	300
Shield	0+	2.5	200
<i>Ranged Weapons</i>			
Sling	0	—	10
Bow	1	1	60
Crossbow	2	3	75
Revolver	4	0.9	150
Auto Pistol	5	0.75	200
Carbine	5	3	200
Rifle	5	4	200
Shotgun	5	3.75	150
Submachinegun	5	2.5	500
Auto Rifle	6	5	1000
Assault Rifle	7	3	300
Body Pistol	7	0.25	500
Laser Carbine	8	5	2,500
Snub Pistol	8	0.25	150
Gyrojet Rifle	9	2.5	900
Laser Rifle	9	6	3,500
ACR	10	3.5	1,000
Stunner	11	1.5	750
Gauss Rifle	12	3.5	1,500
Laser Pistol	12	1.2	1,000

<i>Item by Group</i>	<i>TL</i>	<i>Mass (kg)</i>	<i>Price (Cr)</i>
Gauss Pistol	13	1.75	1,750
<i>Ammunition</i>			
Sling	0	0.028	1
Bow	1	0.025	1
Crossbow	2	0.02	2
Revolver	4	0.1	5
Auto Pistol	5	0.25	10
Body Pistol	7	0.05	20
Snub Pistol	8	0.03	10
Shotgun	5	0.6	8
Rifle	5	0.5	20
Carbine	5	0.125	10
Auto Rifle	6	0.5	20
Assault Rifle	7	0.33	20
Gyrojet Rifle	9	0.5	25
ACR	10	0.5	15
Gauss Pistol	13	0.2	20
Gauss Rifle	12	0.4	30
Submachinegun	5	0.5	20
Laser Pistol	12	0.5	100
Laser Carbine	8	3	200
Laser Rifle	9	4	300
Stunner	11	0.5	100
<i>Accessory</i>			
Shoulder Stock	5	1	75
Folding Stock	6	0.5	100
Telescopic Sight	6	0.8	200
Grenade Launcher	8	1.5	1000
Laser Sight	8	—	100
Silencer	8	—	250
Gyrostabilizer	9	—	300
Red Dot Sight	9	1.8	3000
Secure Weapon	10	—	100
Intelligent Weapon	11	—	1000
<i>Grenades</i>			
		All 0.5	Per Case
Incendiary	5	-	180
Fragmentation	6	-	180
Smoke	6	-	90
Flashbang	7	-	90
Aerosol	9	-	90
EMP	9	-	600
Stun	9	-	180
Plasma	12	-	300
<i>Heavy Weapons</i>			
Light Machine Gun	5	20	3,000
30mm Auto-Cannon	7	300	10,000

<i>Item by Group</i>	<i>TL</i>	<i>Mass (kg)</i>	<i>Price (Cr)</i>
Grenade Launcher	7	6	400
Rocket Launcher	7	6	2,000
Anti-Material Rifle	8	30	3,500
Flame Thrower	8	20	2,500
Light Mortar	8	36	1,250
RAM GL	8	6	800
Laser Cannon SF	9	30	200,000
Light Tac Missile	9	20	3,000
PGSF	12	10	20,000
FGSF	14	12	100,000
VRF Gauss Gun	14	200	200,000
<i>Hvy Wpn Ammunition</i>			
LMG	5	10	20
30mm Auto-Cannon	7	100	1,000
Grenade Launcher	7	0.5	180
Rocket Launcher	7	1	300
AMR	8	1	10
Flame Thrower	8	17	110
Light Mortar	8	4.5	500
RAM GL	8	0.5	180
Laser Cannon SF	9	20	2,000
Light Tac Missile	9	20	3,000
PGSF	12	6	2,500
FGSF	14	9	65,000
VRF Gauss Gun	14	10	200
<i>Explosives and Mines</i>			
AP Mine	6	3	300
Claymore	6	2	200
C4	6	1	200
AT Mine	7	5	900
IED	7	30	100
Suitcase Nuke	12	20	20,000
<i>Artillery</i>			
105mm Howitzer	6	2,260	35,000
150mm Howitzer	6	4,000	40,000
Medium Missile	7	300	75,000
120mm Cannon	8	3,700	400,000
200mm MRL	9	1,100	5,000
Fusion Z Gun	14	4,200	8MCr
<i>Artillery Ammunition</i>			
105mm Howitzer	6	15	75
150mm Howitzer	6	40	120
Medium Missile	7	200	2,000
120mm Cannon	8	20/22	300/100
200mm MRL	9	40	600
Fusion Z Gun	14	Power Plant	



**Communicator, Personal:** A hand-held, single channel communication device. On world with a tech level of 8 or higher a personal communicator is able to tap into the world's satellite communication network and with the proper address, contact any other communicator in the world (for a fee). The channel is private, but not secure and may be monitored on some worlds. Usually network access can be arranged at the local starport for a small fee. On worlds with a tech level of 7 or less, personal communicators will not work.

**Comm or Phone:** A personal comm unit or phone is a portable telecommunications device/computer/camera,

ranging in size from a bulky handset to a slim watch or pen-like cylinder. Larger comms have physical controls and screens, while smaller units either project data and control displays onto nearby surfaces, have fold-out plastic screens, or connect to cybernetics. Comms have only short-range transmission and reception capabilities, but most technologically advanced worlds will have planet-wide comm networks allowing the user to send messages and access data anywhere.

The first hand computers arrive at tech level seven, and the personal comm at tech level eight. At tech level nine, computers and communication devices merge into one compact unit, often just called a phone, off the old term telephone. Physical appearance of phones starts as a 10cm rectangle, to a thin clear piece of plastic by higher tech levels, often worn wrapped and adhered to their forearm, or set down and a holographic interface used. At tech level nine phones start at Cr500, and have all the basic software such as Database, Interface, Security 0, and Translator 0. As tech level rises, their capacity rises as well, and only cost is a consideration for software.

To most citizens life without their phone would seem absurd, such as they never touch hard currency, just let their phone debit their account when purchasing items. It is a camera, books, and films or videos, data all stored remotely in a cloud server. It is also use as an ID, and there is hacking, phone phreaks, which get by the security programs and into the AI system. Intrusion programs if detected are deleted, and devices kicked off the network. Nevertheless phones remain an important tool, and can be used for a variety of things, worn over the eyes, they can work as a VR headset, or imaging system similar to Electronic or PRIS Binoculars.

## Communications

Characters separated by physical location often have a need to maintain communications. These examples of communications equipment fulfill that need. Routine use of these devices do not require a skill check. When attempting to overcome interference or use these devices for other purposes, the Comms skill check is used.

<u>Communicator</u>	<u>TL</u>	<u>Range</u>	<u>kg</u>	<u>Cr</u>
Long Range Communicator	6	500 km	15	500
Medium Range Communicator	5	30 km	10	200
Short Range Communicator	5	10 km	5	100
Personal Communicator	8	Special	0.3	250

**Communicator, Long Range:** Back-pack mounted radio capable of ranges up to 500 km and contact with ships in orbit. Ten separate channels. At tech level 7 reduce the weight to 1.5 kg and it becomes belt or sling mounted.

**Communicator, Medium Range:** Belt-mounted or sling carried radio set capable of up to 30 km range, and contact with official radio channels. Five separate channels. At tech level 7, reduce the weight to 500 grams.

**Communicator, Short Range:** Belt-mounted radio capable of 10 km range (much shorter underground or underwater). Three separate channels. At tech level 7 reduce the weight to 300 grams and it becomes hand-held.

Even though phones have a limited native range of 3-5km, and usually work in a broader network, they can also work from a smaller network, forming local area network or LAN among devices carried by a group for example. Storage, and re-broadcasters can increase range to 100km, generally the size of deck of playing cards. Thus being able to transmit back to a station, or main computer on a spaceship, such as in orbit.

While hardened, phones are susceptible to EMP, and hard radiation which will fry their circuitry. Give a phone under such conditions an 8+ to save and keep functioning, as applying DM's such as -1 for being in space, rising for nuclear blasts such -5. An electronics roll can sometimes bring it back up, depending on severity.

Battery life for the early TL 8 models is only about a day, where by TL 15 it is easily a month, or even longer if turned off.

- TL 6 Audio only Cr50
- TL 8 Audio and visual, computer/0 Cr150
- TL 10 Multiple forms of data, computer/1 Cr500.

*Commdot:* A commdot is a tiny microphone/speaker and transmitter, ranging in size between a few centimetres and a few millimetres across. A commdot is capable of interfacing with another communications device and relaying messages back and forth. Commdots have a range of only a few meters. They are usually used as hands-free communicators, but can also be used as improvised bugs or throat microphones. TL 10. Cr10 each.

*Computer, Battle:* The battle computer is a human-portable system (backpack weighing 18 kilograms) capable of capturing and collating intelligence and providing approximations of enemy forces. It can be linked to untended ground sensors via communication links to increase its potential and can provide visual displays overlaid on maps when interfaced with a map box (see below). When attached to a communicator it can direct a powerful laser communication beam at one of several pre-programmed targets (such as relay satellites or tactical communication hubs) and automatically switch to back-up relays if primaries are jammed or rendered inaccessible. A battle computer system grants the commander of any battle a +2DM to all Tactics throws when dealing with a monitored area. TL 9. Cr100,000.

*Gun Cam:* The camera takes several seconds of recording around the pulling of the weapon's trigger, allowing for slow-motion playback to see what the shooter was doing right or wrong – or for the verification of kills. TL 8. Cr150.

*Holographic Projector:* A holographic projector is a toaster-sized box that, when activated, creates a three-dimensional image in the space around it or nearby – the range is approximately three metres in all directions. The image can be given pre-programmed animations within a limited range and the projector includes speakers for making sound. The projected holograms are obviously not real so this device is mostly used for communication. The TL 12 version can produce holograms real enough to fool anyone who fails an Intelligence check (made upon first seeing the hologram) and the TL 13 version can produce holograms that are true-to-life images.

- TL 11 Cr1,000
- TL 12 Cr2,000
- TL 13 Cr10,000

*Radio Jammers:* First available at TL6 in base-camp versions, and then made portable by tech level 8, the radio jammer suite is a static generator that fills the wavelengths with incomprehensible noise. The basic models make radio-wave communications impossible up to 2 km of its location. It requires an Electronics throw with a difficulty equal to the TL of the jammer to get a single transmission through. Most jammers are not effective against tight beam laser communication, however. Cr500.

*Portable:* This version is more efficient, raising the range to 5 km. TL 8. Cr2,000.

*Personal:* A version as small as a cufflink, and has a 10 km range. TL 10. Cr5,000.

*Stationary:* A huge version of a jammer attached to a power plant or starship, jamming unsanctioned radio communications up to 100 km away from its location. TL 10. Cr20,000.

*Rescue Transponder:* Activated with a quick snap of a safety tag, normally when wounded or captured, the tracker sends out a nearly constant emergency signal across several bandwidths to let allies know where the wearer is. It has a 10 km range, and lasts twelve hours. TL8. Cr50.

*TL 10:* This version is more efficient, raising the range to 200 km and the cost to Cr200.

*TL 13:* This version is sometimes not worn, instead it is swallowed and has a 1000 km range. It costs Cr750.





**Satellite:** From massive early versions to the size of a grape, satellites perform all sorts of functions, from sensors, cameras, early warning, telescopes, and communications. Starting from TL 7 at a 1,000 kg, and 100 MCr, and dropping a digit each TL until at TL 12 one is only 0.1 kg and Cr1,000.

**Tactical Relay Network:** Every participating member on a tactical relay network can use the Tactics skill of the character monitoring the central hub, to a limit depending on the TL of the network.

<u>TL</u>	<u>Information Relayed</u>	<u>Maximum Tactics Level</u>	<u>Cost<sup>1</sup></u>
TL 6	Audio Only	Tactics 1	Cr50
TL 8	Audio and visual	Tactics 2	Cr100
TL 10	A/V, Transponder location, Computer/0	Tactics 3	Cr200
TL12	A/V, medical readings, equipment status, Computer/1	Tactics 4	Cr350

<sup>1</sup> This cost is per member unit; the central hub costs ten times this amount.

**Transceiver:** A stand-alone communications device. Unlike a comm, which relies on the presence of an established communications network, a transceiver can send and receive directly under its own power. To reach orbit reliably, a transceiver needs a range of 500 kilometers.

<u>Radio Transceivers</u>	<u>kg</u>	<u>Range</u>	<u>Cr.</u>
TL 5	20	Distant (5 km)	50
TL 8	2	Distant (5 km)	100
TL 9 (Computer/0)	1	Very Distant (50 km)	250

<u>Radio Transceivers</u>	<u>kg</u>	<u>Range</u>	<u>Cr.</u>
TL 12 (Computer/0)	1	Regional (500 km)	500
TL 13 (Computer/1)	1	Continental (5,000 km)	1,000
Laser Transceivers			
TL 9	1.5	Regional (500 km)	100
TL 11 (Computer/0)	0.5	Regional (500 km)	250
TL 13 (Computer/1)	-	Regional (500 km)	500

## Surveillance

**Bug:** Surveillance devices such as hidden microphones and tiny cameras, bugs are available from TL 5 onward. A bug can be active or passive. An active bug transmits data (either constantly, or when triggered). Passive bugs just record until activated. They rapidly miniaturize and become more intelligent. A TL 14 bug can be no bigger than a dust mote. The smaller a bug, though, the shorter its range – a bug that transmits data needs a much larger power supply than one that just records until it is collected. Bugs are susceptible to *Radio Jammers*.

- TL 5 Audio Cr50
- TL 7 Audio or Visual Cr100
- TL 9 Audio or Visual or Data Cr200
- TL 11 Audio/Visual/Data Cr300
- TL 13 Audio/Visual/Data/Bioscan Cr400
- TL 15 Audio/Visual/Data/Bioscan/Computer/1 Cr500

**Audio:** The bug records anything it hears.

**Visual:** The bug records anything it sees.

**Data:** If attached to a computer system, the bug can search and copy data from the computer. The bug cannot breach computer security on its own, but if a user accesses the computer in the bug's presence, the bug can read the data.

**Bioscan:** The bug has a basic biological scanner, allowing it to sample the area for DNA traces, chemical taint and so forth.

**Computer/1:** The bug has an onboard computer system with Computer/1.

## Computers

The power of a computer is given by its rating (Computer/1, Computer/2 and so forth), which measures the complexity of the programs it can run. (Storage space is effectively unlimited at TL 9 and above.) Programs are rated by the computer rating they require. A system can run a number of programs up to its rating.

The computers listed here are laptop size. Battery life is two hours at TL 7, eight hours at TL 8, and effectively unlimited at TL 9 and above. Desktop computers offer a slightly greater amount of processing power for the same cost but not enough to make a difference in-game. Desktops become obsolete during TL 8

<u>Optimum TL</u>	<u>Rating</u>	<u>Mass (kg)</u>	<u>Cost (Cr.)</u>
TL 7	Computer/0	10	50
TL 8	Computer/1	5	100
TL 9	Computer/1	5	250
TL 10	Computer/2	1	350
TL 11	Computer/2	1	500
TL 12	Computer/3	0.5	1,000
TL 13	Computer/4	0.5	1,500
TL 14	Computer/5	0.5	5,000

*Computer Terminal:* This is a 'dumb terminal', with only limited processing power. It serves as an interface to a more powerful computer such as a ship's computer or planetary network. Terminals range in size depending on their control method – a holographic display terminal can be much smaller than one with a physical keyboard and screen. A computer terminal has Computer/0. TL 7. Cr200.

*Hand Computer:* A hand computer is a portable computer system with considerable processing power. It is more powerful than a computer terminal, and can be used without access to a network. A hand computer costs twice as much as a normal computer of the same TL but can be held in one hand and operated with the other. TL 11. Cr1,000.

## Options

*Data Display/Recorder:* This headpiece worn over one or both eyes provides a continuous heads-up display for the user, allowing him to view computer data from any linked system. Because of the transparent screen vision is not obscured while using a DD/R headset. DD/Rs can display data from any system, not just computers – they can display vacc suit oxygen reserves, grav belt status, neural activity scanner results and so forth. TL 13. Cr5,000.



*Data Chip:* The principle medium of information storage is the standard data chip, a rectangle of hardened plastic about the size of a micro card. Inside the TL 10 data chip is a thin slice memory diamond, with information encoded in structures of carbon atoms; more advanced chips use more exotic means of data storage. TL 10. Cr5.

*Specialized Computer:* A computer can be designed for a specific purpose, which gives it a rating of 1 or 2 higher for that program only. The navigation computer on a starship might be only a Computer/1, but it could run the Expert Navigation/3 program because it is specially designed for that task. A specialized computer costs 25% more per added rating. In addition, running the program a computer is specialized for does not use up rating when working out how many programs the computer can run simultaneously.

Specialized computers are very important when working with drones, robots, or robot brains in vehicles (including spacecraft). It should be considered the typical installation. The limitation of having an entire crew of say a train or spaceship being robotic, is more legal, about culpability in case of an accident, than technical.

## Computer Software

Anyone can use any high-rating software at a lower rating, to a minimum of the lowest rating shown. Programs above Rating/1 cannot be copied easily, as they require a non-trivial amount of DRM to break.

Software	Rating	TL	Cost	Description
Database	-	7	Included to Cr10,000	A database is a large store of information on a topic that can be searched with a Computer check or using an Agent.
Interface	0	7	Included	Displays data. Using a computer without an interface is a Formidable (–6 DM) task.
Security	0	7	Included	Security programs defend against intrusion. Rating 0 is Average (+0 DM).
	1	9	Cr200	Difficult (–2 DM) difficulty
	2	11	Cr1,000	Very Difficult (–4 DM) difficulty
	3	12	Cr20,000	Formidable (–6 DM) difficulty
Translator	0	9	Included	Translators are specialized Expert systems that only have Language skills. Provides a near-real-time translation.
	1	10	Cr500	Works in real-time and has a much better understanding of the nuances of language.
Intrusion	1	10	Cr1,000	Intrusion programs aid hacking attempts, giving a bonus equal to their Rating. Intrusion software is often illegal.
	2	11	Cr10,000	
	3	13	Cr100,000	
	4	15	N/A	
Intelligent Interface	1	11	Cr100	“Low autonomous” artificial intelligence allows voice control and displays data intelligently. Required for using Expert programs.
	2	13	Cr1,000	“High autonomous” artificial intelligence allows a primitive artificial intelligence to self-initiate and learn on its own.
	3	17		True artificial intelligence capable of independent creative thought.
Expert	1	11	Cr1,000	Expert programs mimic skills. A character using an expert system may make a skill check as if he had the skill at the program’s Rating –1. Only Intelligence and Education-based checks can be attempted. If the character already has the skill at a higher level, then an Expert program grants a +1 DM instead.
	2	12	Cr10,000	
	3	13	Cr100,000	
Agent	0	11	Cr500	Agent programs have a Computer skill equal to their Rating, and can carry out tasks assigned to them with a modicum of intelligence. For example, an agent program might be commanded to hack into an enemy computer system and steal a particular data file. They are effectively specialized combinations of Computer Expert and Intellect programs.
	1	12	Cr2,000	
	2	13	Cr100,000	
	3	14	Cr250,000	
Intellect	1	12	Cr2,000	Intellects are improved agents, who can use Expert systems. For example, a robot doctor might be running Intellect/1 and Expert Medic/3, giving it a Medic skill of 2. An Intellect program can use a number of skills simultaneously equal to its Rating
	2	13	Cr50,000	
	3+	14	–	



## Cybernetics

Modern people are improved over their ancestors, not only by good nutrition, and medical care; except even more with gene fixing, and other genetic engineering practices built into people before they are born.

Cyborgs are viewed in a variety ways, though never to be considered “abnormal” when it is not a lifestyle such as who are sometimes called Ultranauts: a subculture of people who choose to be heavily modified on purpose. Cybernetics can bring characteristics above the normal maximum for a species.

Cybernetics can interfere with medical treatment. All long-term care or surgery Medic rolls treating an cyborg character suffer a negative DM equal to the difference in Technology Level between the medical facility and the highest relevant implant. For example, a character with TL 15 Endurance implants being treated in a TL 10 hospital would give a –5 DM to the surgeon’s Medic skill checks.

*Active Camouflage:* Active camo allows a choice of camo patterns and colors, and quickly changes the cyborg’s skin to match. This adds a +2 DM to Stealth checks. TL10. Cr50,000.

*Ballistic Tracking Lenses:* BTLs (as they are called) give the character a +1 DM on all ranged attacks. TL12. Costs Cr40,000. The character’s eyes will shine strangely in direct lighting, revealing the BTLs to observers.

*Battle Dress:* Implanting the cyborg’s organic core as a controller in battle dress is possible at TL 13, and costs Cr500,000. Cyborgs gain the same bonuses as brain implant battle dress, with an additional +1 DM to all physical actions. This version of automated battle dress has Strength, Dexterity, and Endurance characteristics of 7, modified as normal by the actual battle dress.

*Organic Core Extended Life Support:* An Organic Core Extended Life Support provides three month’s worth of oxygen, nutrients, and filtration for the organic brain and its biological support systems. It is available at TL 13, takes up chest space, and costs Cr250,000. Recharging the system costs Cr5,000 and includes maintenance.

*Brain Implant:* A brain-machine chip implant that allows control of machinery by thought. Brain implants overcome the limitations of a chip jack only using Intelligence, and Education based skills or tasks. Brain implants can be combined with chip jacks, neural laces, and even Battle Dress to create another level of existence. This gives a +2 DM to Initiative. TL 12. Cr75,000

*Chip Jack:* A chip jack is a computer system implanted into the base of the skull that consists of an external data socket and a processor running an interface program. A character with a chip jack can use expert programs for tasks relying on Intelligence or Education only. The main benefit of the jack is that it is much smaller and more discrete than a hand computer, and the user can access the expert program by thought alone. A chip jack is a Computer/2 (Computer/4 at TL 13) and can only run expert programs. It is always running Intelligent Interface at no cost. TL 12. Cr10,000. (Cr15,000 at TL 13.)

*Cyber-claw:* Retractable claws or razors, can be done to both hands for double damage. Natural Attack (Claw), Damage 1d6+1, TL10. Cr20,000.

*Enhanced Vision:* A character can be implanted with cybernetic eyes giving them the abilities of a set of binoculars and IR/ Light Intensifier goggles. TL 13. Cr25,000.

*Exoskeleton:* A powerful external metal frame, installed by a medtech. Gives +5 to Strength, and Dexterity, while having limited energy recapture ability, it needs recharging and maintenance for Cr. 300 a month. TL 10. Cr90,000.

*Faraday Cage* (TL 11): Dermal implanted micro thin wires in a mesh that gives +1 defense against EMP effects. Cr25,000.

*Fingers:* Beginning at TL 9 various cybernetic tool fingers, add Cr5,000 for realistic flesh tone skin (+1 for deception).

*Dart Gun:* Can shoot a tranq dart 5 meters. Cr15,000  
*Flashlight:* Illuminates like a normal flashlight. Cr5,000  
*Electric Lock Pick:* Quickly helps pick a lock, +1 with mechanical skill. Cr10,000

*Intelligence Augmentation:* Replacing slow nerve cells with faster synthetic substrates and implanting opto-electronic boosters can increase the speed at which a character thinks, effectively boosting their Intelligence.

TL 12 Intelligence +1 Cr500,000  
TL 14 Intelligence +2 Cr1,000,000  
TL 16 Intelligence +3 Cr5,000,000

*Life Support:* Provides air for an extended period of time, up to 72 hours, and their skin becomes vacuum resistant like a ship suit. TL 10. Cr20,000



**Medkit:** This internal medkit provides support and assistance to the wearer. It can diagnose medical emergencies as if it had Medic-2 and can heal up to four points of damage quickly with nano-machines, though the effects only last for 1d6 hours. TL9. Cr25,000

**Neural Comm:** A neural comm has identical capacities to a standard comm, but the cost is much higher and the TL is increased by 2. For example, an audio-only comm costs 250 Credits and is TL 10. A character can access the capabilities of a neural comm by thought alone but must still make any relevant skill checks and must still speak aloud to send audio messages. TL 10.

TL 10 Audio only Cr1,000  
TL 12 Audio and visual, Computer/0 Cr5,000  
TL 14 Multiple forms of data, Computer/1 Cr20,000

**Neural Lace:** A Neural Lace is a computer system that is grown into the head of its user, with virtually invisible wires. Someone with a neural lace can use expert programs for tasks relying on Intelligence or Education only. The main benefit of the lace is that it is much smaller and more discrete than a chip jack or hand computer, and the user can access the expert program by thought alone. A neural lace is a Computer/3 (Computer/5 at TL 14) and can only run expert programs. It is always running Intelligent Interface at no cost. TL 13. Cr20,000. (Cr25,000 at TL 14.)

**Physical Characteristic Enhancement:** A person's Endurance, Strength or Dexterity can be increased in various ways, from replacing limbs with mechanical versions, motor neurons with faster synthetic cells, to reinforcing bones and replacing organs with tougher printed clones. Enhancements must be purchased for each characteristic separately.

TL 11 Characteristic +1 Cr500,000  
TL 12 Characteristic +2 Cr1,000,000  
TL 15 Characteristic +3 Cr5,000,000

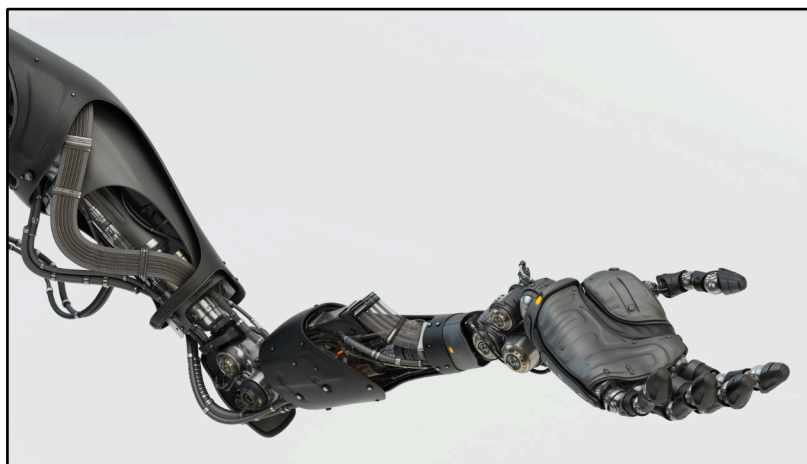
**Sensoria AI:** An AI assistant that gives +1 to Investigate, and Recon skill rolls. Works by helping to collate, and sift through sensory data, recognizing patterns. TL 13. Cr105,000

**Skill Augmentation:** The character's nervous system is rewired to be more suited to a particular task. A pilot might have his reflexes and sense of balance improved; a broker might be made capable of controlling their pupil responses and smelling the pheromones and skin salinity of the other party. A skill augmentation gives the character a +1 DM when using that skill. TL 12. Cr50,000. A character can only have one skill augmentation and must possess that skill at level 0 to benefit from the augmentation.

**Smuggling Container:** Using a trigger that looks like a blemish or scar to open, the pocket can hold roughly 10 pounds of weight and nothing larger than eight inches in diameter. TL9. Costs Cr15,000 with an Availability of 11+ (due to its illegality). It would take a Life Sciences or Investigate throw 10+ to discover the container when closed.

**Subdermal Armor:** Nano-tech adds a mesh of ballistic fibers to the skin and reinforces the bones, giving the character extra armor. Subdermal armor stacks with other protection.

TL 10 Armor 1 Cr25,000  
TL 12 Armor 2 Cr50,000  
TL 14 Armor 3 Cr100,000



**Weapon Implant:** Opening in two halves, from between the middle and ring fingers to the elbow, the implant hides a small weapon that is shielded from most scanners (TL12 and lower). The weapon is modified in structure to fit in the implant and operates on nervous impulse, but is otherwise the same as its common counterpart,

including the tech level of the weapon. TL10.

Hidden Weapon  
Dagger Cr5,000  
Stunstick Cr10,000  
Autopistol Cr12,000  
Laser Pistol Cr25,000

**Organics:** Almost anything that can be done with machines can be done with organic technology at +3 TL's, and double the cost. However, the effect could be strange and terrible, roll 9+ to lose one point of Social Standing, though gain a level of Persuade for the intimidation factor.

Devices	TL	kg	Cr
Magnetic Compass	3	-	10
Wrist Watch	4	-	100
Geiger Counter	5	1	250
Metal Detector	6	1	300
Hand Calculator	7	0.1	10
Spider Paws	8	-	100
Inertial Locator	9	1.5	1,200
Electromagnetic Probe	10	-	1,000
Hand Computer	11	0.5	1,000
Holographic Projector	11	1	1,000
Densitometer	14	5	20,000
Bioscanner	15	3.5	350,000
Neural Activity Sensor	15	10	35,000

*Magnetic Compass:* Indicates direction of magnetic north, if any exists. TL 3. Cr10.

*Wrist Watch:* Allows the user to tell time. At tech level 9, can be configured to multiple worlds, as well as standard time, and allows the user to configure alarms based on specific times. TL 4. Cr100.

*Geiger Counter:* Indicates presence and intensity of radioactivity within a 30-meter radius. The indicating signal will grow stronger as it gets closer to the source. The Sensors skill is not needed to detect the presence of radiation with a Geiger counter but anything more complex than that requires a check. TL 5. Cr250

*Metal Detector:* Backpack size with a large two-handed probe, and disk. Indicates presence of metal within a 3 meter radius (including underground), with the indicating signal growing stronger as it gets closer to the source. At higher tech levels, it comes as a simple wand, to pass over a person, or item. Also at TL 7 and above, security checkpoints, such as at an airport will have larger models one walks through, these can also be installed on spacecraft. TL 6+. Cr300.

*Hand Calculator:* Allows the user to perform mathematical calculations quickly. TL 7. Cr10.

*Spider Paws:* Sticky feet on the soles of shoes or boots that allow the user to walk normally on a spacecraft or another Zero G environment without artificial gravity. Can be slip on over socks, or spray on in a can also. TL 8. Cr100

*Inertial Locator:* Indicates direction and distance traveled from the starting location. TL 9. Cr1,200.

*Electromagnetic Probe:* This handy device detects the electromagnetic emissions of technological devices, and can be used as a diagnostic tool when examining equipment (+1 DM to work out what's wrong with it) or when searching for hidden bugs or devices. The Comms/Sensors or Investigation skills can be used to sweep a room for bugs. TL 10. Cr1000.

*Hand Computer:* The 'handcomp' provides services of a small computer, plus serves as a computer terminal when linked (by its integral radio, network interface jack, or by other circuit) to a standard computer. TL 11. Cr1,000.

*Holographic Projector:* A holographic projector is a toaster-sized box that, when activated, creates a three-dimensional image in the space around it or nearby – the range is approximately three meters in all directions. The image can be given pre-programmed animations within a limited range and the projector includes speakers for making sound. The projected holograms are obviously not real so this device is mostly used for communication. The TL 12 version can produce holograms real enough to fool anyone who fails an Intelligence check (made upon first seeing the hologram), at double the cost, and the TL 13 version can produce holograms that are true-to-life images, at ten times the cost. TL 11. Cr1,000.

*Densitometer:* The remote densitometer uses an object's mass to measure its density, building up a three-dimensional image of the inside and outside of an object. TL 14. 5 kg. Cr20,000.

*Bioscanner:* The bioscanner 'sniffs' for organic molecules and tests chemical samples, analyzing the make-up of whatever it is focused on. It can be used to detect poisons or bacteria, analyze organic matter, search for life signs and classify unfamiliar organisms. The data from a bioscanner can be interpreted using the Comms/Sensors or the Life Sciences (biology) skills. TL 15. 3.5 kg. Cr350,000.

*Neural Activity Sensor (NAS):* This device consists of a backpack and detachable handheld unit, and can detect neural activity up to 500 meters away. The device can also give a rough estimation of the intelligence level of organisms based on brainwave patterns. The data from a neural activity scanner can be interpreted using the Comms/Sensors, the Life Sciences (biology) or the Social Sciences (sophontology) skills. TL 15. 10 kg. Cr35,000.

Drugs	TL	Cr
Medicinal Drugs	5	5+
Anti-Radiation Drugs	8	1,000
Panaceas	8	200
Stim Drugs	8	50
Clotting Aid	9	200
Nervous Response Dampeners	9	100
Adrenalizer	10	150
Combat Drug	10	1,000
Fast Drug	10	200
Metabolic Accelerator	10	500
Meta-Performance Enhancer	10	600
Medicinal Slow Drug	11	500
Starlight Drops	12	500
Anagathics	15	2,000

**Medicinal Drugs:** Includes vaccines, antitoxins and antibiotics. They range in price from Cr5 to 1D6x1,000 credits, depending on the rarity and complexity of the drug. Medicinal drugs require the Medic skill to use properly – using the wrong drug can be worse than doing nothing. With a successful Medic check the correct drug can counteract most poisons or diseases, or at the very least give a positive DM towards resisting them. If the wrong drug is administered, treat it as a Difficult (–2 DM) poison with a damage of 1d6. TL 5+.

**Panaceas:** Wide-spectrum medicinal drugs that are specifically designed not to interact harmfully. They can therefore be used on any wound or illness and are guaranteed not to make things worse. A character using panaceas may make a Medic check as if he had Medic 0 when treating an infection or disease. TL 8+. Panaceas cost 200 credits per dose.

**Anti-rad drugs:** It must be administered before or immediately after (within ten minutes) radiation exposure. They absorb up to 100 rads per dose. A character may only use anti-rad drugs once per day – taking any more causes permanent Endurance damage of 1d6 per dose. TL 8. Cr1,000 per dose.

**Stim drugs:** To remove fatigue, at a cost. A character who uses stim may remove the effects of fatigue but suffers one point of damage. If stims are used to remove fatigue again without an intervening period of sleep, the character suffers two points of damage the second time, three points the third time, and so on. TL 8. Stims cost 50 credits per dose.

**Clotting Aid:** Someone currently on a daily dosage of clotting aids will give a +1 DM to other people's Medic

throws to treat them. TL 9. Cr200 per 30 day bottle.

**Nervous Response Dampeners:** Taken a few hours before battle, the dampeners last for a day or so, granting the user a bonus point of Morale for 2d6 x 3 hours. TL9. Cr100 per dose.

**Adrenalizer:** One dose of the drug is the equivalent of ten hours of sleep, after which the user will have 2d6 x 5 minutes to find someplace to lay down – because the lost amount of sleep will hit him without fail at the end of that time. TL10. Cr150 per dose.

**Metabolic accelerator ('Slow Drug'):** Boosts the user's reaction time to superhuman levels. A character using slow drug in combat adds +8 to their initiative total at the start of combat (or whenever the drug takes effect). They may also dodge up to twice each round with no effect on their initiative score. The drug kicks in 45 seconds (eight rounds) after ingestion or injection and lasts for around ten minutes. When the drug wears off, the user's system crashes. They suffer 2d6 points of damage and are exhausted. TL 10. Metabolic accelerator costs 500 credits per dose.

**Combat Drug:** This drug increases reaction time and improves the body's ability to cope with trauma, aiding the user in combat. A character using a combat drug adds +4 to their initiative total at the start of combat (or whenever the drug takes effect). They may also dodge once each round with no effect on their initiative score and reduces all damage suffered by two points. The drug kicks in twenty seconds (four rounds) after injection, and lasts around ten minutes. When the drug wears off, the user is fatigued. TL 10. Combat drugs cost 1,000 credits per dose.

**Fast Drug ('Hibernation'):** Puts the user into a state akin to suspended animation, slowing his metabolic rate down to a ratio of 60 to 1 – a subjective day for the user is actually two months. Fast drug is normally used to prolong life support reserves or as a cheap substitute for a cryoberth. TL 10. Fast drug costs 200 credits per dose.

**Meta-Performance Enhancer ('Titan Drug'):** The drug kicks in 60 seconds after injection, and lasts for around fifteen minutes, adding 6 to the user's strength (up to a maximum total strength of 16 for a human). When the drug wears off, the user's muscles cramp painfully under the stress and fatigue. He suffers 1d6 points of damage and is instantly enfeebled (Str of 5 for 1d6 hours). Meta-Performance Enhancer costs 600 credits per dose. TL10.

**Medicinal Slow:** A variant of the slow drug. It can only be applied safely in a medical facility where life-support and cryo technology is available as it increases the metabolism to around thirty times normal, allowing a patient to undergo a month of healing in a single day. Medicinal slow costs 500 credits per dose. TL 11.

**Starlight Drops:** In darkness or near-dark environments, any DM penalty is negated, as the character can see perfectly well. The effects of the drug last for 1d6 hours, during which time the user's eyes look silvery and cloudy. A dropper bottle of starlight drops carries 6 doses (12 eyes). TL12, Cr500.

**Anagathics:** It slows the user's aging process. Synthetic anagathics become possible at TL 15, but there are natural spices and other rare compounds that have comparable effects at all Technology Levels. They cost 2,000 Credits per dose. One dose must be taken each month to maintain the anti-aging effect – if someone taking anagathics misses a dose they must make an immediate roll on the aging table as their body reacts badly to the interrupted supply. TL 15.

In the core systems, and high tech systems beyond, anagathic usage is almost universal, starting in their mid twenties, and it is also paid for by the government through public healthcare. Even without it, people age slower due to better genetics, for gene tailoring towards youth, and of course diet, exercise, all that. When they reach physical age fifty, which in real time nearer one hundred, they go back to a clinic for rejuvenation.

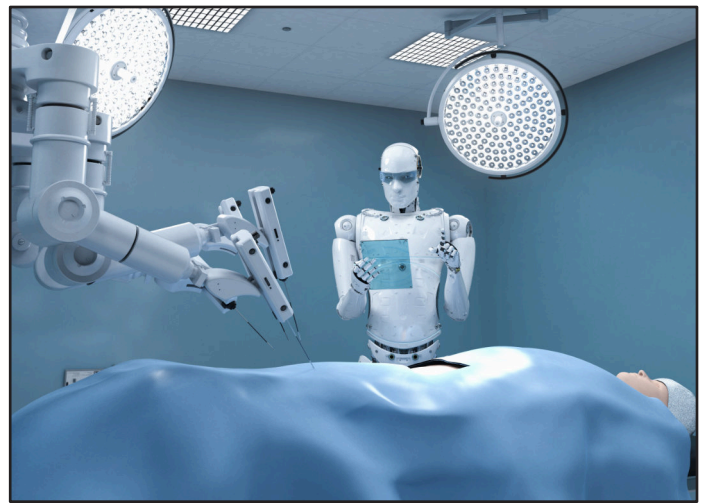
This can't lead to overpopulation, which some in the past feared it would, as even though the Earth itself has a voluntary population limit, the number of habitats in the golden seconds is growing all the time. For most it is exactly where they do want to live, not down on a planet.

### Medical Care

**Healing:** An injured character who needs hospital care for a prolonged period will pay approximately 100 credits per month per Technology Level. (At TL 11+ the doctors will just use medicinal slow in most cases and charge for that instead.) Surgery costs 1d6 x 50 x Technology Level in Credits.

**Replacements:** A character whose injuries require cloning limbs or cybernetic replacement must pay 5,000 credits per Characteristic point.

Both represent ancillary costs vs direct care costs, which are usually paid for by a public fund for organized health defense.



The attending physician, nurse, or surgeon will use an autodoc for any actual procedures if need be, as it is one of the primary medical tools available. Autodoc prices are artificially lowered, so as to make them an affordable tool, so as most frontier clinics will have one, as will a spacecraft's infirmary.

The Scouts run a medical program that people have nicknamed "Medship" with medical scout ships fanning out across space, even beyond the borders of the Human continuum. They look for all, and they help all, the ships have a doctor, autodoc, medicines, everything to gather information for the increase of knowledge, as well as to stave off epidemics and such. Their unofficial motto is "For the Good of All" and are treated as a neutral force, not to be molested by anyone, for any reason.

### Medical Supplies

**Adhesive Bandages:** The use of adhesive bandages while using the Medical skill to perform first aid gives a +1 DM to the skill roll. At TL6 the cost is Cr10 for a three-use tube.

TL8: Cr50 for a five use spray.

TL10: Cr75 for a ten use roll-on.

TL12: Cr100 for twenty use applicator wand.

TL14: Cr500 for a hundred use gelling gun.

**Cryoberth:** A cryoberth, or 'icebox', is a coffin-like machine similar to the low or frozen berths used on some spacecraft. A cryoberth can be used to place a severely injured character into stasis until he receives medical treatment. While in a cryoberth, a character's wounds neither heal nor degrade and all disease and poison activity is halted. A cryoberth's internal power system can function for up to one week on its own, but a berth is usually connected to a vehicle's power supply. TL 10. 200 kg. Cr50,000.



**Medichines:** Somewhere between a device or a drug, medichines are nano-sized robots, stored in an implanted medical port, that has diagnostic and care capabilities programmed into it, and controlled from an external source such as diagnostic tool; encrypted so as to not be hacked. Medichines can help keep someone in normal health, and act as emergency trauma care similar to how a medikit operates, adding 1d6 points back to physical characteristics after injury or even death. Roll 8+ after injury or death, and adding +1 for every two TL's above 10 (+1 at TL 12, +2 at TL 14, etc.). Success add 1d6 points plus effect back to characteristics, spread however the user decides, thus avoiding death, or even helping to revive the unconscious. TL 10+. Cr20,000.

**Medkit:** There are different types of medkit available at different Technology Levels. All medikits contain diagnostic devices and scanners, surgical tools and a panoply of drugs and antibiotics, allowing a medic to practice their art in the field. Higher-technology medkits give a bonus to basic treatment, and help with more exotic problems or when treating augmented individuals. For example, a TL 8 medkit can test blood pressure and temperature (among other things); a TL 14 kit has a medical densitometer to create a three-dimensional view of the patient's body and can scan brain activity on the quantum level. All medkits weigh 3 kg.

Medkits are needed to use medical skill, and make a first aid check, or trauma care. Without a medical kit, checks are made at -1.

TL 8: Cr1,000. +0 DM  
 TL 10: Cr1,500. +1 DM  
 TL 12: Cr5,000. +2 DM  
 TL 14: Cr10,000. +3 DM

**Trauma Pack:** The use of a trauma pack requires a Medic throw 8+, but will give a wounded character back a temporary 1d6 Endurance. This Endurance can be used to bring a technically 'dead' character back from 0 or less Endurance (so long as the new total is above 0), so long as they suffered their last wound within 30 minutes. This regained Endurance lasts for 1d6 hours – at which point it vanishes, potentially killing them. A character can only benefit from one administration of a trauma pack per day. It is usable in conjunction with a medkit. Higher technological versions of the trauma pack are not any more efficient, merely lighter. The TL8 trauma pack weighs 2 kg, has an Availability of 9+, and costs Cr750.

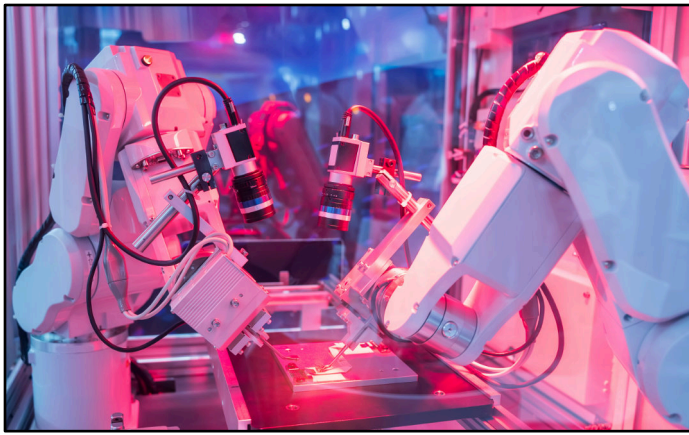
TL10: Weight: 1 kg., Cr1,500.  
 TL12: Weight: 0.5 kg., Cr3,500.  
 TL14: Negligible Weight, Cr7,500.

## Robots and Drones

By the 23rd century robots and drones have become a ubiquitous part of human society. It would be difficult to describe to someone labor without involving a robot. A robot has an Intellect program running, allowing it to make decisions independently, while drones are remote-controlled by a character with the Remote Operations skill. Some combine both for control by a person, and autonomous behavior.

Robots and drones operate in combat like characters but take damage as if they were vehicles. They have Hull and Structure characteristics instead of an Endurance characteristic, and an Endurance DM of 0. Any robot running an Intellect program has an Intelligence and Education score. Drones have neither. A robot's Education characteristic is representative of the information programmed into it and even low-end robots can have high Education scores. Most robots have Social Standing characteristics of 0 as they are not social creations but there are some exceptions, usually high-end models running advanced Intellect programs. Drones do not have Social Standing but in cases where they are used to engage in diplomacy or other social intercourse the operator can use their own Social Standing score.

<u>Robot</u>	<u>TL</u>	<u>kg</u>	<u>Cr</u>
Add. Manufacturing Sta.	12	1,000	100,000
Autodoc	12	250	40,000
Cargo Arm	11	500	50,000
Cargo Robot	11	2,000	75,000
Combat Drone	12	150	90,000
Dumbot	9	75	40,000
Killdozer	11	10,000	100,000
Loader Robot	9	125	80,000
Loitering Munition	8	25	35,000
Manipulator Arm			
Str. 6 Dex. 4	5	25	80,000
Str. 12 Dex. 8	8	50	180,000
Str. 18 Dex. 12	11	75	280,000
Str. 24 Dex. 16	14	100	380,000
Medic Robot	12	125	60,000
Minesweeper Drone	10	150	95,000
Personal Drone	11	3	2,000
Probe Drone	11	25	15,000
Recon Drone	9	50	200,000
Repair Robot	11	60	10,000
Servitor	13	80	120,000
Spotter Drone	10	5	12,000



**Additive Manufacturing Station:** An additive manufacturing station is able to print and assemble items such as parts for vehicles, or even weapons such as an assault rifle, can also switch to an electronics or engineering program +3 DM on the manufacture, or remanufacture of items. It will need raw materials, "raws" of approximately 20% of the value of what is being made. Limited by needing detailed plans for manufacturing items, can sometimes reverse engineer items. Immobile, requires 4 tons of space. TL 12.

Strength 8 (+0), Dexterity 12 (+2), Hull 2,  
Structure 2  
Intelligence 6 (+0), Education 8 (+0), Social  
Standing 0 (-3)  
Traits: Integral System (TL 12 toolkit),  
Specialized Model 3 computer (running  
Intellect/1 and Mechanical/2)  
Weapons: Tools (Plasma Cutter, 2d6 damage)  
Price: Cr 100,000

**Autodoc:** An autodoc is a specialized, immobile medical robot, which is normally seen in all hospitals, and clinics shortly after their introduction, they are also often installed inside vehicles or spacecraft. TL 12.

Strength 6 (+0), Dexterity 15 (+3), Hull 1,  
Structure 1  
Intelligence 9 (+1), Education 12 (+2), Social  
Standing 0 (-3)  
Traits: Integral System (TL 12 medkit),  
Specialized Model 1 computer (running  
Intellect/1 and Medical/2)  
Weapons: Surgical Tools (Slashing Weapons, 1d6  
damage)  
Price: Cr40,000

**Cargo Arm:** This is a stationary heavy-duty manipulator arm used for lifting cargo in confined spaces. Often installed in spacecraft and other vehicles to allow for self-loading capabilities. TL 11.

Strength 30 (+8), Dexterity 6 (+0), Hull 1,  
Structure 1

Intelligence 3 (-1), Education 0 (-3), Social  
Standing 0 (-3)  
Traits: Huge, Specialized Computer/1 (running  
Intellect/1 and Expert (appropriate skill)/1)  
Weapons: Crushing Strength (Natural Weapons,  
3d6 damage)  
Price: Cr50,000

**Cargo Robot:** These simple, heavy-duty robots are found in starport docks and on board cargo ships. Cargo drones can be constructed as low as Technology Level 9 but their utility is extremely limited until the invention of Intellect programs, generally a piloted exoskeleton. TL 11.

Strength 30 (+8), Dexterity 9 (+1), Hull 2,  
Structure 2  
Intelligence 3 (-1), Education 5 (-1), Social  
Standing 0 (-3)  
Traits: Armor 8, Huge, Specialized Computer/1  
(running Intellect/1 and Expert (appropriate  
skill)/1)  
Weapons: Crushing Strength (Natural Weapons,  
3d6 damage)  
Price: Cr75,000

**Combat Drone:** Combat drones are little more than flying guns mated to a tracked chassis and a computer system. The drones must be piloted with the Remote Operations skill but attacks are made using the appropriate weapon skill. Combat drones loaded with Intellect and combat Expert programs (making them autonomous combat robots) are illegal on many worlds. TL 12.

Strength 12 (+2), Dexterity 10 (+1), Hull 4,  
Structure 4  
Traits: Armor 9, Integral System (tracked),  
Integral Weapon (any)  
Weapons: Any gun  
Price: Cr90,000 plus the cost of the weapon (the  
Integral Weapon upgrade is included)

**Dumbot:** A humanoid robot that is capable of common tasks, such as vacuuming. TL9.

Strength 7 (+0), Dexterity 7 (+0), Hull 2, Structure 2  
Intelligence 5 (-1), Education 5 (-1), Social  
Standing 0 (-3)  
Traits: Specialized Computer/1 (running  
Intellect/1 and Expert (appropriate skill)/1)  
Weapons: Robot Punch (Natural Weapons, 1d6  
damage)  
Price: Cr40,000

**Heavy Equipment Robot:** Nicknamed a "Killdozer" these simple, heavy-duty robots are found on construction sites everywhere. Drone models can be constructed as low as Technology Level 9 but their utility is extremely limited until the invention of Intellect programs, generally a remote piloted bulldozer. When a new building or settlement is planned, often companies will move a large amount of equipment to the site, sometimes new star systems, and set up and build a town with few individuals present, as the construction robots will be programmed with the plans ahead of time, and people there just to inspect their work, or problem solve.

Various packages have different setups, such as a backhoe's bucket, bulldozer's blade, cranes from simple boom trucks that lift 20 tons (Cr200,000), even up to giant cranes that can lift over 2,000 tons (Cr2,000,000), and excavators of all sizes. TL 11.

Strength 30 (+8), Dexterity 9 (+1), Hull 4, Structure 4  
 Intelligence 3 (-1), Education 5 (-1), Social Standing 0 (-3)  
 Traits: Armor 5, Huge, Integral System (tracked), Specialized Computer/1 (running Intellect/1 and Expert (appropriate skill)/1)  
 Weapons: Crushing Strength (Natural Weapons, 3d6 damage)  
 Price: Cr100,000

**Loader Robot:** A humanoid robot that has Heavy Weapons or Gunnery 1. By treaty and convention autonomous weapons are considered illegal, however some have simply armed a loader bot and used it as a robotic weapons system. TL9.

Strength 9 (+1), Dexterity 7 (+0), Hull 3, Structure 3  
 Intelligence 5 (-1), Education 5 (-1), Social Standing 0 (-3)  
 Traits: Armor 8, Specialized Computer/1 (running Intellect/1 and Expert (appropriate skill)/1)  
 Weapons: Robot Punch (Natural Weapons, 1d6 damage)  
 Price: Cr80,000

**Loitering Munition:** Also known as a suicide drone, kamikaze drone, or exploding drone; is a kind of aerial weapon with a built-in munition (warhead), which can loiter (wait passively) around the target area until a target is located; it then attacks the target by crashing into it. Operator roll a to hit 8+, or drone can attack autonomously at 9+1 (Dex). TL 8.

Strength 3 (-1), Dexterity 9 (+1), Hull 2, Structure 2  
 Traits: Armor 5, Integral System (aero-fans, or thruster pack), Integral Weapon (any)  
 Weapons: Tac Missile Warhead 9d6

Price: Cr35,000

**Manipulator Arms:** Robot appendages with claws or hands. Sometimes mounted, such as in a kitchen, other times on a tracked or wheeled chassis for mobility. Manipulator arms vary in Strength and Dexterity. Arms have a Str of 2 and a Dex of 1, with a cost of 10,000 Cr. Increasing Str or Dex costs 5,000 Cr. per point, to the maximum indicated in the table below.

<u>TL</u>	<u>Max. Str</u>	<u>Max. Dex</u>
5	6	4
8	12	8
11	18	12
14	24	16

**Typical—**  
 Helper Arm  
 Strength 7 (+0), Dexterity 7 (+0), Hull 1, Structure 1  
 Intelligence 5 (-1), Education 5 (-1), Social Standing 0 (-3)  
 Traits: Integral System (tracked), Specialized Computer/2 (running Intellect/1 and Expert (appropriate skill)/1)  
 Weapons: Robot Punch (Natural Weapons, 1d6 damage)  
 Price: Cr20,000

**Medic Robot:** Medic Robots are humanoid robots who are programmed to act as medics. Generally they will preform triage, and then evacuate the patient after any emergency trauma care. TL 12.

Strength 12(+2), Dexterity 9 (+1), Hull 2, Structure 2  
 Intelligence 9 (+1), Education 8 (+0), Social Standing 6 (+0)  
 Traits: Armor 5, Computer/2 (running Intellect/1 and Expert Medical/1)  
 Weapons: Robot Punch (Natural Weapons, 1d6 damage)  
 Price: Cr60,000

**Minesweeper Drone:** The drone has Electronics 2 for the purposes of finding landmines, and it has tools that can disarm a pressure or trip-based mine safely on a basic throw of 8+3 (Skill and Dex). TL10.

Strength 6 (+0), Dexterity 9 (+1), Hull 2, Structure 2  
 Intelligence 6 (+0), Education 7 (+0), Social Standing 0 (-3)  
 Traits: Armor 4, Specialized Computer/2 (running Intellect/1 and Expert (appropriate skill)/2)  
 Weapons: Tools (Natural Weapons, 1d6 damage)  
 Price: Cr95,000

*Personal Drone:* This is a small flying drone about thirty centimeters in across. It is equipped with holographic projectors which can display the image of a person, allowing a character to have a virtual presence over a great distance. TL 11.

Strength 2 (–2), Dexterity 7 (+0), Hull 1, Structure 1  
Traits: Tiny, Integral System (comm, audio/visual), Integral System (aero-fans, or legs), Integral System (TL 11 holographic projector)  
Price: Cr2,000

*Probe Drone:* A probe drone is a hardened version of a personal remote, armored and carrying more sensor packages. They have an operating range of five hundred kilometers, and can fly at a speed of 300 kph. Often chosen for a suicide drone. TL 11.

Strength 3 (–1), Dexterity 7 (+0), Hull 3, Structure 3  
Traits: Armor 5, Integral System (comm, audio/visual), Integral System (aero-fans, or thruster pack), Integral System (TL 11 holographic projector), Integral System (every sensor available at TL 11 and below)  
Price: Cr15,000

*Recon Drone:* They can be fitted with up to three additional types of sensor packages for the appropriate cost, and can be remote-linked to a battle computer (see communications) or other monitors. Remote drones also come with two hardpoints where pistols or rifles could be mounted and fired by remote control as well. TL9.

Strength 2 (–2), Dexterity 12 (+2), Hull 4, Structure 4  
Traits: Armor 9, Integral System (aero-fans, or thruster pack), Integral Weapon (any)  
Weapons: Any gun  
Price: Cr200,000 plus the cost of the weapon (the Integral Weapon upgrade is included)

*Repair Robot:* Shipboard repair robots are small crab-shaped machines that carry a variety of welding and cutting tools. Specialized repair robots may run Expert Engineering rather than Expert Mechanic. TL 11.

Strength 6 (+0), Dexterity 7 (+0), Hull 1, Structure 1  
Intelligence 5 (–1), Education 6 (+0), Social Standing 0 (–3)  
Traits: Integral System (mechanical toolkit), Specialized Model 1 computer (running Intellect/1 and Expert Mechanics/2)  
Weapons: Tools (Natural Weapons, 1d6 damage)  
Price: Cr10,000

*Servitor:* Servitor robots are expensive humanoid robots who are programmed to act as butlers or servants to the wealthy. Some servitor owners reprogram their robots with Expert Carousing or Expert Gambling to better suit their lifestyle. TL 13.

Strength 7 (+0), Dexterity 9 (+1), Hull 2, Structure 2  
Intelligence 9 (+1), Education 12 (+2), Social Standing 7 (+0)  
Traits: Computer/3 (running Intellect/1 and Expert Steward/2 – servitors also have Expert Liaison/2 and Translator/1 available should they be necessary)  
Weapons: Robot Punch (Natural Weapons, 1d6 damage)  
Price: Cr120,000

*Spotter Drone:* The small spheroid zooms out to where the artillery needs to fire, spends 1–6 minor actions holding a laser designator on the potential target, and waits for the attack. This requires the drone's operator to pass a throw 9+, but will add a +4 DM to the designated artillery team's next attack roll when shooting at the target. TL10.

Strength 2 (–2), Dexterity 7 (+0), Hull 1, Structure 1  
Traits: Tiny, Integral System (comm, audio/visual), Integral System (aero-fans, or legs), Integral System (TL 11 holographic projector)  
Price: Cr12,000

### Options

*Armor:* Armor can be increased by 5, which increases the drone or robot's cost by 25%.

*Integral System:* Certain devices can be built into drones or robots by increasing the cost of the device by +50%. Popular choices include toolkits of different kinds, various sensors, or mobility upgrades like thruster packs.

*Integral Weapon:* Any suitable weapon can be added to a drone or robot, at the cost of Cr10,000 + the cost of the weapon.

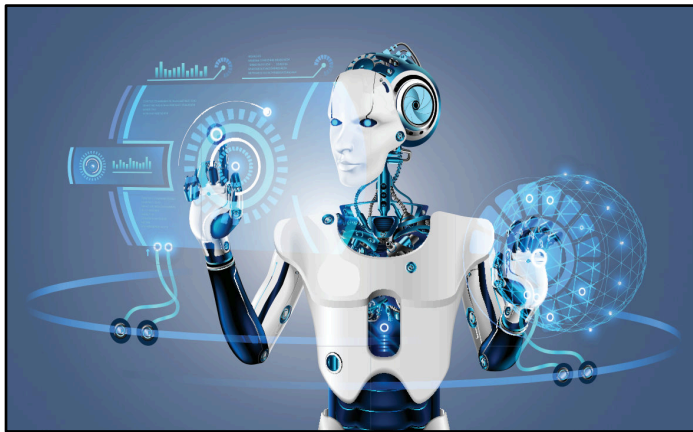
*Self-Destruct:* Explodes as per a frag grenade with a 5 meter radius when directed to do so with a Remote Operations throw 9+, but increases the drone's cost by 25%. The high cost is to protect the drone from accidental or enemy self-destruct activation.

*Advanced Controls (TL 8):* This is usually advanced drive-by-wire systems with heads-up displays. Costs Cr10,000 plus 10% of Base Cost. Adds +1 to Agility.



**Robot Brains:** Can be added to any vehicle with Advanced Controls or better. The cost of the Robot Brain includes are required support structures to be added into the unit. The brain is powered by the unit, and uses non-volatile memory to store its essential core programming should it ever lose power.

CPU	TL	Computer Power	Skill Level	INT	EDU	Cost (Cr.)
Linear	9	Computer/1	1	2	6	22,500
Parallel	11	Computer/2	2	6	8	40,000
Synaptic	13	Computer/3	3	10	12	90,000



Sensors	TL	kg	Price (Cr)
Torch	1	0.25	1
Candle, Wax	2	–	1
Lamp Oil	2	–	2
Oil Lamp	2	0.5	10
Binoculars	3	1	75
Electric Torch	5	0.5	10
Cold Light Lantern	6	0.25	20
Infrared Goggles	6	–	500
Light Intensifier Goggles	7	–	500
Motion Sensor	7	0.25	500

Sensor equipment does not offer a bonus to skill checks but allows the user to find things that they would otherwise not be able to. At TL 11 sensors become notably more discriminating because they can be hooked up to a system running Intellect/1 that can dynamically filter information based on pre-set parameters – not sounding the alarm if the motion sensor picks up anything too small to be an intruder, for example.

**Torch:** A torch burns for 1 hour, clearly illuminating a 6 meter radius and providing shadowy illumination out to a 12 meter radius. Used to burn something it causes 1d6 damage per round.

**Candle, Wax:** From the medieval times forward, wax

candles burned cleanly with beeswax, unlike tallow candles, that are sooty. However, in the beginning they were expensive, and those of more modest means, used oil lamps.

**Oil Lamp:** A lamp clearly illuminates a 4.5 meter radius, provides shadowy illumination out to a 9 meter radius, and burns for 6 hours on a pint of oil. You can carry a lamp in one hand.

**Binoculars:** Allows the user to see further. 1 kg, Cr. 75. At TL 8 electronic enhancement allows images to be captured; light-intensification allows them to be used in the dark. Cr750. At TL 12 PRIS (Portable Radiation Imaging System) allows the user to observe a large section of the EM-spectrum, from infrared to gamma rays. Cr3,500.

**Electric Torch:** The common flashlight. It is battery powered and will last for about 6 hours of continuous use. A torch produces a wide cone of light up to 18 meters long with a radius of 6 meters at the end of the beam. Later TL models have adjustable beams allowing them to also produce a tight beam of light up to 36 meters long, with a 1 meter radius, or be used to illuminate a circle of 10 meter radius.

**Cold Light Lantern:** A fuel cell powered version of the electric torch, but will last 3 days with continuous use. Produces a wide cone of light up to 18 meters away with a radius of 6 meters at the end of the beam. Also capable of producing a tight beam of light up to 36 meters away with a 1 meter radius or be used to illuminate a 10 meter radius.

**IR Goggles:** Permits the user to see exothermic (heat-emitting) sources in the dark. Cr500.

**Light-Intensifying Goggles:** Permits the user to see normally in anything less than total darkness by electronically intensifying any available light. Cr500.

At TL 9, IR goggles and light-intensifying goggles can be combined into a single unit often called “LI/IR Goggles” costing Cr1,250.

**Motion Sensor:** Using simple radar, the motion sensor simply detects any and all movement within the area assigned to it. It cannot differentiate between kinds of movement, it just reports whether there is movement or not in an area roughly six meters in diameter. Cr500. At TL 9 the motion detector can report the general qualities of motion – size, speed and duration – but no more. Cr1,000. The Sensors skill is not required to use a motion detector to detect motion. When trying to interpret data from a TL 9 motion sensor, the Sensors skill may need to be checked.

Shelters	TL	kg	Price (Cr)
Tarpaulin	1	2	10
Tent	2	3	200
Pre-Fabricated Cabin	6	4,000	10,000
Basic Life Support Supplies	7	2	100
Pressure Tent	7	25	2,000
Advanced Base	8	6,000	20,000

**Tarpaulin:** A heavy hard-wearing waterproof fabric made of canvas or similar, for outdoor use as a temporary shelter or protective covering against moisture. Measures 4 meters long by 2 meters wide.

**Tent:** Basic shelter for two persons offering protection from precipitation, storms, and temperatures down to 0° Celsius, and withstanding light to moderate winds. Larger, more elaborate tents capable of sheltering more people, higher winds or colder temperatures weigh and cost more. The basic tent provides shelter for two people against the weather, reducing skill check penalties by 2. Cr200. The TL 7 tent can be pressurized. There is no airlock – the tent is depressurized when opened. Cr2,000.

**Pre-Fabricated Cabin:** A modular, unpressurized quarters for six people, capable of withstanding anything less than hurricane-force winds. Offers excellent shelter from precipitation, storms, and temperatures down to -10° Celsius. Includes survival rations and enough batteries to keep the lights on and the heaters (or air conditioning) running for a week. Requires 12 single person hours to assemble, and can be attached to other modules to form a base. There are 16 modules, each, 1.5m wide by 1.5m long by 2m high that can be organized into any layout required. Dismantled and ready for shipment, the cabin weighs 4 tons. Cr10,000.

**Basic Life Support Supplies:** Basic life support supplies (waste reclamation chemicals, oxygen supply, CO2 scrubbers, etc.) necessary to support one person for one day in an enclosed, pressurized environment, such as a pressure tent or an advanced base.

**Advanced Base:** The TL 8 Advanced Base module is similar to the prefabricated cabin plus it is pressurized, and includes life-support for six occupants for one week (1000 person/hours). Mass 6 tons. Cr20,000.

## Options

**Self-Assembling:** The self-assembling upgrade can be given to tents, habitat modules and other basic structures. The structure is capable of expanding and

assembling itself with only minimal aid, reducing the time needed to set up the shelter to a single man-hour. TL 11. Cr5,000.

**Self-Sealing:** Structures can be made self-repairing and self-sealing at TL 13 for Cr2,000. Small breaches and rips are automatically fixed in seconds.

Survival Equipment	TL	kg	Price (Cr)
Cold Weather Clothing	1	2	200
Filter Mask	3	—	10
Swimming Equipment	3	1	200
Combination Mask	5	—	150
Oxygen Tanks	5	5	500
Respirator	5	—	100
Underwater Air Tanks	5	5	800
Rebreather	6	10	250
Artificial Gill	8	4	4,000
Environment Suit	8	—	500
Rescue Bubble	9	3	600
Thruster Pack	9	5	2,000
Portable Generator	10	15	500,000

**Cold Weather Clothing:** Protects against frigid weather (-20° Celsius or below). Adds a DM+2 to all Endurance checks made to resist the effects of cold weather exposure. Reduce the weight by 1kg for every 5 Tech Levels. TL 1.

**Filter Mask:** A filter set that allows an individual to breathe tainted atmospheres (types 4, 7, and 9). Also protects against the inhalation of heavy smoke or dust. TL 7. Cr100. The TL 10 filter is small enough to fit into the nose, or can even be a lung implant for 3 x cost. Cr2,000.

**Swimming Equipment:** Includes swim fins, wet suit, face mask. Protects against the effects of cold (5° Celsius or below), along with improving speed and maneuverability underwater; add DM +1 to all Athletics skill checks in these situations when wearing proper swimming equipment. TL 3.

**Combination Mask:** A TL 5 combination of both filter mask and respirator, which allows breathing of very thin, tainted atmospheres (type 2), plus all atmospheres listed under filter and respirator masks. Breather Mask (TL 8): Combines the filter and respirator into a single package. Cr150.



**Oxygen Tanks:** Also called an SCBA for “self-contained breathing apparatus” — a complete set of compressed oxygen tanks, which allow independent breathing in smoke, dust, gas, or exotic (type A) atmosphere. Part of Firefighter and other emergency services gear, they have a chime one can set to go off if the wearing stops moving. Two tanks last 6 hours. Refill of proper atmospheric mixture for race cost TL 5. Cr20.

**Respirator:** A small compressor, this device concentrates inhaled oxygen, allowing a character to breathe on worlds with a very thin atmosphere (type 3). Respirators take the form of a face mask or mouthpiece initially. Cr. 100. The more advanced TL 10 respirator is small enough to fit into the nose, or can even be a lung implant for 3 x cost. TL 6. Cr2,000.

**Underwater Air Tanks:** Called a SCUBA for “self-contained underwater breathing apparatus”. Equivalent to oxygen tanks but designed for use underwater. Two tanks last 6 hours. Refill of proper atmospheric mixture for race and expected depth cost Cr20. TL 5.

**Rebreather:** The rebreather is a bulky backpack containing breathable atmosphere and a face mask that collects exhaled gasses and ‘scrubs’ them back into breathable gasses again. A rebreather provides six hours of breathable atmosphere and can be used to breathe in any environment that is not otherwise harmful, such as underwater. By TL 9 the rebreather is only a couple of kg and can hang by a strap. TL 6. 10 kg, Cr250.

**Artificial Gill:** Extracts oxygen from water allowing the wearer to breathe underwater. Functions only on worlds with thin, standard, or dense (type 4 through 9) atmospheres. TL 8. 4 kg. Cr4,000.

**Environment Suit:** Designed to protect the wearer from extreme cold or heat, the environment suit has a hood, gloves and boots but leaves the face exposed in normal operations. TL 8. Costs Cr500.

Some militaries will add cloth armor (Cr250, 2 kg) a helmet with breather gear and vision aids to create a combat version of environment suit, suitable for all but hard vacuum or corrosive/insidious atmospheres: Armor Rating 10, Cr900.

**Rescue Bubble:** A large (2m diameter) pressurised plastic bubble. Piezoelectric layers in the bubble wall translate the user’s movements into electricity to recharge the bubble’s batteries and power its distress beacon, and a small oxygen tank both inflates the bubble and provides two person/hours of life support. A self-repairing plastic seal serves as an emergency airlock. Rescue bubbles are found on both space and sea vessels as emergency lifeboats. TL 9. Cr600.

**Thruster Pack:** A simple thruster pack gives the user the ability to maneuver in zero-gravity. A Zero-G check is required to use a thruster pack accurately. Thruster packs can only be used in microgravity environments and are only practical for journeys between spacecraft at Adjacent range. TL 9. Cr2,000.

At TL 12 the long-range thruster pack gives 0.1g acceleration for up to 48 hours, using standard starship fuel. This increases its practical range on the spacecraft scale to Short but gives it a weight of 10 kg. Cr14,000. The TL 14 version of the long-range pack is much smaller as it uses grav-lifter plates instead, but has the same performance profile as the TL 12 version. Cr20,000.

**Portable Generator:** This is a heavy-duty portable fusion generator, capable of recharging weapons and other equipment for up to one month of use. TL 10. Cr500,000.



Toolkits	TL	kg	Price (Cr)
Mechanical	4	12	1,000
Electronics	5	12	1,000
Lock Pick Set	5	--	10
Medical Kit	7	10	1,000
Forensics	8	12	1,000
Engineering	9	12	1,000
Scientific	9	12	1,000
Surveying	9	12	1,000

Technical skills require specialist tools of various kinds. These toolkits contain diagnostic sensors, hand tools, computer analysis programs and spare parts.

*Mechanical:* Required for repairs and construction. This kit contains diagnostic sensors, hand tools, computer analysis programs (at appropriate tech levels) and spare parts.

*Electronics:* Required for electrical repairs and installations. This kit contains diagnostic sensors, hand tools, computer analysis programs (at appropriate tech levels) and spare parts.

*Lock Pick Set:* Allows picking of ordinary mechanical locks. Lock pick sets are illegal on worlds of law level 8+; on such worlds the cost rises to Cr100 or more.

*Medical Kit:* This medical kit contains diagnostic devices and scanners, surgical tools and a plethora of drugs and antibiotics, allowing a medic to practice his art in the field.

*Forensics:* Required for investigating crime scenes and testing samples. This kit contains diagnostic sensors, hand tools, computer analysis programs (at appropriate tech levels) and spare parts.

*Engineering:* Required for performing repairs and installing new equipment. This kit contains diagnostic sensors, hand tools, computer analysis programs (at appropriate tech levels) and spare parts.

*Scientific:* Required for scientific testing and analysis. This kit contains diagnostic sensors, hand tools, computer analysis programs (at appropriate tech levels) and spare parts.

*Surveying:* Required for planetary surveys or mapping. This kit contains diagnostic sensors, hand tools, computer analysis programs (at appropriate tech levels) and spare parts.

## Vehicles

All vehicles have the following traits:

TL: Technology Level that the vehicle is available at.

Skill: Used to drive or pilot the vehicle.

Agility: How easy the vehicle is to drive, expressed as a DM to the pilot's skill check.

Speed: The vehicle's maximum speed.

Crew and Passengers: How many people the vehicle can carry.

Open/Closed: If the vehicle is open or closed.

Armor: How much armor the vehicle has. Damage sustained by a vehicle is reduced by its armor.

Hull/Structure: The number of hits the vehicle can sustain before being disabled.

Weapons: What weapons the vehicle has, if any, and what fire arcs they are in.

Price: How much the vehicle costs.

*Sailboat:* The most common modern sailboat is the sloop, which features one mast and two sails, typically a Bermuda rigged main, and a headsail. This simple configuration is very efficient for sailing into the wind.

*Small Steamship:* A watercraft that is propelled by a steam engine. The steamship has a cargo capacity of 50 tons.

*Biplane Aircraft:* A primitive form of aircraft with two pairs of wings, one above the other. This vehicle can only transport 100kg of cargo.

*Dirigible:* An airship or dirigible balloon is a type of aerostat or lighter-than-air aircraft that can navigate through the air under its own power. Aerostats gain their lift from a lifting gas that is less dense than the surrounding air. Rigid, and non-rigid, sometimes used as patrol, or passenger aircraft. Patrol craft usually have a heavy machine gun, and four 150 kg bombs or depth charges.

*Ground Car:* A conventional wheeled automobile.





Vehicles	TL	Skill	Agi	Spd	C&P	O/C	Armor	Hull	Struc	Wpns	Cost (KCr)
Sailboat	3	Seafarer	+0	25 km/h	2 crew, 7 psgr	Closed	1	3	5	None	7
Steamship	4	Seafarer	-3	30 km/h	5 crew, 10 psgr	Closed	2	40	40	None	720
Biplane	5	Pilot	+1	250 km/h	1 pilot, 1 psgr	Closed	2	1	1	None	46
Dirigible	5	Pilot	-2	120 km/h	10 crew, 10 psgr	Closed	3	2	1	None	65
Ground Car	5	Drive	+0	150 km/h	1 driver, 3 psgr	Closed	6	3	2	None	6
Motor Boat	5	Seafarer	-3	120 km/h	5 crew, 10 psgr	Closed	3	16	17	None	530
Motorcycle	5	Drive	+1	200 km/h	1 driver, 1 psgr	Open	–	–	1	None	2
Corvette	6	Seafarer	-3	25 km/h	22 crew, 10 psgr	Closed	5	33	33	Cannon	2,300
Helicopter	6	Pilot	+1	100 km/h	1 pilot, 7 psgr	Closed	3	2	3	None	250
Submersible	6	Seafarer	-2	40 km/h	5 crew, 10 psgr	Closed	3	85	85	None	1,700
Twin Jet Aircraft	6	Pilot	+1	600 km/h	2 pilots, 6 psgr	Closed	3	4	4	None	480
All Terrain Vehicle	7	Drive	+0	60 km/h	1 driver, 7 psgr	Closed	9	5	5	None	30
Armored Car	7	Drive	+1	120 km/h	3 crew	Closed	10	5	5	Cannon	55
Hovercraft	7	Pilot	+1	150 km/h	1 pilot, 15 psgr	Closed	3	7	8	None	880
Speedboat	7	Seafarer	+2	90 km/h	1 crew, 5 psgr	Open	3	2	3	None	5
Jet Fighter	8	Pilot	+1	1,960 km/h	1 pilot	Closed	4	5	5	Cannon Missiles	16MCr
Tank	8	Drive	+0	50 km/h	4 crew	Closed	20	7	7	Cannon	1,780
Truck	8	Drive	-1	150 km/h	1 driver, 1 psgr	Closed	6	4	3	None	35
Destroyer	9	Seafarer	-3	40 km/h	10 crew, 8 gunners, 12 psgr	Closed	8	63	63	None	4,800
Locomotive	9	Drive	-1	300 km/h	1 engr, 1 cond.	Closed	7	13	11	None	670
Air/Raft	12	Pilot	+0	400 km/h	1 pilot, 3 psgr	Open	6	2	2	None	500
AFV	12	Drive	+0	100 km/h	1 driver, 9 psgr	Closed	18	5	5	Laser Cannon (turret)	65
ATV	12	Drive	+0	100 km/h	1 driver, 15 psgr	Closed	12	5	5	None	50
Speeder	13	Pilot	+2	1500 km/h	1 pilot, 1 psgr	Closed	3	1	2	None	890
Grav Scooter	14	Pilot	–2	40 km/h	1 rider	Open	-	-	1	None	50
G/Carrier	15	Pilot	+0	620 km/h	1 driver, 1 gunner, 14 psgr	Closed	25	8	8	Dual Rail Gun (turret)	15MCr
Grav Belt	16	Zero-G	+2	200 km/h	1 wearer	Open	-	-	-	None	100

*Motor Boat:* Watercraft using hydrofoils to achieve exceptional speed and performance. The hold of the vehicle can accommodate 10 tons of cargo.

*Motorcycle:* A common, yet varied type of two wheel motor vehicle, it evolves into a super fast sport bike, capable of amazing speed and handling. Older versions could mount a sidecar for a second passenger, which militaries sometimes mounted weapons on, such as a machine gun or light mortar.

*Corvette:* A 60 m long diesel powered ship, often used as a coastal patrol boat, generally with a 60 mm cannon doing 7d6 damage, with a range of rocket, also has two LMG's usually.

*Helicopter:* An aircraft that derives both lift and propulsion from one or more sets of horizontally revolving overhead rotors. It is capable of moving vertically and horizontally, the direction of motion being controlled by the pitch of the rotor blades. The helicopter can carry 500 kg of cargo.

*Submersible:* A watercraft designed to operate under an ocean's surface. Submersibles are often used as transport between domed cities on waterworlds and other planets with large fluid oceans. The submersible can carry 30 tons of cargo.

*Twin Jet Aircraft:* A fixed-wing aircraft propelled by jet engines, often used to transport cargo. The hold has a cargo capacity of 5 tons.

*All Terrain Vehicle:* Wheeled or tracked, pressurized, and resistant to even insidious atmospheres, has cramped quarters to support eight people for a week.

*Armored Car:* A light armored, or scout car, equipped with a twin barreled 60mm cannon turret. The cannons use the Gunnery or Heavy Weapons skill, doing 7d6 damage each using the ranged (rifle) range modifiers, and both, or only one may be fired at the same target with one attack action. It also has a smaller forward turret mounting twin 10mm mini-guns capable of six shots per round for 5d6 a piece, ranged (rifle). Ammo stowage is 50 60mm rounds, and 400 10mm rounds, internal drums.

*Hovercraft:* A vehicle that travels over land or water on a cushion of air provided by a downward blast, the hovercraft is only usable on worlds with a Thin atmosphere or thicker. The hovercraft has 3 tons of cargo space.

*Speedboat:* High performance speedboats can reach speeds of over 50 knots (90 km/h). Their high speed

and performance can be attributed to their hull technology and powerful engine.

*Jet Fighter:* A stealthy (-1 DM vs detection), VTOL aircraft for in atmosphere operations, armed with a 30mm auto-cannon, and a variety of missiles.

*Tank:* Last generation of an effective armored fighting vehicle that stretched back to TL 5, afterwards mostly obsolete except in light infantry support, or assault gun versions. Mounts a 120mm smoothbore cannon in its turret, along with a coaxial machine gun.

*Truck:* A 5 ton capacity transport similar to the conventional wheeled automobile. Bed can be open, maybe with a canvas top, or closed, a lightweight box.

*Destroyer:* A fast maneuverable long-endurance watercraft built for military action, intended to escort larger watercraft in a fleet, convoy or battle group and defend them against smaller powerful short-range attackers. Powered by a fission power plant, the destroyer carries deck-mounted turrets capable of firing major weapons. Cargo capacity is limited to 40 tons, mostly used to carry ammunition.

*Locomotive:* Conventional gauge, or monorail, pulling railcars, or carriages on a track, carrying freight, or passengers. Average length of train is 120 cars, or 2.5 km with 20 m cars.

*Air/Raft:* An open-topped vehicle supported by anti-gravity technology. Air/rafts can even reach orbit (taking a number of hours equal to the world's Size code) but passengers at that altitude must wear vacc suits.

*AFV:* A heavily armored tracked ATV, known as an Armored Fighting Vehicle, equipped with a turret mounting a Laser Cannon capable of doing 9d6 damage in a round, ranged rocket; plus a coaxial LMG. With 200 rounds in a hopper.

*ATV:* An enclosed, pressurized all-terrain ground vehicle. The vehicle is capable of floating on calm water, and has a suite of built-in sensors and communications equipment (usually a laser transceiver) making it ideal for exploration. An ATV has a hardpoint for a turret, but does not come with a weapon normally.

*Speeder:* Capable of high speed transit across a planetary surface, the speeder is a streamlined grav vehicle with a limited cargo capacity of 100kg. This vehicle only takes an hour to reach orbit.

**Grav Scooter:** A Grav Scooter is a forerunner of the grav belt, a platform upon which a single person can stand and be carried along. It cannot achieve any great speed but can, like an air/raft, achieve any altitude up to orbit (taking a number of hours equal to the world's Size code).

**G/Carrier:** A grav carrier is effectively a flying tank, and is becoming the standard fighting vehicle of many military forces. The turret-mounted dual 35mm rail guns are single shot, and one, or two may be fired at the same target with one attack action using Ranged (rocket) for 12d6 damage each. The turret also mounts a light machine gun, and four rockets. Ammo for the rail guns is 100 rounds, and for the LMG 600 rounds. Similar to the air/raft, the G/Carrier can reach orbit (taking a number of hours equal to the world's Size code).

**Grav Belt:** A grav belt resembles a parachute harness, and is fitted with artificial gravity lifter modules allowing the wearer to fly. The internal battery can operate for a maximum of four hours before needing to be recharged. Options cannot be added to the grav belt.

### Options

With the exception of on-board computer, each of these options can only be taken once on a given vehicle.

**Advanced Controls:** This is usually advanced drive-by-wire systems with heads-up displays. TL 8. Cr10,000 plus 10% of Base Cost. Adds +1 to Agility.

**Anti-missile System:** It is an automated radar controlled military active protection system (APS) designed to protect vehicles from anti-tank guided missiles (ATGMs), rocket-propelled grenades (RPGs), anti-tank rockets, and high-explosive anti-tank (HEAT) rounds. A small number of explosively formed projectiles destroy incoming threats before they hit the vehicle. This system will negate an incoming missile, rocket, launched grenade or mortar round on the roll of 8+, and will suffer a -1 DM for every additional target it is forced to engage in each round. TL 8. Cr180,000



**Autopilot:** An autopilot has a Computer/1 specialized to run Intellect/1 and an Expert/1 in an appropriate skill and specialty. This will be in addition to any other computers installed. An autopilot is often mandatory on cheaper commercial models. In many areas (primarily urban) they are required to be in use. Higher Law Level polities may require an override modification to the autopilot for centralized and/or emergency traffic control. TL 11. Cr3,000.

**Enclosed:** This modification turns an open vehicle into a closed one. It costs 10% of the base cost of the vehicle, reduces Agility by 1 and top speed by 10%.

**Extended Life Support:** A vehicle which is sealed can be equipped for extended life support, which increases the duration to 18 hours per person. Costs another 10% of the base cost of the vehicle.

**Heavy Armor:** Increasing the armor of a vehicle by 5 adds 25% to the cost of the vehicle.

**High Performance:** A vehicle can be made into a high-performance vehicle, increasing its top speed by 20%. The vehicle costs 50% more.

**Neural Link:** The neural link is a true mind-machine linkage and allows an operator to control the vehicle with their mind alone. This gives a +2 DM to Initiative and a +2 bonus to Agility. TL 12. Cr50,000, plus 100% of the Base Cost.

**On-board Computer:** Adding an on-board computer costs the same as a hand computer.

**Sealed:** This option can be added to any closed vehicle (it is included in the ATV, AFV G/Carrier, and Speeder). The vehicle can be sealed and provides life support for its passengers and crew for two hours per person. This option adds 20% to the cost of the vehicle.

**Sensor Suite:** IR, Radar, and Laser targeting to the horizon; -2 on checks, unless active, which lights up the vehicle to opposing sensors. Cr10,000.

**Smoke Dischargers:** Smoke Dischargers render the vehicle difficult to see, giving a -2 on to hit rolls. TL 3. Cr1,000

**Style:** Allows a vehicle to be customized to the buyer's wishes. Costs Cr200 to Cr2,000.

## Armor and Weapons

Personal armor reduces the amount of damage an individual takes from a hit, based on the type of armor worn. The armor rating for a set of armor is equal to the amount of damage reduced by the armor when you are hit in combat. A hit with Effect 6+ always inflicts at least one point of damage, regardless of the target's armor.

<u>A</u> rmor	<u>T</u> L	<u>A</u> V	<u>S</u> kill Req'd	<u>k</u> g	<u>C</u> r
Jack	1	3	—	1	50
Cloth	6	9	—	2	250
Mesh	6	5	—	2	150
Flak Jacket	7	7	—	2	150
Vacc Suit	9	6	Vacc Suit	8	9,000
Combat Armor	11	11	Vacc Suit	18	20,000
Hostile Env VS	12	8	Vacc Suit	40	18,000
Battle Dress	13	18	Battle Dress	60	200,000

- TL: The earliest tech level at which this item first becomes available.
- Armor Value (AV): The amount of damage reduced by the armor when an attack strikes it.
- Cost: The cost of the item in Credits (Cr).
- Weight: The weight of the item in kilograms.
- Skill Required: Some armors have a required skill. A character suffers the usual unskilled penalty when using armor without levels in the required skill.

Unless otherwise noted, only one type of armor can be worn at a time. However, resolve damage from the outside in, damage that gets through the outer layer of armor is next applied to the inner layer.

*Jack:* A natural or synthetic leather jacket or body suit covering the torso and upper arms and legs. TL 1.

*Mesh:* A jacket or body suit lined with a flexible metal or plastic mesh that gives it added protection against bullets. TL 6.

*Cloth:* A heavy duty body suit tailored from ballistic cloth. The fabric absorbs impact energy and spreads it over the body, which can result in bruising. However, cloth armour is highly useful and versatile – it can be effectively concealed under normal clothing although observers making an Investigate or Recon check at 8+ will notice something unusual. TL 7.

*Flak Jacket:* A less expensive version of ballistic cloth, the bulky flak jacket is an unmistakably military garment. TL 7.

*Vacc Suit:* The vacc suit or space suit is the spacer's best friend, providing life support and protection when in space. A vacc suit provides a breathable atmosphere and protection from the extremes of temperature, low pressure and radiation typically found in a hard vacuum (decreasing exposure by up to 40 rads), for six hours. TL 8.

*Combat Armor:* This is a bespoke full-body suit made by an armorer is used by the military and not generally available on the open market, although those with military or criminal contacts can obtain it without much difficulty. It is issued to troop units and mercenary battalions. Combat armor protects from hard vacuum in the same way as a vacc suit and provides life support for six hours. TL 11.

*Hostile Environment Vacc Suit:* Hostile environment suits are designed for conditions where a normal vacc suit would be insufficient, such as deep underwater, worlds shrouded in toxic or corrosive gases, extremes of radiation or temperature, or other locales that offer serious physical danger as well as the lack of a breathable atmosphere. HEV suits provide all the life support offered by a normal vacc suit (for six hours) but are also impervious to flames, intense radiation such as that found at nuclear blast sites (decreasing radiation exposure by 180 rads), and high pressure environments like undersea trenches. TL 12.

*Battle Dress:* The ultimate personal armor, battle dress is a form of powered armor. The servomotors vastly increase the user's speed and strength, boosting Strength and Endurance by +4 while wearing the armor. Damage to the wearer's characteristics is calculated as normal, but the values from the armor are used for all other purposes such as hand to hand damage or skill checks. The suit has a built-in Computer/2 running an Expert Tactics (military) 2 program to give tactical advice and updates and is commonly outfitted with numerous upgrades. The suit is fully enclosed, with a six-hour air supply and gives full protection against environmental hazards, including NBC shielding, as if it was an HEV suit. TL 13.

TL 14 battle dress is considerably stronger, giving Strength +6 instead of +4, and upgrades its internal systems Computer/3 (although still running Tactics 2). There is a lighter form of Battle Dress that is little more than powered Combat Armor, AR 13, +1 to Strength, and Endurance, with a price of 120,000 Cr.



## Options

Most of the options listed here can also be applied to normal clothing at the same cost. The exceptions are extended life support and thruster assist.

*Computer Weave:* Computer weave can be added to any armor that does not already have a computer system, and gives Computer/0 to that armor. TL 10. Cr500.

*Eye Protection:* Many armors include eye protection such as visors or goggles to guard against flying debris but such protection becomes absolutely vital at TL 9 to guard against the blinding effects of lasers. Eye protection can be added to any armor and is included for free in any TL 9+ armor. TL 6. Cr50.



*Extended Life Support:* This upgrade can be added to any suit that provides life support (vacc suit, HEV suit, combat armor, battle dress). By adding high-pressure oxygen tanks and recycling systems, the suit now provides eighteen hours of oxygen. TL 10. Cr10,000.

*Helmet Mounted Display:* Helmet-mounted displays (abbreviated HMD), is form of Heads Up Display featuring a display element that moves with the orientation of the user's head. Armor or Vacc Suits with full face helmets must have one so that one can get a proper sight picture with a weapon. Without, roll disadvantage. TL 8. Cr300.

*IR Chameleon:* IR (infra-red) chameleon technology can be added to any full-body suit of clothing or armor. It selectively bleeds heat to match background IR levels and effectively renders the wearer invisible to IR (Very Difficult (-4) to detect with sensors). IR Chameleon costs TL 12. Cr50,000.

*LED Chameleon:* A more advanced form of camouflage, light-emitting diode chameleon covers the surface of the armor with led technology fabric, making the wearer nearly invisible to the naked eye (+4 DM to Stealth rolls). TL 10. Cr5,000.

*Medkit:* An internal medical scanner and drug injector, the medkit can be installed in combat armor, battle dress or a vacc suit. It automatically applies first aid if the wearer is reduced to Endurance 0 (treat the medkit as having Medic 3). It can also administer Fast Drug on command, or if life support systems are failing (turning remaining minutes of life support into hours). Cr 5,000. A TL 11 medkit can also inject Combat or Slow drugs and the Slow Drug antidote on command. TL 10. Cr10,000.

*Smart Fabric:* Smart fabric changes color, resists stains and dirt, cleaning itself automatically. TL 10. Cr1,000.

*Spider Paws:* Sticky feet on the soles of the boots of the armor allow the user to walk normally on a spacecraft without artificial gravity. TL 8. Cr100.

*Thruster Assist:* This TL 9 upgrade can be added to battle dress, combat armor, or vacc suits only, and adds the functionality of Zero-G movement and gyro-stabilization to the armor at the cost of Cr11,000 for a day. The TL 12 version lasts longer, at a week. Costs Cr12,000.

## Melee Weapons

<u>Weapon</u>	<u>TL</u>	<u>kg</u>	<u>Cr</u>	<u>Range</u>	<u>Damage</u>
Unarmed Strike	–	–	–	melee (close quarters)	1d6
Cudgel	0	1	10	melee (close quarters)	3d6
Dagger	0	0.25	10	melee (close quarters) or ranged (thrown)	1d6
Improvised Weapon	0	1	–	melee (close quarters)	2d6–1
Spear	0	1.5	10	melee (extended reach) or ranged (thrown)	3d6
Staff	0	2	10	melee (extended reach)	2d6
Axe	1	2	20	melee (extended reach)	4d6
Axe, Throwing	1	1.5	20	melee (close quarters) or ranged (thrown)	3d6
Mace	1	3	20	melee (extended reach)	2d6+2
Pike	1	8	40	melee (extended reach)	3d6
Sword	1	1	150	melee (extended reach)	3d6
Broadsword	2	2.5	20	melee (extended reach)	4d6
Halberd	2	3	75	melee (extended reach)	4d6
Nunchaku	2	1	40	melee (close quarters)	2d6
Sap	2	1	30	melee (close quarters)	1d6+1
Stiletto	2	0.25	50	melee (close quarters)	1d6+2
Bayonet	3	0.25	10	melee (close quarters)	1d6
Blade	3	0.35	50	melee (extended reach)	2d6
Cutlass	3	1.25	100	melee (extended reach)	3d6
Katana	3	1.5	2,000	melee (extended reach)	4d6
Rapier	3	0.5	100	melee (extended reach)	3d6
Shuriken	3	0.15	10	melee (close quarters) or ranged (thrown)	1d6
Club	4	1.5	200	melee (close quarters)	2d6
Spring Blade	4	0.5	200	melee (close quarters)	1d6+1
Fighting Knife	6	0.5	100	melee (close quarters)	1d6+1
Mace (Tear Gas)	7	–	50	melee (close quarters)	2d6*
Monoblade	8	1	1,000	melee (extended reach)	2d6+5
Pepper Spray	8	–	85	melee (extended reach)	2d6*
Taser	8	0.25	300	melee (extended reach)	2d6*
Stun Baton	10	1.5	300	melee (close quarters)	1d6/2d6
Shield	0+	2.5	200	special	none

Each column is described as follows:

TL: The minimum tech level required to manufacture such an item.

Kg: Mass in kilograms (kg).

Cost: Price in Credits (Cr) or 1000s of Credits (KCr).

Range: The range category for this weapon.

Damage: The damage a weapon inflicts.

\* Stun damage, effect becomes a negative modifier on an endurance check, if failed, target is stunned, or otherwise incapacitated for as many rounds as the number failed the check by (so that if the check is 8–2, and the result is 5, target is stunned for 3 rounds).

## Melee Weapons

The Law Level of a world will limit the availability of certain weapons.

*Unarmed Strike:* Humans are evolved to strike with their fists, other species might have different attacks. The discipline of martial arts adds to the use of the body as a weapon, with movement, hands and feet.

*Cudgel:* A basic stick used as a weapon. Easily obtained from standing trees or through the use of an unloaded long gun such as a rifle or carbine (laser weapons are too delicate to be used as cudgels). Length: 1000 to 2000mm.

*Dagger:* A small knife weapon with a flat, two-edged blade approximately 200mm in length. Daggers are usually carried in a belt sheath, or less frequently concealed in a boot sheath or strapped to the forearm.

Daggers are usually as much a tool as a last-resort weapon of defense, and worn constantly. Each weighs 250 grams; that weight, however, does not count against the weight load of the character as the weapon is worn constantly and comfortably.

*Improvised Weapon:* When there's no real weapon available and your bare hands just aren't enough, any snatched-up object can be used as an impromptu club.

*Spear:* A weapon with a long shaft and a pointed tip, typically of metal, used for thrusting or throwing. Length: 3000mm.

*Staff:* A length of wood or metal that can be used in a variety of combat styles, to aid walking, or to poke potentially dangerous things from a distance.

*Axe:* One of the most common tools or weapon, begins early in TL1 and advances to high tech heads with carbon handles. Length: 1000mm.

*Axe, Throwing:* Also called a Hatchet, a smaller axe balanced for throwing.

*Mace:* A heavy weight at the end of a short haft sometimes spiked or flanged.

*Pike:* A two-handed weapon with a pointed steel or iron head on a long wooden shaft. Length: 3000 to 4000mm.

*Sword:* The standard long-edged weapon, featuring a flat, two-edged blade. It may or may not have a basket hilt or hand protector. A scabbard to carry the sword may be attached to the belt, or to straps (or a sash) over the shoulder. Blade length may vary from 700 to 950mm.

*Broadsword:* The largest of the sword weapons, also called the two-handed sword because it requires both hands to swing.

*Halberd:* A two-handed pole weapon having an axe-like blade and a steel spike mounted on the end of a long shaft. Length: 2500mm.

*Nunchaku:* A traditional Asian martial arts weapon consisting of two sticks (traditionally made of wood), connected to each other at their ends by a short metal chain or a rope. It is approximately 30 cm (sticks) and 8 cm (rope). Those who take Nunchuks as a weapon, can also make a disarm action when stating to do so instead of a normal attack on a successful attack roll.

*Sap:* This melee weapon deals 1d6+1 stun damage in addition to its normal damage. A character struck by a sap must make an Endurance check. If this Endurance check is failed, the character is knocked unconscious.

*Stiletto:* A long, thin blade used to puncture rather than slice. Often 30–40 centimetres in length for reaching organs.

*Bayonet:* A small knife-like weapon similar to a dagger, frequently attached to a rifle. When not attached to a rifle, the bayonet performs as a dagger.

*Blade:* A hybrid knife weapon with a heavy, flat two-edged blade nearly 300mm in length, and (often, but not always) a semi-basket handguard. Because of the bulk of the handguard, it is generally carried in a belt scabbard. Blades are as much survival tools as weapons, and are often found in emergency kits, lifeboats etc.

*Cutlass:* A heavy, flat-bladed, single-edged weapon featuring a full basket hilt to protect the hand. The cutlass is the standard shipboard blade weapon and sometimes kept in lockers on the bulkhead near important locations; when worn, a belt scabbard is used. Blade length varies from 600 to 900mm.

*Katana:* A Japanese two-handed sword. The blade is extremely quick, with an 800mm single-edged blade, and from 1000 to 1200mm in total length. The hilt is relatively simple, generally a circular-piece with no basketwork or protection. When carried, the Katana is worn in a wooden scabbard attached to the belt; less frequently, the scabbard is worn on the back, and it is drawn over the shoulder.

*Rapier:* Also known as the Foil, this weapon is a light, sword-like weapon with a pointed, edged blade 800mm in length, and a basket or cup hilt to protect the hand. Foils are worn in scabbards attached to the belt. A character using a rapier increases their effective Melee (large blade) skill by one level when parrying.

*Shuriken:* They are also known as throwing stars, or ninja stars, although they were originally designed in many different shapes. A bo-shuriken is a throwing weapon consisting of a straight iron or steel spike, usually four-sided but sometimes round or octagonal in section. Some examples have points on both ends. The length ranges from 12 to 21 cm (5–8.5 in) and the average weight from 35 to 150 grams (1.2–5.4 ounces).

*Club:* Whether a handy length of metal piping or an extending riot baton made of advanced polymers, the club remains a popular and practical weapon wherever intelligent species gather.

*Spring-blade:* A thin-bladed dagger set into a spring-loaded or hydraulic sheath located on or around the forearm, used for surprise attacks. Spring-blades have a +2 DM for their initial surprise attack, but suffer a -1DM for parrying.

*Fighting Knife:* Fighting Knives are especially suited to close-quarters combat – while grappling someone armed with a Knife they can do Effect + 4 damage if they choose to hurt their opponent.

*Mace (Tear Gas):* Mace is the brand name of an early type of aerosol self-defense spray invented in the 1960s. The first commercial product of its type, the design packaged phenacyl chloride (CN) tear gas dissolved in hydrocarbon solvents into a small aerosol spray can, usable in many environments and strong enough to act as a deterrent and incapacitant when sprayed in the face.

*Monoblade:* A light one-handed sword with a polymer blade honed to a monomolecular edge by the mechanisms in the supplied scabbard.

*Pepper spray:* Oleoresin capsicum spray, OC spray, capsaicin spray, or capsicum spray is a lacrimator (tear gas) product containing the compound capsaicin as the active ingredient that irritates the eyes to cause burning and pain sensations, and temporary blindness. Pepper spray is used as a less lethal weapon in policing, riot control, crowd control, and self-defense, including defense against dogs and bears. Its inflammatory effects cause the eyes to close, temporarily taking away vision. This temporary blindness allows officers to more easily restrain subjects and permits people in danger to use pepper spray in self-defense for an opportunity to escape. It also causes temporary discomfort and burning of the lungs which causes shortness of breath.

*Taser:* A Taser is a conducted energy device (CED) primarily used to incapacitate people, allowing them to be approached and handled in an unresisting and thus safe manner. The device fires two small barbed darts intended to puncture the skin and remain attached to the target, at 55 m/s (200 km/h). Their range extends to 10.5 m for Law Enforcement Tasers. The darts are connected to the main unit by thin insulated copper wire and deliver a modulated electric current designed to disrupt voluntary control of muscles, causing "neuromuscular incapacitation."

The effects of a taser may only be localized pain or strong involuntary long muscle contractions, based on the mode of use and connectivity of the darts.

*Stun Baton:* This melee weapon deals 2d6 stun damage in addition to its normal damage. A character struck by a stun stick must make an Endurance check with a negative DM equal to the stun damage (after armor is subtracted). If this Endurance check is failed, the character is knocked unconscious.

*Shield:* A character using a shield increases their effective Melee (unarmed) skill by one level when parrying. A character with no Melee counts as having Melee 0 when using a shield to parry.





Ranged Weapons	TL	Cr	kg	RoF	Range	Damage	Type	Recoil
Sling	0	10	–	1	rifle	2d6	k	yes
Bow	1	60	1	1	shotgun	2d6	k	yes
Crossbow	2	75	3	1	rifle	2d6	k	yes
Revolver	4	150	0.9	1	pistol	2d6	k	yes
Auto Pistol	5	200	0.75	1	pistol	2d6	k	yes
Carbine	5	200	3	1	shotgun	2d6	k	yes
Rifle	5	200	4	1	rifle	3d6	k	yes
Shotgun	5	150	3.75	1	shotgun	4d6	k	yes
Submachinegun	5	500	2.5	4	pistol	2d6	k	yes
Auto Rifle	6	1000	5	1 or 4	rifle	3d6	k	yes
Assault Rifle	7	300	3	1 or 4	shotgun	3d6	k	yes
Body Pistol	7	500	0.25	1	pistol	2d6	k	yes
Laser Carbine	8	2,500	5	1	shotgun	4d6	e	no
Snub Pistol	8	150	0.25	1	pistol	2d6	k	no
Gyrojet Rifle	9	900	2.5	1 or 3	rifle	3d6	k	no
Laser Rifle	9	3,500	6	1	rifle	5d6	e	no
Advanced Combat Rifle	10	1,000	3.5	1 or 4	rifle	3d6	k	yes
Stunner	11	750	1.5	1	pistol	2d6*	e	no
Gauss Rifle	12	1,500	3.5	1, 4, or 10	rifle	4d6	k	yes
Laser Pistol	12	1,000	1.2	1	pistol	4d6	e	no
Gauss Pistol	13	1,750	1.75	1	pistol	4d6	k	yes

The Ranged Weapons table lists the ranged weapons commonly available in a Cepheus Engine campaign. Each column is described as follows:

TL: The minimum tech level required to manufacture such an item.

Cr: Price in Credits (Cr).

kg: Mass in kilograms (kg).

RoF: Rate of Fire. The number of rounds that may be fired during a significant action in the format: Single Shot / Burst Shot / Automatic Fire.

Range: The range category for this weapon.

Damage: The damage a weapon inflicts.

Type: Type of damage inflicted, (e)nergy, or (k)inetic.

Recoil: Lists if the weapon has recoil when fired.

### Ranged Weapons

*Sling:* An ancient weapon dating back to neolithic times, made from a twisted cord, and firing a stone or lead bullet (ancient Greek lead bullets were found inscribed "ΔΕΞΑΙ" (Dexai) meaning 'take that'). It is about a meter long, and easy to carry, often wrapped around the waist. Its range is out to about 400 m, similar to rifle, except without distant.

*Bow:* A stout but supple piece of wood carved to a specific shape and strung with a piece of cord, string or gut to increase tension. The string is pulled back and released to hurl an arrow long distances with surprising force. At higher technology levels, bows

are modified with additional strings and pulley systems to add accuracy and power.

*Crossbow:* A horizontal bow set into a mechanical firing mechanism and stronger-than-normal pull, crossbows are very powerful weapons that are very time consuming to reload. At higher technology levels, crossbows are built with crank and pulley systems that make the weapons easier to reload, even self-loading at TL9. Reloading a TL2 crossbow takes 6 minor actions, at TL4 this is reduced to 3 minor actions.

*Revolver:* A pistol with a rotating cylindrical magazine firing 10mm bullets with characteristics similar to those used by the automatic pistol but not interchangeable with them. Six cartridges are inserted into the revolver individually. Reloading takes two combat rounds, or one combat round if the individual foregoes the benefit of evasion.

*Auto Pistol:* Also referred to as a Semi-Automatic Pistol, Automatic Pistol or just a Pistol, the auto pistol is a basic repeating handgun. One cartridge is fired for each pull of the trigger. Auto pistol ammunition is interchangeable with submachinegun ammunition (although magazines are not). Pre-loaded magazines may be inserted into an empty pistol, but require a reload action to complete.

*Carbine:* A short type of rifle firing a small caliber round. A magazine containing ten rounds is inserted into the underside of the carbine ahead of the trigger guard or behind the handgrip (this configuration is referred to as “Bullpup”, and in some localities carbines may be referred to as Bullpups), and one round is fired with each pull of the trigger. Replacement of an empty magazine takes a reload action. Carbine ammunition is not interchangeable with rifle type of ammunition. In essence, a carbine is a short rifle, firing a cartridge of smaller, lighter caliber. A sling usually allows the carbine to be carried on the shoulder, out of the way.

*Rifle:* The standard military arm, firing a 7.62mm, 10 gram bullet at a velocity of approximately 900 meters per second. Longer and heavier than a carbine, it is also more effective. Standard equipment includes provisions for attaching a bayonet and telescopic sights, and a shoulder sling. A twenty-round magazine is attached to the front of the trigger guard, and one round is fired with each pull of the trigger. Replacement of the empty magazine requires a reload action. Rifle ammunition may also be used in automatic rifles; rifle and auto rifle magazines are inter-changeable, and weigh the same.

*Shotgun:* The basic weapon for maximum shock effect without regard to accuracy. The shotgun has an 18mm diameter barrel and fires shells containing either 1 hollow-point slug, or 130 3mm pellets. In each case, the projectiles weigh a total of 30 grams. Velocity for the projectiles is about 350 meters per second. A cylindrical magazine containing 8 (7+1) shells is attached under the barrel and parallel to it; cartridges are then fed automatically into the shotgun for firing. Reloading consists of inserting shells into the underside of the receiver into the cylindrical magazine, and takes two combat rounds. One shot is fired for each pull of the trigger. Shotguns can be equipped with a sling for carrying. Shotgun special rules: A shotgun using pellet ammunition gives an advantage to hit, but Armor gives double protection against pellet attacks. A shotgun can also fire solid slugs, which follow all the normal rules for shooting.

*Submachinegun (SMG):* A small automatic weapon designed to fire pistol ammunition. Magazines holding 30 cartridges are inserted into the weapon forward of the trigger guard or in the pistol grip, depending on the design. The gun fires a burst of four rounds per pull of the trigger. Replacement of an empty magazine requires one combat round.

Submachinegun ammunition (but not magazines) is interchangeable with autopistol ammunition. Most submachineguns are equipped with slings for ease of carrying. Some are small enough to be carried in a shoulder or hip holster.

*Automatic Rifle:* A highly refined and tuned version of the rifle, capable of full automatic fire as well as semi-automatic shots. Normally, the automatic rifle fires bursts of four bullets for each pull of the trigger. It may be switched to semi-automatic fire at the end of a combat round, after all firing, in which case it is treated as a rifle until switched back to burst mode. Ammunition and magazines are identical to those used for the rifle.

*Assault Rifle:* Assault rifles are a military version of the carbine, firing lighter projectiles than rifles, but are capable of a higher rate of fire and are more suitable to short-range encounters.



*Body Pistol:* A small, non-metallic semiautomatic pistol designed to evade detection by most weapon detectors; increase the difficulty of Sensors checks to detect them to Very Difficult (-4). One cartridge is fired for each pull of the trigger. Pre-loaded magazines may be inserted into the pistol when it is empty, requiring a reload action to do so. Body pistol ammunition is not interchangeable with the ammunition for any other types of guns.

*Laser Carbine:* A lightweight version of the laser rifle, firing high energy bolts using current from a backpack battery/power pack. The laser carbine fires a 2mm beam of energy, aimed by integrated optic sights. The power pack is capable of producing 50 shots before it requires recharging. Recharging requires at least eight hours connected to a high-energy source. The laser carbine is connected to the power pack by a heavy-duty cable.

*Snub Pistol:* These short barreled, low velocity ammunition weapons are low-recoil, designed for use aboard spacecraft and in zero gravity. Come in either auto or revolver style configuration.

**Gyrojet Rifle:** Designed specifically for zero-g combat, the Gyrojet Rifle fires a specially designed round which like a rocket upon leaving the barrel is accelerated by a secondary propelling charge. Normally the rifle fires bursts of three rounds per pull of the trigger, but may be adjusted to fire single rounds.

**Advanced Combat Rifle (ACR):** The ultimate evolution of the conventional firearm, advanced combat rifles are the weapon of choice for many military units. Standard equipment includes an electronic battlefield sight, incorporating both light amplification and IR abilities, visual magnification up to 5x zoom, and a laser rangefinder which may also be used as a target painting device (reveals exact distance to target). The weapon is also gyroscopically stabilized during firing.

**Laser Rifle:** The standard high energy weapon, firing energy bolts in the same manner as the laser carbine. Heavier, the laser rifle is also capable of longer sustained action, and is somewhat sturdier. The power pack can provide 100 shots before recharging. As in the laser carbine, the laser rifle is connected to the power pack by a heavy-duty cable. Power packs are not interchangeable between the two weapons, however.

**Gauss Rifle:** The ultimate development of the kinetic weapon, the gauss rifle generates an electromagnetic field along the length of the barrel which accelerates a bullet to high velocities. The round itself consists of a dense armor piercing core surrounded by a softer metal covering, ending in a hollow point, giving the round excellent stopping power and good armor penetration.



**Laser Pistol:** The TL 9 pistol is bulky, but effective, with no recoil and a large magazine. At TL 11, advances in battery technology and miniaturization mean that the pistol is no larger than a conventional firearm, but must still be connected to a battery pack for sustained use.

**Gauss Pistol:** Gauss pistols use electromagnetic coils to accelerate metallic darts to hypersonic speeds. Gauss weapons are lightweight, efficient and deadly.

**Stunners:** Stun weapons are non-lethal and do not

inflict normal damage. A target struck by a stun weapon must make an Endurance check with a negative DM equal to the damage (after armor is subtracted). If this Endurance check is failed the target is knocked unconscious for as many rounds as the number of effect is failed. If the Endurance check is successful, the character is unaffected by the weapon and the stun damage is ignored.

**Ranged Ammunition**

Referees should feel free to come up with all sorts of special ammunition, in particular for weapons like a shotgun, which does have a lot of different round types made for it.

<u>Weapon</u>	<u>TL</u>	<u>grams</u>	<u>Cr</u>	<u>Rounds</u>
Sling	0	28	1	1
Bow	1	25	1	1
Crossbow	2	20	2	1
Revolver	4	100	5	6
Auto Pistol	5	250	10	15
Body Pistol	7	50	20	6
Snub Pistol	8	30	10	6 or 15
Shotgun	5	600	8	8
Rifle	5	500	20	10
Carbine	5	125	10	20
Auto Rifle	6	500	20	20
Assault Rifle	7	330	20	30
Gyrojet Rifle	9	500	25	15
ACR	10	500	15	20
Gauss Pistol	13	200	20	25
Gauss Rifle	12	400	30	40
Submachinegun	5	500	20	30
Laser Pistol	12	500	100	25
Laser Carbine	8	3kg	200	50
Laser Rifle	9	4kg	300	100
Stunner	11	500	100	30

The Common Ranged Ammunition table describes the cost of ammunition and power packs for certain ranged weapons. Each column is described as follows:

TL: The minimum tech level required to manufacture such an item.

grams: The mass of a full magazine or power pack for a weapon.

Cr: The price of a full magazine of standard ammunition or power pack for a weapon.

Rounds: The number of rounds the weapon may fire before it must be reloaded or recharged.

## Ranged Weapon Accessories

The following options are generally available for certain ranged weapons.

<u>Accessory</u>	<u>TL</u>	<u>kg</u>	<u>Cr</u>
Shoulder Stock	5	1	75
Folding Stock	6	0.5	100
Telescopic Sight	6	0.8	200
Grenade Launcher	8	1.5	1000
Laser Sight	8	—	100
Silencer	8	—	250
Gyrostabilizer	9	—	300
Red Dot Sight	9	1.8	3000
Secure Weapon	10	—	100
Intelligent Weapon	11	—	1000

**Shoulder Stocks:** It is possible to produce a shoulder stock which may be attached temporarily to a pistol or revolver, resulting in a crude carbine arrangement and some greater accuracy at longer ranges. When firing a pistol or revolver equipped with such a stock, treat the weapon as ranged (shotgun). The overall length of the pistol is increased by the length of the stock, and the pistol cannot be holstered. Attaching the stock (or detaching it) requires five combat rounds.

**Folding Stocks:** Carbines, rifles, and shotguns can be equipped with folding stocks which make it possible to reduce the overall length of the weapon by 300mm.

**Telescopic Sights:** High-quality telescopic sights for attachment to weapons, for increasing their accuracy, especially at longer ranges. A weapon equipped with such sights gains an extra +1 DM bonus to any attack that has been aimed. Telescopic sights are delicate, however, and may be jarred out of alignment by any violent action (such as being left untended in a moving truck, a close explosion, or being dropped) on an 8+ on 2d6. When the sights go out of adjustment, the firer will always miss.

**Grenade Launcher:** An under-slung RAM grenade launcher can be added to any rifle at the cost of 1,000 Cr. This grenade launcher has a magazine of one grenade, cannot fire on automatic and takes four minor actions to reload. Simpler non-RAM versions exist at lower TL's.

**Laser Sight:** Integrated optics and laser sights give an extra +1 DM bonus to any attack that has been aimed. Cr 100. At TL 10, x-ray lasers and improved display technology removes the tell-tale 'red dot' of a vislight laser. Cr 200.

**Silencer:** A silencer can be added to any kinetic weapon with Auto or not, masking the sound produced by firing. (–4 DM to detect.) Cr. 250.

**Gyrostabilizer:** Stabilizers can be added to any weapon with recoil, reducing the recoil penalty by one point (to DM-1) for 300 credits.

**Red Dot Sights:** Electronic sights combining the capabilities of both laser and telescopic sights. They are still rather fragile. Cr. 3,000.

**Secure Weapon:** A secure weapon requires authentication in some fashion (scanning the user's DNA or iris patterns, entering a password, transmission of an unlocking code from a comm) before it can be fired. Cr. 100.

**Intelligent Weapon:** This adds Computer/0 to any weapon. Cr 1,000. The TL 13 upgrade adds Computer/1 to any weapon. Typical features of a smart weapon is IFF (Identification Friend or Foe) to prevent accidental shooting, smart safety to prevent anyone else from using it, and skills such as Recon, which it then can show on the user's HUD. Cr 3,000.





## Grenades

A grenade is a small explosive device designed to be thrown by hand (treat as Ranged (thrown) for Difficulty by range) or launched from a grenade launcher (treat as Ranged (shotgun) for Difficulty by range).

<u>Weapon</u>	<u>TL</u>	<u>per case Cr</u>	<u>Damage</u>
Incendiary	5	180	3d6/2d6
Fragmentation	6	180	5d6/3d6/1d6
Smoke	6	90	Special
Flashbang	7	90	2d6 stun
Aerosol	9	90	Special
EMP	9	600	Special
Stun	9	180	3d6 stun
Plasma	12	300	5d6

TL: The minimum tech level required for manufacture.

Price in Credits (Cr) for a case of six grenades.

Damage: The damage a weapon inflicts.

All the grenades in the table mass 0.5kg.

*Incendiary:* Incendiary grenades deal 3d6 heat damage to characters within three meters of the blast; the radius is considered to be ablaze for 2d6 minutes and inflicting 2d6 fire damage to anything that enters the area.

*Fragmentation:* The damage from fragmentation grenades decreases with distance from the blast:

Distance	Damage
3 meters	5d6
6 meters	3d6
9 meters	1d6

*Smoke:* Smoke grenades create a thick cloud of smoke six meters in radius, centered on the location of the grenade. This smoke imposes a -2 DM on all attacks within or through the cloud (doubled for laser weapons). Smoke dissipates in 1d6x3 rounds, although high winds and other extreme weather can sharply reduce this time.

*Flashbang:* A stun grenade, also known as a flash grenade, flashbang, thunderflash, or sound bomb, is a non-lethal explosive device used to temporarily disorient an enemy's senses. Upon detonation, a stun grenade produces a blinding flash of light and an extremely loud "bang". They are often used in close-quarters combat, door breaching, and riot control, typically to stun enemies or distract them.

For those within 1.5 m blast radius of the flash temporarily activates all photoreceptor cells in the eye, blinding it for approximately five seconds. Afterward, victims perceive an afterimage that impairs their vision. The volume of the detonation

also causes temporary deafness in the victim and disturbs the fluid in the ear, causing a loss of balance.

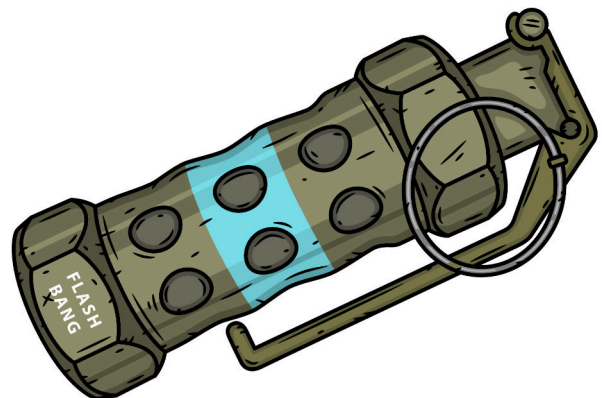
A target in the blast radius must make an Endurance check with a negative DM equal to the damage (after armor is subtracted). If this Endurance check is failed the target is stunned for 2d6 rounds. If the Endurance check is successful, the character is unaffected by the weapon and the stun damage is ignored.

*Aerosol:* Aerosol grenades create a fine mist six meters in radius that diffuses lasers but does not block normal vision. Any laser attack made through the mist has its damage reduced by 10. Laser communications through the mist are completely blocked. The mist dissipates in 1d6x3 rounds, although high winds and other extreme weather can sharply reduce this time.

*EMP:* Electromagnetic Pulse grenades are used to knock out drones, robots, computers and electronic equipment. Any unshielded electronic technology caught in the random radius of an EMP grenade will automatically shut down for 1d6 minutes unless equipped with shielding to prevent this. Few high-tech mercenaries use these devices due to the erratic nature of their effect radius (2d6 m), which can effect their own gear on occasion.

*Stun:* Electrostatic stun weapons are non-lethal and do not inflict normal damage. A target within the three meter blast radius must make an Endurance check with a negative DM equal to the damage (after armor is subtracted). If this Endurance check is failed the target is knocked unconscious for a number of rounds the check is failed by. If the Endurance check is successful, the character is unaffected by the weapon and the stun damage is ignored.

*Plasma:* Plasma grenades use two chemical agents and an electric pulse to start a massive reaction in the grenade's shell, causing it to explode in a small (1.5 m radius) orb of superheated gas.



## Heavy Weapons

<u>Weapon</u>	<u>TL</u>	<u>Cr</u>	<u>kg</u>	<u>RoF</u>	<u>Range</u>	<u>Damage</u>	<u>Recoil</u>
Light Machine Gun	5	3,000	20	6	Rifle	3d6	yes
30mm Auto-Cannon	7	10,000	300	6	rocket	6d6	yes
Grenade Launcher	7	400	6	1	shotgun	By grenade	yes
Rocket Launcher	7	2,000	6	1	rocket	4d6	no
Anti-Material Rifle	8	3,500	30	1	rocket	6d6	yes
Flame Thrower	8	2,500	20	N/A	shotgun	3d6+6	yes
Light Mortar	8	1,250	36	3	rocket	4d6	yes
RAM Grenade Launcher	8	800	6	1 or 3	shotgun	By grenade	yes
Laser Cannon SF	9	200,000	30	1	rocket	10d6	no
Light Tac Missile	9	3,000	20	1	rocket	9d6	no
PGSF	12	20,000	10	1 or 4	rifle	10d6	yes
FGSF	14	100,000	12	1 or 4	rifle	16d6	yes
VRF Gauss Gun	14	200,000	200	100	rocket	5d6	yes

Heavy weapons are human-portable and larger weapons that cause extreme property damage. Each column is described as follows:

TL: The minimum tech level required for manufacture.

Price in Credits (Cr).

Mass in kilograms (kg).

RoF: Rate of Fire. The number of rounds that may be fired during a significant action in the format: Single Shot or Auto

Range: The range category for this weapon.

Damage: The damage a weapon inflicts.

Recoil: Lists if the weapon has recoil when fired.

*Light Machine Gun (LMG):* A heavier belt fed version of the automatic rifle, the LMG fires standard ammunition at staggering speeds. Ammunition is provided in 100 round belts. Reloading requires six minor actions if the weapon is manned by a single individual, two minor actions if a dedicated loader is present. If a loader is present, he may choose to link two 100 round belts to form a 200 round belt on the spot as a minor action. This may not generally be done ahead of time as each belt is carried in its own ammo box. Linked 200 round belts are often provided ahead of time if the weapon is emplaced in a defensive structure or is vehicle mounted.

*30mm Auto-Cannon:* Developed as a tech level 6 aircraft cannon, by TL 7 it had made its way into an assortment of vehicles, however its use in the air still continued. Essentially a drum fed extremely heavy machine gun.

*Grenade Launcher:* Grenade launchers are used to fire grenades over long distances. Grenades for a grenade launcher are not interchangeable with handheld grenades. As well as the rotary magazine six shot grenade launcher, there are single shot versions.

*Rocket Launcher:* To counteract the recoil of the weapon, a rocket launcher channels exhaust backwards in an explosive backblast. Anyone up to 1.5 meters behind a rocket launcher when it fires takes 3d6 damage from the burning gasses. Vehicle-mounted rocket launchers lose this side-effect as a vehicle is a more stable firing platform than a person. It takes three minor actions to reload a rocket launcher.

The rockets presented are high-explosive models. Do not add the Effect of the attack roll to their damage but apply that damage to everything within six meters of the impact point. A rocket that misses has a 50% chance (4+ on 1d6) of detonating upon impact with the ground (6 – Effect meters away in a random direction). Otherwise it will miss completely and leave the battlefield without striking anything or detonating.

*Anti-Material Rifle (AMR):* A rifle designed for use against equipment, structures, and other hardware (materiel) targets. While not intended for use against human targets, the bullet weight and velocity of anti-materiel rifles gives them exceptional long-range capability even when compared with designated sniper rifles. Fires a 13mm projectile, with a five round magazine, and bipod equipped.

*Flamethrower:* A pressurized tank of combustible fuel attached to a projecting nozzle, the flamethrower shoots a long stream of burning liquid and flame at its targets. When fired, the flamethrower's stream strikes a single target and expands in all directions to consume it and the area around it. The fuel does not puncture armor like a bullet, but instead coats the target in burning fuel – which will continue to blaze for several seconds.

In game terms, a flamethrower targets a single point of contact within range, making attack rolls against everything in a straight line from the firer to

that point (rolling in order) – stopping when an attack hits. When the stream hits a target however, it breaks the projection and fills a radius of 3 meters around the target, rolling the damage for the weapon as normal. Anything that suffers damage from a flamethrower will continue to suffer half (round down) the current damage value every round until the damage is halved eventually to 0. Due to the lack of penetration available to a flamethrower's stream, armor values are doubled against flamethrower attacks.

*Light Mortar:* A simple aiming and firing mechanism based on self-propelled rounds being dropped into a tube, the field mortar is primarily used to drop parabolic attacks into the rear of an enemy formation. It takes a crew of two, and skill is combined and divided in half for the to hit roll. It causes each target within a 35 meter radius of the bomb's impact zone to make an athletics save, or take 4d6 damage. At TL8, the fragmentation shell has been re-designed to be more aerodynamic. Extreme range 2 km.



*RAM Grenade Launcher:* Rocket Assisted Multi-purpose grenade launchers have a longer range and are capable of firing up to three grenades with a single attack. This uses the rules for firing on full auto; unlike other weapons with an Auto score, a RAM grenade launcher cannot fire in burst mode. It takes two minor actions to reload a RAM grenade launcher.

*Laser Cannon, Shoulder Fired:* A shoulder fired laser tube designed to take out a vehicle. It consists of a lightweight lens array, and a heavier battery pack. One shot uses the entire power pack's energy. Often seen as barely effective. Extreme range 3 km

*Light Tac Missile:* The light tactical missile system is a fire-and-forget missile with lock-on before launch and automatic self-guidance. The missile is ejected from the launcher to a safe distance from the operator before the main rocket motors ignite. Blast radius 15 meters for HE, pass an Athletics check for half damage. Often called a "dial-a-missile" as it can be used for anti-air, as well as anti-tank missions. Extreme range 2.5 km.

*PGSF (Plasma Gun, Shoulder-Fired):* Inductive heat weapon, causes a cloud of plasma at aiming point. It is so heavy and bulky that it can only be used easily by a trooper with a Strength of 12 or more, usually attained by wearing battle dress. Every point by which a user's Strength falls short is a -1 DM on any attack rolls made with it.

*FGSF (Fusion Gun, Shoulder-Fired):* Atom Laser, similar to its larger sibling. It includes a gravity suspension system to reduce hefting its mass, making it easier to use than the PGSF (minimum Strength 9), and fires what amounts to a directed nuclear explosion. Those without radiation protection who are nearby when a FGSF is fired will suffer a lethal dose of radiation – each firing of an FGSF emits 2d6 x 20 rads, which will affect everyone within the immediate vicinity.

*VRF (Very Rapid Fire) Gauss Gun:* A hyper velocity cryogenically cooled multi-barreled gatling styled rail gun system that is called a "buzz saw" by troops for the way it cuts targets in half, with a screeching blast. It uses a drum type magazine holding 4,000 rounds, where sometimes two can be loaded side by side. It is often setup on a tripod with a radar sensor in sentry mode, to automatically fire on targets.

### Notes on Military Equipment

Militaries have maintenance sections to maintain their equipment, without this, one should look at it as being non-functional until being brought up to spec by an armorer with the relevant skill such as mechanical, or electronics. This applies in particular to heavy weapons, powered armor (including vacc suits), and vehicles; explosives also can age degrade, or expire.



## Heavy Weapon Ammunition

<u>Weapon</u>	<u>TL</u>	<u>Cr</u>	<u>kg</u>	<u>Rounds</u>
LMG	5	20	10	100
30mm Auto-Cannon	7	1,000	100	200
Grenade Launcher	7	180	0.5	6
Rocket Launcher	7	300	1	1
AMR	8	10	1	5
Flame Thrower	8	110	17	25
Light Mortar	8	500	4.5	1
RAM Grenade Launcher	8	180	0.5	6
Laser Cannon SF	9	2,000	20	1
Light Tac Missile	9	3,000	20	1
PGSF	12	2,500	6	40
FGSF	14	65,000	9	40
VRF Gauss Gun	14	200	10	1,000

The Heavy Weapons Ammunition table describes the cost of ammunition and power packs for the listed heavy weapons. Each column is described as follows: TL: The minimum tech level required for manufacture. Cr: The price of a full magazine or power pack. kg: The Mass of a full magazine or power pack. Rounds: The number of rounds the weapon may fire before it must be reloaded or recharged.



## Explosives and Mines

The Demolitions skill is used with explosives and mines, the Effect of the Demolitions skill check multiplies the damage, with a minimum of x1 damage for an Effect of 0 or 1. Explosives are not legally available on any world with a Law Level of 1 or greater.

<u>Weapon</u>	<u>TL</u>	<u>Damage</u>	<u>Radius</u>	<u>Cr</u>
AP Mine	6	5d6-1d6	9m	300
Claymore	6	3d6	30m	200
C4	6	3d6	2d6m	200
AT Mine	7	9d6	3m	900
IED	7	5d6	4d6m	100
Suitcase Nuke	12	2d6x20	15d6m	20,000

*Anti-Personnel Mine, Fragmentation:* Buried and when tripped by a wire, pressure plate, or exposed prongs it detonates. Blast mines can be difficult to detect,

having a non-metallic casing, and only injure the foot of the soldier that steps on it for 3d6 damage. Bounding mines have a small lifting charge that, launches the main body of the mine out of the ground before it detonates at around chest height. This produces a more lethal spray of shrapnel over a larger area. The steel shrapnel makes bounding mines easy to detect.

The damage from fragmentation mine decreases with distance from the blast:

Distance	Damage
3 meters	5d6
6 meters	3d6
9+ meters	1d6

TL 6, Damage Variable, Radius 20 Meters, Cost (Cr.) 300.

*Claymore Mine:* Directional, can be tripwire, or command detonated, fires steel balls out to about 100 m within a 60° arc in front of the device. Targets caught in the blast save with a successful Athletics check, or take 3d6 damage. TL 6, Damage 3d6, Range 30 Meters, Cost (Cr.) 200.

*C4:* This generic, multi-purpose plastic explosive is a favorite of military units, terrorists, demolition teams, and adventurers across known space. TL 6, Damage 3d6, Radius 2d6 Meters, Cost (Cr.) 200.

*Anti-Tank Mine:* An anti-tank mine (abbreviated to "AT mine") is a type of land mine designed to damage or destroy vehicles including tanks and armored fighting vehicles. Late versions usually use a tilt-rod, or some sort of proximity fuse, and the super high explosive or a shaped charge for the kill. Generally a person alone will not set one off, unless in armor such as Battle Dress. TL 7, Damage 9d6, Radius 3 Meters, Cost (Cr.) 900.

*Improvised Explosive Device:* An improvised explosive device (IED) is a bomb constructed and deployed in ways other than in conventional military action. It may be constructed of conventional military explosives, such as an artillery shell, attached to a detonating mechanism. IEDs are commonly used as roadside bombs, or homemade bombs. Due to the somewhat random nature of their manufacture, the referee should roll 4+ on 2d6 to see if it detonates. TL 7, Damage 5d6, Radius 4d6 Meters, Cost (Cr.) 100.

*Suitcase Nuke:* Illegal on all worlds, the suitcase nuke is the size of a large suitcase. TL 12, Damage 2d6 x 20, Radius 15d6 meters, Cost (Cr.) 20,000



## Artillery

<u>Weapon</u>	<u>TL</u>	<u>Crew</u>	<u>kg</u>	<u>RoF</u>	<u>Range min – max</u>	<u>Burst Radius</u>	<u>Damage</u>	<u>KCr</u>
105mm Howitzer	6	7	2,260	1/3	Short – 11.2 km	9m	6d6	35
150mm Howitzer	6	12	4,000	1/4	Short – 12 km	15m	6d6	40
Medium Missile	7	2	300	1	Long – 80 km	15m	8d6	75
120mm Cannon	8	2	3,700	1/2	Short – 3 km	7m (HE)	10d6 AP/6d6 HE	400
200mm MRL	9	3	1,100	6	Medium – 12km	10m	8d6	5
Fusion Z Gun	14	1 or 2	4,200	1/2	Long – 31 km	5 m	20d6	8MCr

These are extra heavy weapons to be used by crews with Gunnery skill.

Each column is described as follows:

TL: The minimum tech level required for manufacture.

Crew: Personnel needed to operate weapon.

Mass in kilograms (kg).

RoF: Rate of Fire.

Range: The effective and minimum for this weapon.

Burst Radius: The point in which distance from where a shot lands, one takes damage.

Damage: The damage a weapon inflicts.

Price in thousands of Credits (KCr).

## Artillery Rules

**Effective Range:** Field Artillery is designed to fire at very long ranges. The number listed is the farthest the target of a Field Artillery attack can possibly be, suffering no penalties at that range. Firing at targets up to +50% of that range will suffer a –4DM to hit. Anything farther cannot be hit at all.

**Minimum Range:** Either due to how difficult to physically manipulate or due to the requirement of parabolic firing arcs, some weapons are extremely difficult to fire at close ranges. For every range band closer to the firing weapon than what is listed, the attack suffers a –4 DM to hit.

**Rate of Fire:** Artillery is difficult to fire rapidly due to reloading and re-aiming constraints. The number listed is the amount of shots that may be fired in a single round, fractions indicate multiple rounds are need to fire a single shot.

**Crew:** This is the number of skilled Gunners needed on hand to ready/aim/fire the weapon properly. For each crew less than the listed minimum, the weapon suffers a –2 DM to hit rolls.

**105 – 150mm Howitzers:** Rifled barrel indirect fire weapons that fire high explosive shells in a parabolic arc, being able to shoot over obstacles, and causing extreme damage to targets with plunging fire. The shells are also commonly used in IED's.

**Medium Missile:** A long range missile with a high explosive warhead, usually fired from some sort of rack, precursor to the ubiquitous ship missile.

**120mm Cannon:** Often called a Tank Cannon or Anti-Tank (AT) Gun. Direct fire high velocity smoothbore design firing fin stabilized discarding sabot penetrator or high explosive shells, if on a towed split tail carriage, it takes a full gunners squad of seven to operate.

**200mm Multiple Rocket Launcher (MRL):** A long range missile artillery system, firing guided munitions. Sometimes set up and used from a remote position, launcher can be a simple towed rack and sometimes is abandoned after electronics are removed.

**Fusion Z Gun:** Like its larger siblings this is an Atom Laser, named so for the atom laser used to heat the plasma in a fusion reactor. Extremely destructive direct fire weapons, and needs a massive amount of energy, usually supplied by another reactor.

## Ammunition

<u>Weapon</u>	<u>TL</u>	<u>Cr</u>	<u>kg</u>	<u>Rounds</u>
105 Howitzer	6	75	15	1
150mm Howitzer	6	120	40	1
Medium Missile	7	2,000	200	1
120mm Cannon AP/HE	8	300/100	20/22	1
200mm MRL	10	600	40	6
Fusion Z Gun	14	Power plant		

Ammunition table describes the cost of ammunition and power packs for the listed heavy weapons. Each column is described as follows:

TL: The minimum tech level required for manufacture.

Cr: The price of a full magazine or power pack.

kg: The Mass of a full magazine or power pack.

Rounds: The number of rounds the weapon may fire before it must be reloaded or recharged.