Cybernetics

(See Fading Suns 2nd Edition pages 226 – 234 for details on non-rule system specific information)

Some Cybernetics are measured in upgrade level. For Example Lights-2 means 2 upgrade levels of cybernetically mounted Lights.

Building Cyber-devices

What Does the Device Do (its Function)?

Each feature is listed with its effect or power, its cost in firebirds and Incompatibility modifiers.

Armor (TL 5): **Cost**: 100 Firebirds per Point to AC. **Incompatibility:** +1 per Point.

Chemical Pump (TL 5): The character has a chemical reservoir and pump or injector that introduces a chemical into his bloodstream when triggered. It takes Full Actions to load the reservoir; once loaded, it takes only Standard Attack Action to trigger the injector. The reservoir can hold up to ten injections worth. If the device also has Automatic Activation, the injector automatically triggers whenever the cyborg needs the drug. For instance, a Chemical Pump with the Elixir regenerative serum and Automatic Activation will inject a dose of Elixir whenever its user loses Hit Points (the cyborg can manually deactivate this function if he does not want to be healed immediately). **Cost**: 300 Firebirds for the basic pump and reservoir, 100 per extra capacity. **Incompatibility** +2

CyberLung: This device allows the bearer to breath a different medium (water, methane, etc.) than his native one (oxygen).

> **Water** (TL5): *Cost: 700 **Firebirds**. Incompatibility +2*

> **Gaseous** (TL6): *Cost: 1500 Firebirds. **Incompatibility** +3*

> **Vacuum** (TL7): *Character can either recycle his own oxygen (or other medium he is capable of breathing) or he has an extra supply. In the absence of oxygen, he can still breathe for a number of hours equal to his **Constitution / 2 (Round Up)**. This does not allow a character to survive decompression, only to exist in it without a constant supply of oxygen. Once the character has left the vacuum (or other airless medium), he must "recharge" the oxygen in his cells by spending a number of hours breathing it equal to the number of hours spent in vacuum. **Cost**: 3000 Firebirds. **Incompatibility** +5*

Cyber-senses :

Magnifier/Telescope (TL5)**:** *See Scope in FSd20 pg113 for effects on Ranged Weapons.* The base cost is for a 10x telescope. *Cost: 300 Firebirds. Incompatibility +1.*

Ultraviolet (TL5)**:** *Cost: 500 Firebirds. Incompatibility +2*

Infrared (TL5)**:** *Cost: 700 Firebirds. Incompatibility +3*

X-Ray (TL6): *Cost: 1000 Firebirds. Incompatibility +5*

Camera (TL5)**:** *Cost: 500 Firebirds. Incompatibility +1*

Video (TL5)**:** *Cost: 1000 Firebirds, +100 Firebirds for each 1 hr recording time increase. Incompatibility +2*

Higher pitch (TL5)**:** *Cost: 300 Firebirds. Incompatibility +1*

Lower pitch (TL5)**:** *Cost: 300 Firebirds. Incompatibility +1*

Radio (TL5)**:** *Cost: 300 Firebirds. Incompatibility +2*

Spy radio (TL5)**:** *Cost: 500 Firebirds. Incompatibility+2*

Tape recorder (TL5)**:** Character can record sounds heard (including radio receptions received). One hour of video can be recorded (each Upgrade Level doubles this time). The media is almost always a mini data crystal. *Cost: 700 Firebird, +50 for each recording Upgrade level. Incompatibility +2*

Hypersmell (TL5)**:** The character can discern people or things by scent alone; roll Spot, adding bonuses or penalties depending on familiarity or unfamiliarity with a scent (GMs discretion). The character can attempt to track someone's passage by his scent trail; roll Wilderness Lore. If the prey passes through water or a crowded area with conflicting smells, penalties may be applied to the roll. **Cost**: 300 Firebirds. **Incompatibility** +1

Hypertouch (TL5): The character can determine what a touched object's surface is made out of through touch alone; roll Spot, adding in applicable Knowledge skill ranks. He may even be able

to detect involuntary emotional responses in people when touching them (increased pulse rate, flushed skin, etc.); roll Sense Motives. **Cost**: 300 Firebirds. **Incompatibility** +1

Hypertaste (TL5): Character can determine the chemical content of objects when tasting them, perhaps even identifying poisons. Roll Spot + appropriate Knowledge skill ranks (cuisine or poison). **Cost**: 300 Firebirds. **Incompatibility** +1

Efficient Organ (TL 5): *Cost: 300-1000 Firebirds depending on the complexity of the organ. (Possible Additional Hit Points; GMs Discretion)*

Energy Shield (TL 5): *(Use the Shield statistics on pg 119 FS d20)*

Shield Type	TL	Firebirds	Incompatibility
Standard	7	750	+3
Dueling	7	1000	+3
Assault	8	4500	+5
Battle	8	7500	+5

Enhanced Ability Scores (TL 5): The device enhances a character's natural physical ability scores (Strength, Dexterity, Constitution, and in some cases Wisdom). Through this device, a character can increase his ability score for that characteristic. **Cost**: 300 Firebirds per Ability Score bonus. **Incompatibility** +1 per Ability Score bonus.

Enhanced Physical Skill (TL 5): Some devices may modify one aspect of a characteristic or specific skill related to that ability score, such as sight or hearing for Wisdom (Spot or Listen) or hand-eye coordination for Dexterity (Balance). The bonus adds to the skill ranks instead of the ability score. **Cost**: 500 Firebirds per bonus. Incompatibility +1 per bonus.

Enhanced Reflexes (TL 5): The character's reflexes and reaction timing have been boosted cybernetically. Perhaps his body is sheathed in a network of wires capable of transmitting signals from the brain quicker, or his nerves were replaced with more efficient, synthetic nerves. Each point spent adds one to the character's Reflex Save rating. **Cost**: 500 Firebirds per bonus. **Incompatibility** +1 per bonus.

Enhanced Fortitude (TL 5): The character's fortitude and endurance have been boosted cybernetically. Each point spent adds one to the character's Fortitude Save rating. **Cost**: 500 Firebirds per bonus. **Incompatibility** +1 per bonus.

Enhanced Hit Die (TL 5): The character is harder to kill. Usually, increased Hit Die implies increased size and mass, but this is not necessarily the case with cybernetics — a device may simply aid the redundancy of the character's organs, toughen his immune system, generate copious amounts of flesh to replace lost tissue, etc. **Cost**: 1000 Firebirds per bonus. **Experience point cost**: 100 per increase die. **Incompatibility** +1 per die.

Extra Limb (TL 5): The character has an extra arm, leg or tentacle, which operates as effectively as the others. Each extra leg adds +5 to the character's base movement. **Cost**: 500 Firebirds per limb. **Incompatibility** +2 per limb.

Flesh Cavity (TL 5): A flesh cavity can hold one Medium sized item, two Small items, or three Tiny items. **Cost**: 300 Firebirds. **Incompatibility** +1.

Flight (TL7): A personal hoverpack allows the character to fly through the power of antigravity. The character must learn the new skill **Flight [Dex]** (always a cross-class skill), and even taking off—let alone maneuvering through the air — requires a Flight roll. Failure does not necessarily mean the character falls, but it can mean he is flung off-course for a turn or two. These are not generally designed for combat use. Flight speed is up to 30 ft per turn base speed. The character can increase his speed + 5 ft per 2 points above the DC on a Flight roll. **Cost**: 3000 Firebirds. **Incompatibility** +3.

Lights (TL 5): A lantern or flashbulb. With the base unit, the user can illuminate a three meter radius area or 10 meters forward in a one meter wide arc. Double the area of effect and distance with each upgrade level. **Cost**: 200 Firebirds per upgrade level. **Incompatibility**+1

Flash (TL 5): The user can produce a flash of bright light to temporarily blind anyone who sees it. Anyone with in a 30 ft radius must make Fortitude save vs DC 17 (=1 per upgrade level) or they are blinded for 2 full turns (plus 1 turn for each upgrade level, up to 6 turns maximum). Blind targets suffer a -6 penalty to all actions involving sight. **Cost**: 300 Firebirds. **Incompatibility** +1

Movement Boost (*TL 5*): *Cost: 300 Firebirds per upgrade level. **Incompatibility**+1 per movement affected.*

> *Running*: The character has powerful muscles in his legs or perhaps wheels with rocket-assist. Double the running distance per upgrade level. No more than three levels can be spent on this feature for bipeds. Quadrupeds can spend up to five levels.

Jumping: The character has powerful muscles or springs in his legs or his leap is rocket-assisted. Double the jumping distance per upgrade level. No more than five levels can be spent on this feature.

Swimming: The character has a streamlined body with a fin or flippers. Double the swimming distance per upgrade level. No more than three levels can be spent on this feature.

Pain Desensitivity (TL 5): The character ignores any wound penalties suffered by losing Hit Points or Critical Hits, and is not affected by occult powers or other methods of causing pain (+6 to resist painful torture). **Cost**: 500 Firebirds. **Incompatibility** +2

Think Machine (TL 5+): **Base Cost**: 1000 Firebirds for the computer, +300 per tech level. **Incompatibility** +1

Data Interface (TL5): **Cost**: +300 Firebirds per extra language. **Incompatibility** +1

Skill Programs (TL5): **Cost**: +100 Firebirds per skill level of the program. **Incompatibility** +2

Neural Interface (TL6): **Cost**: +500 Firebirds. **Incompatibility** +1

Multitasking (TL6): **Cost**: +500 Firebirds per extra program capacity. **Incompatibility**+1

Advisor (TL7): An artificial intelligence that can answer questions put to it on subjects with which it is familiar. The AI possesses a Intelligence Score and a number of levels in Knowledge. It must roll a Knowledge check when answering questions or giving advice. The base Intelligence Score is 9. Each Upgrade level increases the Intelligence 1 point, or 1 rank in a Knowledge skill. **Cost**: +1000 Firebirds plus 200 per Upgrade Level for Intelligence and 50 per skill rank. **Incompatibility** +3

Tool Implant (TL 5): Characters can install tools and other utilitarian or common objects into their bodies, such as a fingertip with hinges back to reveal a screwdriver, or a electric drill that pops up out of a cavity. The placement and effect of the tool should be approved by the gamemaster. **Cost**: x1.5 normal tool cost in Firebirds. **Incompatibility** +1 per tool implanted.

Toxic Immunity (TL 5): *Cost: 1000 Firebirds for the organ, 500 per extra immunity applied to that organ, and 50 firebirds per replacement filter. Incompatibility +1 per immunity.*

Weaponry (TL 5)

>*Damage*: Use the weapons given in the Weapons Chart (in the PHB or FS d20 pg 112) for examples of damage capability. Use those examples as a basis for firebird costs also (x2 for cyberfitting). Incompatibility +2 per material weapon, +3 per energy weapon.

>*Range :* If the weapon can be used at range (guns, crossbows), there is a cost depending on its effectiveness over distance. A spring mechanism to hurl a knife or sword from a concealed sheath or a mini-rocket attached to the weapon can turn a melee weapon into a missile weapon. The actual range should be decided upon, but it is unlikely that a spring-loaded knife would have better than Throwing range. Incompatibility +1

>*Area of Effect*: Common sense should be used when building such weapons: nets are unwieldy at more than 10 ft radius. For explosions, the maximum area of effect is Blast Radius of the weapon. (See Aliens & Devilry: Children of the Gods pg 82 for Grenades)

>*Entangle*: Some weapons (nets, taffy guns) aren't designed so much for damage as for catching enemies. An entangling weapon is rated for its Entangle DC – the base is 10. Each Upgrade level increases the DC by 2. Once an entangling attack successfully hits, the target must make a Escape Artist against the weapon's Entangle DC or else be confined by the weapon.

>*Ammunition*: Use the guidelines from the Weapons Chart (PHB or FSd20 pg 112) for ammunition firebird costs. The same applies to throwing knives, shuriken and other disposable weapons.

>*Load capacity*: The weapon has a set load of shots it can fire before reloading. The default is 10 uses before requiring a reload. With one Upgrade level, it increases to 20 uses. Each Upgrade level adds five uses. A cybernetic weapon requiring energy rather than physical ammunition — such as a blaster — uses standard fusion Cells with the same capacities as listed above; it cannot be Self-Powered (although a Power Generator can recharge its fusion Cells).

>*Autofire:* The weapon can unleash bursts of ammunition with one action. The weapon can perform a standard autofire actions See Autofire rules in the Worlds of the Realm Sourcebook, Hazat Fief.

How is it Attached?

Removable: **Cost**: 500 Firebirds.

Omnisocket : *Each device must have the Removable feature and be fitted to latch onto the socket (50 firebirds per device). The Omnisocket itself costs 300 firebirds.* **Incompatibility*+1***

Organic: The device is so closely tied into the character's body (nervous system, musculature, etc.) that repairing it requires not only the proper Craft skill but Physick Feat (Heal Check) also. In addition, when the device is damaged, the character loses Hit points (depending on the nature of the injury; gamemaster discretion).

Implantation

Actually hooking up with cybertech can be difficult. Just having the firebirds to afford it isn't enough. After acquiring the proper tech, the prospective user has to find a cybersurgeon or cybertech engineer who can install it. Many low-tech surgeons keep a low profile, trying to compensate for the amount of risk they live with by inflating their prices and allying with sub-legal fixers who act as intermediaries. High-tech surgeons affiliate with powerful and wealthy patrons who can offer them protection, and their employers may require favors or compensation before they allow surgeons in their retinue to perform freelance work.

Furthermore, any installation (after character creation) is a gamble. Critical failure (A roll of a 1 followed by a second failure) on a surgery roll can result in slow physiological degradation, psychological maladjustment, or technological breakdowns at crucial moments. The capability of any cybernetic implant is limited by the skill of the surgeon, quality of the device, and wisdom of the user.

Implanting cybertech requires the cybersurgeon to make a several Heal checks (with Physick Feat). The DC base is 25. Bonuses and penalties vary with the complexity of the device and its position in the body.

Device Complexit	Fee
Per feature in the device	+10%
Implant Location	**Fee**
External	300
Internal (implanted into bones, veins, skull, etc.)	600
Vitals (brain, heart, nervous system)	1000
Surgery Conditions	**Fee**
Illicit chop shop	Standard
Guild hospital	+10%
Palace hospital	+20%

Filthy/poor chop shop	-10%
Site suffers routine Inquisitorial scrutiny	x2 cost
Surgeon	**Fee**
Famous	+20%
Infamous	-20-50%
Per HealRank above 5	*+10%*

Example: A Centurion Knife (see Devices, below) with two features (Incognito and Tool Implant) is implanted by an average surgeon (Heal skill 5). The base cost for an external implant (it's going into a flesh cavity on the surface of his arm) is 300. He adds +20% for the two features and 5 firebirds for the spring-loaded knife, for a total of 365 firebirds.

How is it Powered?

Battery-powered *(TL5):* The device requires electrical (TL5) or fusion (TL6+) juice to operate. The base system can be used 10 times before requiring a recharge (at any electrical outlet or fusion charging station). One Upgrade level allows 15 uses, and a second Upgrade level allows 20 uses. Features which only draw mild amounts of power (flashlights, radios, etc.) can operate for 24 hours, or one hour for 1 pt. Devices with the Battery-Powered and Automatic features use up power once per turn, so a 10-use device will run out of power 10 turns later. **Cost**: + 10 Upgrade level to the device. 10 Firebirds per fusion cell (3 per recharge)

Self-Powered *(TL6)*: ***Cost**: +25% Firebirds the cost of the device. **Incompatibility** +1*

Power Generator (TL7): The device uses streamlined fusion which generates more power than is needed for the device itself. Excess power can be used to charge fusion Cells or power devices connected to it by a wire (such as a flashlight or radio). For one Upgrade level, 10 charges worth can be generated per day (10 blaster shots or energy shield hits); and a second Upgrade Level allows 20 charges per day. **Cost**: 3000 firebirds + 500 per Upgrade level. **Incompatibility** +2

What Does it Look Like (its Form)? How noticeable is the device?

Obvious: ***Incompatibility** +1*

Unsightly: The device is ugly, no two ways about it. Whenever the device is noticed, the character suffers a -2 penalty to all Charisma based Skill checks, in addition to the usual bad reactions cyberdevices illicit. **Incompatibility** +1

Messy: The device leaks fluids, steam, sparks or is noisy. In other words, it is a messy device, leaving pollution behind, often causing people to get rather annoyed at the owner of the device. *Incompatibility +1*

Incognito: The device is noticeable with scrutiny (Spot check vs the cyber-surgeon's skill) or once the device is activated. **Incompatibility +1**

Hidden *(TL6)*: *Cost: +10% Firebirds to the cost of the device. Incompatibility +1*

Simulacra *(TL8)*: *Cost: +20% Firebirds to the cost of the device. Incompatibility +1*

What is it Made of? What materials went into its construction?

Metal (TL5): *At lower tech levels, most devices are made of any number of metals, from aluminum and copper to stainless steel. Those with electrical functions may have rubber in their manufacture. While metals are sturdy, and rust is rarely a problem for the alloys used, they are usually heavier than more advanced materials. In addition, they conduct electricity too well - -2 to AC vs. volt-oriented weapons (shockers, frap sticks) or attacks (lightning, etc.).*

Plastic *(TL6)*: *Cost: +10% Firebirds to the cost of the device*

Ceramsteel (TL6): Ceramsteel devices are considered +1 Quality (see below) regardless of workmanship. **Cost**: +50% Firebirds to the cost of the device. **Incompatibility** +1

Synthflesh (*TL6*): *Cost: +5% Firebirds to the cost of the device, 20 firebirds for replacement patches.* **Incompatibility** +1

Synthlife (TL8): *Cost: +30% Firebirds to the cost of the device. Incompatibility +2*

Nanotech (TL8): *Cost: x2 normal Firebird cost of the device. Incompatibility +2*

Repair Systems - Unless otherwise specified, cybernetics must be maintained (cleaned) on a regular basis (at least once per week). When cybernetics break down, a technician must repair them (using appropriate Craft skill.).

Automaintenance (TL6): *Cost: 500 Firebirds. **Incompatibility** +2*

How Well is it Made (its Quality)?

Quality effects how easy it is to repair a device - the higher the quality, the easier the repairs (and the harder it is to damage the device in the first place). Quality modifiers should be used to modify Craft skill checks and should be taken into consideration in case the user rolls a critical failure — the repercussions to the device will be less for higher quality devices. Most cybertech is of standard workmanship.

Masterworked: The device is well made. Add +1 to the repair checks. **Cost**: +10% to the Firebird cost of the device.

Exemplary: The device is an example of trained workmanship. Add +2 to the repair checks. **Cost**: +20% to the Firebird cost of the device.

Supreme (TL6): These devices are extremely durable and don't break or malfunction easily. They are equated with Second Republic-era tech. Add +3 to the repair checks. **Cost**: +30% to the Firebird cost of the device.

Poor: The device is poorly made or has a flaw in its manufacture. Subtract -1 from the repair checks. **Cost**: -10% from the Firebird cost of the device.

Shoddy: The device is badly made or has many flaws in its manufacture. Subtract -2 from the repair checks. **Cost**: -20% from the Firebird cost of the device.

Primitive/Delicate: The device is in disrepair or is extremely delicate; whenever the user fumbles a roll involving the device (rolls a 1 and then fails the fumble check afterwards), the device malfunctions and must be repaired. The nature of the malfunction is up to the gamemaster, but it requires skilled maintenance. In addition, subtract -3 from the repair check for more intensive modifications. Cost: -30% from the Firebird cost of the device.

Expert Tech: The device is so complex that only an expert can repair it. This expert must have the proper Craft skill equal to the tech level of the device.

How Does it Work?

Automatic Activation: *Cost: 300 Firebirds.* ***Incompatibility** +1*

How easy is it to use?

Skill Use: Using the device is somewhat complicated and requires that the character receive some training. The character must purchase a skill named after the cyberdevice, and this skill is only used to operate the device, paired when rolling with whatever Ability Score is appropriate at the time.

Easy: The device is either especially easy to use or actively aids the user in its use, such as a whip with a tracking sensor or a think machine with artificial intelligence and its own skill sets. ***Cost***: *+10% to the cost of the device per Rank.*

Unwieldy*:* The device is bulky, awkward or poorly built and actually hinders the user. **Cost**: -5% to the Firebird cost of the device per penalty point.

Unpredictable: The device sometimes acts in ways not counted on by its user. This could be caused by a variety of reasons: shoddy workmanship, an unfinished prototype, corrupted memory structures (in the case of nanotech), etc. Anytime the character rolls a critical failure (a roll of a one and a failure on the fumble roll) when using the device, it begins to act up in unpredictable ways. This usually lasts for a number of turns (or hours) equal to the character's half the character's Constitution score. However if the device has been misused or unmaintenanced, the effects of this malfunction may last longer. **Cost**: -10% from the Firebird cost of the device.

What is the Tech Level or the Device?

Tech Lvl	Device
5	The lowest tech level at which cybernetics can be made is TL5. Most tech made at this level is obvious or incognito at best and cannot be hidden or made to perfectly replicate human functions. Power is confined to electrical energy stored in batteries. Materials include metals and basic polymers.
6	Hidden devices, standard fusion power, synthflesh, advanced polymers, ceramsteel

7	Field manipulation (energy shields), artificial intelligence (Pygmallium), advanced fusion power
8	Simulacra devices (synthlife), nanotechnology, advanced artificial intelligence (nearly indistinguishable from human sentience)

Tech Level: Some devices may be made with a higher tech level than required: a TL8 camera if far more advanced than a TL5 version. In general, the higher the tech level, the smaller, more durable and efficient the device. It costs 200 firebirds per tech level higher than the minimum required.