

### CYBER SYSTEM CODES

Many Cyber Systems may be combined with others, or placed in sequences. Some may be implanted in any of several different body locations. The placement and interfacing of these Systems is only limited by the ingenuity of the player (and the PC's Credit account!). To aid the GM and players in this, the name of each System listed here is followed by a series of codes which provide a guideline to the schematic

operation of the System. The codes are divided by dashes into three parts:

- **Input Functions:** denotes the System's source of energy or substance);
- **Internal Functions:** indicates what the System does with that energy/substance;
- **Output Functions:** indicates where the treated energy/substance is routed to after the System has done its job). These codes are described below:

### CYBER SYSTEMS CODES CHART

#### INPUT FUNCTION CODES

- B = BRAIN;** accepts waves/impulses directly from the brain
- C = CYBER;** accepts energy from other Cyber Systems or cybernetically compatible constructs (usually via internal NerveLink or external DNI hookup)
- E = ENVIRONMENTAL;** accepts physical/sensory input from the environment
- M = MUSCLE;** accepts kinetic energy from muscular movements
- N = NERVES;** accepts biosignals from organic/synthetic nerves
- P = PHYSIOLOGY;** accepts some organic fluid/hormone/substance
- T = TELECOMM;** accepts data via wireless transmission

#### INTERNAL FUNCTION CODES

- A = AMPLIFICATION;** of input signal
- D = DISTRIBUTION;** of energy/substance to output
- F = FORMATTING;** input against internally-created design
- I = IMPEDANCE;** of input signal (may be only partial)
- O = ORGANIZATION;** of input according to set specifications
- P = PROCESSING;** of input via electronic data manipulation
- S = STORAGE;** of input energy/substance
- T = TRANSLATION;** of input signal to mode suitable for output :

#### OUTPUT FUNCTION CODES :

- A = ACTUATE;** somatic Cyber System impelled to perform desired action
- B = BRAIN;** sends waves/impulses directly into the brain
- C = CYBER;** sends energy to other Cyber Systems or cybernetically compatible constructs (usually via internal NerveLink or external DNI hookup)
- E = ENVIRONMENTAL;** sends output (usually energy) into the environ
- M = MUSCLE;** sends energy to muscular system, causing movement/effect
- N = NERVES;** sends biosignals to organic/synthetic nerves
- P = PHYSIOLOGY;** sends some fluid/hormone/substance into the body
- T = TELECOMM;** sends data via wireless transmission

**Note:** In any of the three positions, an "X" indicates that the System performs no such function. Entries in parentheses () indicate that such a function is possible for the System (given the proper equipment and skill), as an option (generally one of the given options may be chosen as a substitute for the primary function at no additional cost).

By making use of these Function Codes, the GM and players can come up with an amazing variety of individualized systems. There are two basic ways to achieve this: Combination and Sequencing.

**CYBER SYSTEM COMBINATION**

If two (or more) Cyber Systems can obtain input from the same source and direct output to the same Output Function, they may be combined into one hybrid System. Such combination requires an Elec Tech construction project of *Moderate* or *Hard* difficulty (GM's discretion). The hybrid System may be implanted with a single Implantation project (see below); the DL (Difficulty Level) is equal to the hardest of the original DL's involved. The Implantation roll receives a penalty of -30 (due to the complex and intricate nerve wiring necessary). Cyber System Combination is most desirable when only a limited amount of implant space exists (e.g., Visual Systems can only be placed in two places — a character who wants three Visual Systems implanted will have to combine at least two of them into one "eye"). Another good reason for combining Systems is that most infrared, ultrasound, or magnetopulse scans (unless performed at an extremely close range) will reveal the presence of an Implant, but not the exact number or type of Systems within it.

**CYBER SYSTEM SEQUENCING**

Cyber Systems can be strung in sequences, with one system's output routed directly into another System's input channels. The Systems involved are not actually combined, and may even be implanted in different areas of the body, although all such Systems must be connected by a length of NerveLink (see below) or tubing. In order for sequencing to be possible, the Function Codes of each System must contain either the "Cyber" or "Nerves" in the proper place (the first System in the sequence must have Cyber or Nerves output, while the last must have Cyber or Nerves input — any further Systems between these two extremes must have Cyber or Nerves (as appropriate) in both input and output positions).

**IMPLANTATION**

The Task Abbreviation given for Implantation of each System tells which column of the *Construction/Research Chart* will be used when the System is implanted (characters who are Cybernized before play may ignore these notes). As is typical of the post-industrial world of *Cyberspace*, parts are relatively inexpensive compared to labor costs. The base cost of Cyber Implantation is shown below (various factors, such as personal reaction, ethics, location and the CyberMedic's reputation can influence these base costs by up to 50% in either direction — these judgments are subjective and left to the GM). Most implantation projects of *Hard* or greater difficulty involve the cooperation of two or more CyberMedics (due to the number of hours of work involved).

**CYBER SYSTEM IMPLANTATION COSTS CHART**

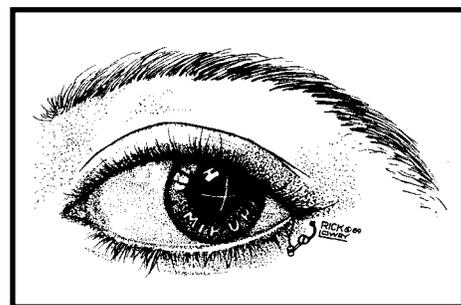
Implantation Difficulty Base	Cost fir Implantation
Routine .....	25
Easy .....	50
Moderate .....	100
Hard .....	500
Complex.....	2500
Very Complex .....	10000
Absurd .....	100000

The cost figures given include all necessary parts, and are figured in standard World Dollars. Labor charges for implantation are *not* included (see above). In most cases, more than one System may be incorporated into a single Implant, although the cost increases substantially and the actual implantation process is a bit

more difficult. Basically, for each System beyond the first in an Implant, the total cost of all Systems goes up 50% and the Implantation roll receives a penalty of -10 (e.g., two Systems in a single Implant would cost 150% of the total base cost of both Systems and the Implantation roll would receive a Penalty of -10; three Systems would cost 200% of the total base cost of all three and the Implantation roll would receive a Penalty of -20; etc.).

**1.1 SENSORY SYSTEMS**

These cybernizations affect the user's ability to perceive his environment.



**1.1.1 VISUAL/SIGHT**

Visual Systems are cybernetic sensors and processors which are designed to replace a human eye or otherwise enhance human vision. A Visual Implant contains one or more of the Systems described below, most of which are sensitive to various specific types of radiation. Any Visual System which receives its input directly from the environment (Input Code E) is housed in a false eye Implant. These Implants are designed to look like an actual eye of the correct color, although more decorative characters may have different colored irises installed at no extra cost (a popular option these days, especially in violet, crimson, pure black or pure white). If the character wishes the Implant to look unnatural (i.e., not camouflaged — metallic, synthetic, obviously cybernetic), the cost is decreased by 10%. "Stock" Visual Systems, being passive/sensory in nature, are always operating, although for an additional cost of \$100 any System might be set with a Somatic Trigger which activates or deactivates the System (e.g., closing eyes hard while looking downward, etc.) — if more than one System is present within a single Implant each trigger must be set and paid for separately.

*Note Statistics provided are for ONE eye only.*

**Megavision:** Environ→Amp→Nerves (Cyber) [E-A-N(C)] Allows enhanced vision over great distances, and multiplies the apparent size of objects at shorter distances. Megavision Systems are assigned a Mk# which equals their magnification and range multipliers (i.e., Mk.3 megavision triples the range of “normal” vision and allows 3x magnification at “normal” ranges).

**Microvision:** Environ→Amp→Nerves (Cyber) [E-A-N(C)] Allows enhanced perception of objects which are of extremely small size and are viewed at very close range (i.e., within 20 cm or so). Microvision Systems are assigned a Mk# which rates the quality of the system’s microscopic magnification; Mk 1 Systems magnify objects 100 times, and each successive Mk# increases the magnification by a factor of 100 (e.g., Mk 2 = 200x, Mk 3 = 300x, Mk 4 = 400x, etc.).

**Visual Clarity:** Environ→Amp→Nerves (Cyber) [E-A-N(C)] Allows greater definition of all objects within visual range, adding a Rating Bonus to all Perception rolls defined by the Rtg# of the Implant (the GM may wish to apply this Mod to other related rolls as he sees fit).

**Spectral Range:** Environ→Amp/ Translate→Nerves(Cyber) [E-AT-N(C)] Allows the wearer to perceive wavelengths of radiation which are significantly longer (or shorter) than normally visual light waves. The System may include sensitivity toward any number of the following “spectral sets” at no penalty (each set must be paid for separately, but they are all considered one System): Short Waves, Standard Radio Waves, VHF, UHF, SHF (Radar), Ultraviolet, X-Rays, Gamma Radiation, Infrared, or Microwaves.

**Thermal Vision:** Environ→Formatting→Nerves (Cyber) [E-F-N(C)] Allows the viewer to perceive objects in terms of their temperature — the difference between these and Infrared Range Systems is that the target object need not be emanating heat to be visible (as is the case with IR sensitivity). The actual temperature of an object determines the color it appears to be (as shown in the table below); brightness and “mixed colors” serve to provide more detail than the simplistic categories given here.

Color	Temp (F°)	Temp (C°)
White .....	150 & up .....	66 & up
Red .....	130-149 .....	55-65
Orange .....	100-129 .....	38-54
Yellow .....	80-99 .....	27-37
Green .....	70-79 .....	21-26
Blue .....	50-69 .....	10-20
Indigo .....	20-49 .....	(-7)-9
Violet .....	19 & down .....	(-8) & down

**Lowlight:** Environ→Amp→Nerves(Cyber) [E-A-N(C)] Allows the viewer to better perceive objects in dim light settings (anywhere from -5 for light shadows to -50 for total darkness). Such a System is given a Rtg#, and adds a Rating Bonus to perception and other rolls which require visual discrimination. Note that the resultant total may totally eliminate dim light penalties, and even raise these factors to positive levels.

**Antiglare:** Environ→Impedance→Nerves (Cyber) [E-I-N(C)] Protects the viewer from the optical damage or difficulties which arise due to bright light exposure. This System is colloquially referred to as “shades”. Shades are popular amongst riot control cops whose units frequently rely on the use of “Field Blinder” lasers as well as asteroid miners and lunar surface workers whose natural environments provide little protection from the burning rays of the sun. They are given a Rtg# which adds a Rating Bonus to offset any glare penalties set by the GM. Penalties may be brought to zero by the adjustment, but may never be raised to positive values. A character’s Antiglare Rating may also be used to add a bonus to a RR to resist the effects of being dazed by sudden flashes of bright light (like that produced by a flash grenade).

**Microphoto:** Environ→Storage/ Translation→None(Cyber/Nerves) [E-ST-X(CN)] Allows the viewer to record photographic images of whatever he sees. These images are stored on miniature hi-resolution “film”, which is available in most corporate sectors (it is used for a variety of overt activities). Microphoto Systems are rated by Mk#; each Mk# adds one to the number of exposures stored. An enhanced personal viewer unit or photographic enlarger is necessary to create normal-sized pictures from these microphotos,

although for an additional \$1,000 the System may be built with an internal scanner which allows the wearer to peruse past photos (within his head) at leisure. Also, a Microvision System (see above) of Mk.5 or better may be used to view the film, once ejected, with ease. Cost of film replacements: \$10 per pack of 10 exposures.

**NOTE:** Removal or reloading of film requires a SM/Ag:M.

**Microvideo:** Environ→Storage/ Translation→None(Cyber/Nerves) [E-ST-X(CN)] Allows the viewer to record motion picture images of whatever he sees. Images are stored on miniature hi-resolution videotape, which is available in most corporate sectors (it is used for a variety of covert activities). Rated by Mk#; each Mk# allows one full minute of stored visual data. An enhanced personal viewer unit or video duplicator is necessary to create normal-sized videotape from this micro-videotape, although for an additional \$2,000 the System may be built with an internal scanner which allows the wearer to view previously shot scenes (within his head). Cost of micro-videotape: \$20 per minute of exposure.

**NOTE:** Removal or reloading of videotape requires a SM/Ag:M.



**Targeting:** Environ→Formatting→Cyber [E-F-C] Functions as an internal Heads-Up-Display, registering target range and position against a cross-haired scope and displaying these factors in small characters at the edge of the visual field. Targeting Systems are of little use unless linked to a Smart Gun or Programmed Response module, either of which can use the targeting information to increase the accuracy of their shots. This System is given a Rtg# which adds a Rating Bonus to the character's OB with a Smart Gun.

**Internal Readout:** Cyber→Translate/Formatting→Nerves [C-TF-N] Receives input from other systems, and prints this data out in the form of small glowing characters which appear in the corner of the wearer's field of vision. Viewed from outside, there is no way to tell that the wearer is receiving information. Input for these Systems may come from a Data

Transmission System or other internally-mounted System (via NerveLink), or from some external source (requiring a DNI hookup with the source device).

**Visual Processor:** Environ(Cyber)→Processing/Translation/Storage/Brain(Cyber [E(C)-PTS-BC] This device makes use of a tiny microprocessor which stores viewed data in digital arrays. Patched in to the ocular nerves directly behind the eye (or Visual Implant), it does not count as a Visual System. Rather, it is considered a "neurological" one, and therefore counts double for purposes of CIRS. Rated by Mk#, each Mk# allows one minute of stored visual data. The Processor is capable of searching for, replaying and translating all stored data by mental command (this requires a Cyber Attunement roll and is "seen" in the wearer's mind just like a perfectly visualized memory). In addition, if the wearer is equipped with a DNI-link or Visual Data Transmission, the Implant can route stored data through these output channels to be translated by another computer.

### 1.1.2 AUDITORY/HEARING

Auditory Systems are cybernetic sensors or processors which are designed to replace a human ear or otherwise enhance human hearing. An Auditory Implant contains one or more of the Systems described below, most of which are sensitive to various specific types of atmospheric vibration. Any Auditory System which receives its input directly from the environment (Input Code E) is housed in a false ear Implant. These Implants are designed to look like an actual ear, although if the character desires the Implant to look unnatural (i.e., obviously cybernetic), the total "parts" cost is decreased by 10%. "Stock" Auditory Systems are passive/sensory in nature, and

are always operating, although for an additional cost of \$100 any System may be set with a Somatic Trigger which activates or deactivates the System. These triggers are generally manipulated by moving the muscles of the cheek and jaw (e.g., pressing molars together while tensing the muscles of the right cheek, etc.) If more than one System is present within a single Implant, each trigger must be set and paid for separately.

**NOTE:** Statistics provided below are for *one ear only*.

#### **Directional Mike:**

Environ→Impedance→Nerves(Cyber) [E-I-N(C)] Provides a narrowed field of hearing for the wearer, effectively limiting auditory input to a cone-shaped area (this eliminates any extraneous noises from other areas around the wearer). The direction which the mike is set at is semi-permanent (the wearer must turn his head to pick up sounds from other vectors), but may be altered by a CyberMedic who succeeds in a SM/CybT:L. Four types are available, differing only in terms of the "width of field": 30 degrees, 10 degrees, 1 degree and variable (this last allows the wearer to increase or decrease the width of field by tensing the muscles of the jaw). Sound

#### **Sound Amplifier:**

Environ→Amp→Nerves(Cyber) [E-A-N(C)] Magnifies the volume of all sounds heard (and increases the maximum listening range by the same amount). Amplifier Systems are rated in Mk#s; each Mk# adds 1x amplification/range to the human normal base. The drawback, however, is that they amplify *All* sounds in the area of effect — not just those desired. Directional Mikes or Sound-Out Systems may be co-implanted in a Cyber System Combination to solve this problem.

**Sound-Edit-Out:** Nerves(Cyber)→ Impedance/Organization/Processing→Brain [N(C)-IOP-B] Allows the wearer to specify which particular sound(s) in the environment he wishes to concentrate upon, and nullifies the nerve signals which carry any other sounds. Patched in to the auditory nerve directly behind the ear (or Auditory Implant), it does not count as an Auditory System. It does, however, count towards the total number of Implants for the brain — see *Neurological Systems* below. The System is primed by a Somatic Trigger (such as twitching the muscles of the lower jaw), and immediately begins cycling through all audible sounds in the area one by one, filtering out all but the current sample. When the desired sample is heard, the wearer repeats the trigger act, locking the System in that mode until the trigger is performed a third time (or the desired sound ceases). A Sound-Edit-Out System is given a Rtg# which adds a Rating Bonus to auditory Perception rolls (at the GM's discretion, other skills/maneuvers may receive this bonus as well).

**Sonic Range:** Environ→Amp/Translation→Nerves(Cyber) [E-AT-N(C)] Allows the wearer to hear vibrations, the wavelengths of which are significantly longer (or shorter) than those of normally audible sounds. The Sonic Range System may include sensitivity toward any number of the following "sonic sets" at no penalty (each set must be paid for separately, but they all are considered one System): Subsonic Frequency, Short Wave, Low Frequency, Modulated Frequency (FM), High Frequency, Very High Frequency (VHF), Ultra-High Frequency (UHF), Super High Frequency/Radar (SHF), or Extra High Frequency (EHF).

**Audiorecord:** Environ→Storage/Translation→None(Cyber/Nerves) [E-ST-X(CN)] Allows the listener to make internal recordings of any sounds he hears. These recordings are stored on miniature hi-fidelity audio tapes, which can be purchased in nearly any corporate sector. Audiorecord Systems are rated by Mk#; each Mk# allows five full minutes of stored audio data. A microtape player is necessary for replaying these tapes, although for an additional \$500 the System may be built

with an internal scanner and speaker which allows the wearer to hear previously recorded segments (within his head). Cost of micro-audiotape: \$10 per five minutes of playing time.

**NOTE:** *Removal or reloading of microtape requires a SM/Ag:M.*

**Internal Speaker:** Cyber→Amp/Distribution→Nerves [C-AD-N] Allows input signals to be heard within the confines of the wearer's own head. Such signals may come from any other audio device, via NerveLink or telecommunications channels (requiring an Audio Data Receiver).

**Audio Processor:** Environ(Cyber)→Processing/Translation/Storage→Brain/Cyber [E(C)-PTS-BC] Makes use of a tiny microprocessor which stores auditory data in digital arrays. Patched in to the auditory nerve beyond the inner ear (or Auditory Implant), it does not count as an Auditory System. It does count toward the total number of Implants for the brain — see *Neurological Systems* below. These Systems are rated by Mk#; each Mk# allows one minute of stored audio data. The Processor is capable of searching for, replaying and translating all stored data by mental command (this requires a Cyber Attunement roll and is "heard" in the wearer's mind just like a perfectly recalled memory). In addition, if the wearer is equipped with a DNI-link or Audio Data Transmitter (see below), the Implant can route stored data through these output channels to be translated by another computer.

### 1.1.3 GUSTATORY/TASTE

Gustatory Systems are cybernetic sensors or processors which enhance the standard human sense of taste. A Gustatory Implant contains one or more of the Systems described below, most of which are sensitive to various specific types of taste-producing chemicals. Any Gustatory System which receives its input directly from the environment (Input Code E) is housed in a false tongue Implant or placed within the tongue itself. "Stock" Gustatory Systems are passive/sensory in nature, and are always operating, although for an additional cost of \$100 any System might be set with a specific Somatic Trigger which activates or deactivates the System.

The required trigger mechanisms usually involve moving the tongue and/or jaw in some specific combination (e.g., touching the tongue to the roof of the mouth while moving the jaw to the right, etc.). If more than one System is present within a single Implant, each trigger must be set and paid for separately.

**Taste Sensor:** Environ→Amp→Nerves(Cyber) [E-A-N(C)] A small processing device implanted in the tongue, the Taste Sensor categorizes gustatory input before passing its signal on to the brain. The Rtg# of the System provides a Rating Bonus to Perception skill when attempting to identify known tastes (it does nothing for previously untasted substances).

**Taste Processor:** Environ(Cyber)→Processing/Translation/Storage→Brain/Storage [E(C)-PTS-BS] A tiny microprocessor which stores gustatory data in digital arrays, and can process input from the tongue itself or another Cyber System (via NerveLink). This System is rated by Mk#; each Mk# allows ten specific tastes to be stored. The Processor is capable of searching for, replaying and translating all stored data by mental command (this requires a Cyber Attunement roll, and the wearer actually "tastes"

— or thinks he tastes — the replayed sensations). In addition, if the wearer is equipped with a DNI-link or Taste Data Transmission, the Implant can route stored data through these output channels to be translated by another computer.

### 1.1.4 OLFATORY/SMELL

Olfactory Systems are cybernetic sensors or processors which enhance the standard human sense of smell. An Olfactory Implant contains one or more of the Systems described below, most of which are sensitive to various specific types of scent-producing chemicals. Any Olfactory System which receives its input directly from the environment (Input Code E) is housed in a false nose Implant or placed within the nasal cavity. “Stock” Olfactory Systems are passive/sensory in nature, and are always operating, although for an additional cost of \$100 any System may be set with a specific Somatic Trigger which activates or deactivates the System. The trigger mechanisms usually involve moving the facial muscles around the nose and/or inhaling or exhaling in some specific combination (e.g., flaring the nostrils while exhaling sharply, etc). If more than one System is present within a single Implant, each trigger must be set and paid for separately.

**Olfactory Sensor:** Environ(Cyber)→ Amp→ Nerves(Cyber) [E(C)-A-N(C)] A small processing device implanted along the olfactory nerve, the Olfactory Sensor categorizes input before passing its signal on to the brain. The Rtg# of the System provides a Rating Bonus to Perception skill when attempting to identify known scents (it does nothing for previously unknown substances).

**Directional Scent:** Environ→ Impedance→ Nerves(Cyber) [E-I-N(C)] Provides a narrowed field of olfactory perception, effectively limiting input to a cone-shaped area (this eliminates any extraneous scents from other areas around the wearer). The wearer must turn his head to pick up scents from other vectors). Four types are available, differing only in terms of the “width of field”: 30 degrees, 10 degrees, 1 degree and variable (this last allows the wearer to increase or decrease the width of field by Somatic Trigger such as flaring the nostrils, etc.).

**Olfactory Range:** Environ→ Amp→ Nerves(Cyber) [E-A-N(C)] Increases the maximum distance over which the wearer can pick up scents. Rated by Mk#; each Mk# adds +5 meters to the range.

**Scent-Edit-Out:** Nerves(Cyber)→ Impedance/Organization/Processing→ Brain [N(C)-IOP-B] Allows the wearer to specify which particular scent(s) in the environment he wishes to concentrate upon, and nullifies the nerve signals which carry any other scents. Patched in to the olfactory nerve, Scent-Edit-Out does not count as an Olfactory System. It does, however, count toward the total number of Implants for the brain — see *Neurological Systems* below. The System is primed by a Somatic Trigger (such as inhaling sharply, etc.), and immediately begins cycling through all scents in the area one by one, filtering out all but the current sample. When the desired sample is smelled, the wearer repeats the trigger act, locking the System in that mode until the trigger is performed a third time (or the desired scent disappears). A Scent-Out System is given a Rtg# which adds a Rating Bonus to auditory Perception rolls (at the GM’s discretion, other skills/maneuvers may receive this bonus as well).

**Scent Processor:** Environ(Cyber)→ Processing/Storage/Translation→ Brain/Cyber [E(C)-PST-BC] A tiny microprocessor which stores olfactory data in digital arrays, and can process input from the olfactory nerve itself or another Cyber System (via NerveLink). These Systems are rated by Mk#; each Mk# allows ten specific scents to be stored. The Processor is capable of searching for, replaying and translating all stored data by mental command (this requires a Cyber Attunement roll, and the wearer actually “smells” — or thinks he smells — the replayed sensations). In addition, if the wearer is equipped with a DNI link or Scent Data Transmitter (see below), the Implant can route stored data through these output channels to be translated by another Computer.

### 1.1.5 TACTILE/TOUCH

Tactile Systems are cybernetic sensors and processors which enhance the standard human sense of touch. Any Tactile System which receives its input directly from the environment (Input Code E) is housed in a Tactile Implant, placed just under the skin and linked into the local afferent nerve network (generally in the fingertips, although other possibilities may be desirable). “Stock” Tactile Systems are passive/sensory in nature, and are always operating, although for an additional cost of \$100 any System might be set with a specific Somatic Trigger which activates or deactivates the System (e.g., touching the implanted area with the right index finger, etc.). If more than one System is present within a single Implant, each trigger must be set and paid for separately.

**Sensitouch:** Environ→ Amp/Distribution/Translation→ Nerves(Cyber) [E-ADT-N(C)] Nerve ending enhancers placed in small skin grafts, Sensitouch pads are given a Rtg# which generate a Rating Bonus for Tactile Perception rolls, as well as any manipulatory maneuvers which require tactile sensitivity (such as repairing small mechanical objects, etc.). The Sensitouchpads are about one square centimeter in area, and are generally placed on all ten digits (although other parts of the body might be used as well).

**Tactile Edit-out:** Nerves→Impedance/Organization/Processing→Brain [N-IOP-B] Allows the wearer to specify which particular tactile nerve signals he wishes to concentrate upon, and nullifies all other tactile nerve signals. Patched into the central nervous system at the base of the neck, Tactile Edit-Out does not count as a Tactile System. It does, however, count toward the total number of Implants for the brain — see *Neurological Systems* below. The System is primed by a Somatic Trigger (such as scratching the base of the neck while facing left, etc.), and immediately begins cycling through all incoming tactile sensations one by one, filtering out all but the current sample. When the desired sample is felt, the wearer repeats the trigger act, locking the System in that mode until the trigger is performed a third time (or the desired sensation ceases). A Tactile Edit-Out System is given a Rtg# which adds a Rating Bonus to tactile Perception rolls (at the GM's discretion, other associated skills/maneuvers may receive this bonus as well).

### 1.1.6 THERMAL/TEMPERATURE

Thermal Systems are cybernetic sensors and processors which enhance the standard human sense of temperature. They operate much as do Tactile Systems, and could be placed in any Body Location. Any Thermal System which receives its input directly from the environment (Input Code E) is housed in a Thermal Implant, which is placed just under the skin and linked into the local afferent nerve network. "Stock" Thermal Systems are passive/sensory in nature, and are always operating, although for an additional cost of \$100 any System might be set with a specific Somatic Trigger which activates or deactivates the System (e.g., flexing and holding the muscles directly around the Implant for five seconds, etc.). If more than one System is present within a single Implant each trigger must be set and paid for separately.

**Thermal Sense:** Environ→Translation→Brain(Cyber) [E-T-B(C)] Little more than a highly accurate thermometer placed near the skin anywhere on the body, this unit measures the precise temperature of the surrounding air in both Fahrenheit and Celsius degrees, relaying this data to the brain or another Cyber System. The wearer is instantly (and constantly) informed.

**Thermal Edit-out:** Nerves→Impedance/Organization/Processing→Brain [N-IOP-B] Allows the wearer to ignore (actually, to be totally oblivious to) the effects of temperature. Patched into the central nervous system at the base of the neck, Thermal Edit-Out does not count as a Thermal System. It does, however, count toward the total number of Implants for the brain — see *Neurological Systems* below. There are some dangers associated with this System: in dangerously hot or cold environments, (where hypothermia, frostbite, heat prostration, and other such ailments are likely) the wearer's body will begin taking damage without the wearer's knowledge (in such situations, discomfort can be a necessary warning).

### 1.1.7 SPECIAL SENSORY SYSTEMS

The two Systems which follow are specialized versions of new sensory input channels into the human body. Each requires hook-up to another Cyber System which serves as the "output device" — allowing the wearer to make sense of the data received.

**Bioradar:** Environ→Formatting→Cyber(Nerves) [E-F-C(N)] A specialized data transceiver which can be used as an internal radar device, emanating high-frequency waves and monitoring the conditions of their bounceback to determine the presence and location of objects. Rated by Mk#, each Mk# adds 50 meters to the effective range of the System. BioRadar requires some sort of output device to route its signal to, such as a NAC (Neurological Activity Controller), or an Internal or External Readout System.

**Biosonar:** Environ→Formatting→Cyber(Nerves) [E-F-C(N)] Operating much as the BioRadar System above, but sending lower frequency sound waves which are especially useful underwater. Rated by Mk#, each Mk# adds 50 meters to the effective range of the System. BioSonar requires some sort of output device to route its signal to, such as a NAC, or an Internal or External Readout System.

## 1.2 SOMATIC SYSTEMS

These cyber systems are concerned with output as opposed to sensory input.

### 1.2.1 VOICE

Vocal Systems are audio effect devices and processors which enhance or alter the human voice. All of these Systems are implanted in the voice box or larynx. "Stock" Vocal Systems are always operating, although for an additional cost of \$100 any System might be set with a specific Somatic Trigger which activates or deactivates the System (e.g., making a low grumbling noise in the throat, etc.). If more than one System is present within a single Implant, each trigger must be set and paid for separately.

**Vocal Range:** Muscle→Formatting→Muscle [M-F-M] Often used by singers and stage performers, this device increases the wearer's vocal range (in terms of octaves). Rated by Mk#, each Mk# adds a range of one octave to the wearer's normal vocal abilities. This range must be specified up or down.

**Vocal Modulator:** Muscle(Cyber)→Formatting→Muscle [M(C)-F-M] Used by the strangest and most experimental singers, this unit allows the wearer to create bizarre voice effects, such as may be done with synthesizers. Rated by Mk#,

each Mk# adds one voice effect to the wearer's repertoire. Popular effects include "Grumble", "Echobox", "Fuzztone", "Reverb", "Helium" and "Banshee" tones.

**Vocal Amplifier:** Muscle→Amp→ Environ [M-A-E] Not much more than an implanted microphone and amp system, this unit increases the wearer's vocal volume and range (in terms of distance). Rated by Mk#, each Mk# adds .5x amplification to the wearer's voice (e.g., a Mk 4 unit multiplies volume by 2x).

**Subvocal Transmission:** Muscle→Amp→ Telecomm(Cyber) [M-A-T(C)] Allows wearer to transmit messages which are spoken extremely quietly (barely whispering in the back of one's own mouth). Rated by Mk#, each Mk# adds 10 meters of transmission range. As an alternative, a Mk 1 unit may be patched into an internal transmission device via NerveLink.

**Vocal Emulator:** Cyber→ Storage/ Translation→Muscle/Nerves [C-ST-MN] A specialized microprocessor which electronically stores voiceprints and acts in synch with the laryngeal muscles to duplicate these voices when the wearer speaks, effectively mimicking other people. Input (voices to emulate) may be set in the unit when implanted (assuming voiceprints are available), or may come from Auditory Systems. In addition, special NACjack programs are available (sold as gimmicks or on the black market), which can

download the voices of famous people or common "types". The Vocal Emulator is rated by Mk#; each Mk# allows the device to store one voiceprint.

## 1.2.2 MANIPULATION

Manipulation Systems are various sorts of artificial hands. All are operated by the neural commands which once controlled movement of the original hand. The costs given are for Implants which look like the actual human hand they replaced (as noted previously, the cost drops by 10% if the wearer wishes the Implant to appear cybernetic rather than biological). All of the "Hands" listed below are capable of sustaining more damage than a human hand. Such prostheses have 40 Cyber-Structure Hit Points. Any hits to the Hand cause no hit damage to the person — however, the CyberStructure Hits of the Hand are decreased. In addition, any critical hits which indicate breakage of the Hand will only do so if the Hand fails an RR (points of damage delivered vs hits remaining in "Hand").

**Cyberhand:** Muscle/Nerves (Cyber)→ Translation→Amp [MN(C)-T-A] An advanced myoelectric prosthesis, a CyberHand is perfectly capable of performing all normal hand movements. They are generally used as replacements for hands lost due to accident or combat. Extra functions/capabilities can be built into the unit at additional cost; double-jointedness, width of grasp, length of fingers, even extra fingers can be added. The costs of such alterations are between \$100 and \$1,000, depending on the specifics.

**Fasthand:** Muscle/Nerves(Cyber)→ Translation→Actuate [MN(C)-T-A] A specialized CyberHand model, this unit has a built in nerve enhancer which affects manipulative speed. given a Rtg#, the FastHand adds a Ratings Bonus to all maneuvers requiring such ability (keyboard operation, quick draw of weapons, etc.).

**Stronghand:** Muscle/Nerves (Cyber)→ Translation→Actuate [MN(C)-T-A] A specialized CyberHand model, the Strong-Hand is made of superior alloys and neomuscle fibers. Given a Rtg#, the unit adds a Rating Bonus to all Martial Arts striking and Brawling attacks, and hand maneuvers requiring strength. In addition, each Rtg# adds 2 Cyberstructure Hit Points to the StrongHand itself.

**Eye/Hand Coordinator:** Muscle/Nerves(Cyber)→Formatting/ Translation→Muscle/Nerves(Cyber) [MN(C)-FT-MN(C)] The Eye/Hand Coordinator is a small microprocessor implanted along the efferent nerves of one hand and connected to the wearer's optic nerves. Given a Rtg#, the Eye/Hand Coordinator grants wearer a Rating Bonus towards all manipulative maneuvers requiring agility and precision (like targeting a firearm). If wearer has a Visual Clarity or Targeting System NerveLinked to this unit, Bonuses from these devices are cumulative.

## 1.2.3 LIMBS

Limb Systems are, of course, artificial limbs. All are operated by the neural commands which once controlled movement of the original limb. The costs given are for Implants which look like the actual human limb replaced by the Implant (as noted previously, the cost drops by 10% if the wearer wishes the Implant to appear cybernetic rather than biological). All of the "Limbs" listed below are capable of sustaining more damage than a human limb. Such prostheses have 80 Cyber-structure Hit Points. Any hits to the Cyber Limb cause no damage to the person; however, the Cyberstructure Hits of the Limb are decreased. Also, any critical hits which indicate breakage of the Limb will only do so if the Limb fails an RR (points of damage delivered vs hits remaining in "Limb"). Because a Limb System includes the attached cybernetic hand/foot, each Limb Systems counts as two Cyber Systems for purposes of totalling the number of implanted Systems when checking for increases in the CIRS Stat.

**Cyberarm:** Muscle/Nerves(Cyber)→ Translation→Actuate [MN(C)-T-A] A myoelectric prosthesis capable of performing all normal arm movements, includes attached CyberHand (if character wants one of the other Hand models, subtract \$3,000 from its cost and apply the difference to the cost of the CyberArm). Originally used as replacements for arms lost due to accident or combat, implantation of these units has become relatively popular with mercenaries due to their ability to absorb punishment. Extra functions/capabilities can be built into the arm at an additional cost; length, mass, maximum pivot of elbow, etc. The costs of such alterations are between \$100 and \$1,000, depending on the specifics.

**Cyberleg:** Muscle/Nerves(Cyber)→ Translation→Actuate [MN(C)-T-A] A myoelectric prosthesis capable of performing all normal leg movements, includes attached CyberFoot (not listed — see CyberHand). Extra functions/capabilities can be built in at an additional cost; length, mass, maximum pivot of knee/ankle, etc. The costs of such alterations are between \$100 and \$1,000, depending on the specifics.

**FastArm:** Muscle/Nerves(Cyber)→ Translation→Actuate [MN(C)-T-A] A specialized CyberArm model, this unit has a built in nerve enhancer which affects its overall speed. Includes attached FastHand of the same Rating as the FastArm (if character wants one of the other Hand models, subtract \$3,000 from its cost and apply the difference to the cost of the FastArm). Given a Rtg#, the FastArm adds a Rating Bonus to all maneuvers requiring quick arm movement (e.g., getting the first strike in during hand-to-hand melee, etc.).

**FastLeg:** Muscle/Nerves(Cyber)→ Translation→Actuate [MN(C)-T-A] A specialized CyberLeg model with a built in nerve enhancer which affects its overall speed. Includes attached FastFoot (not listed — see FastHand). As may be obvious, wearer must have both legs done or his agility will suffer severely. Given a Rtg#, the FastLeg adds a Rating Bonus to all maneuvers requiring quick leg movement (e.g., Movement Rate, etc.).

**StrongArm:** Muscle/Nerves(Cyber)→ Translation→Actuate [MN(C)-T-A] A specialized CyberArm model made of superior alloys and neomuscle fibers. Includes attached StrongHand of the same Rating as the StrongArm (if character wants one of the other Hand models, subtract \$3,000 from its cost and apply the difference to the cost of the StrongArm). Given a Rtg#, the StrongArm adds a Rating Bonus to all maneuvers requiring arm strength (throwing range, melee weapons, Martial Arts, etc.). Each Rtg# adds 2 Cyberstructure Hit Points to the StrongArm itself.

**StrongLeg:** Muscle/Nerves(Cyber)→ Translation→Actuate [MN(C)-T-A] A specialized CyberLeg model made of superior alloys and neomuscle fibers. Includes attached StrongFoot (not listed — see StrongHand). The wearer must have both legs done or his agility will suffer severely. Given a Rtg#, StrongLeg adds a Rating Bonus to all maneuvers requiring leg strength (including Climbing, Swimming, etc.). In addition, each Rtg# adds 2 Cyberstructure Hit Points to the StrongLeg itself.

**AgileArm:** Muscle/Nerves(Cyber)→ Translation→Actuate [MN(C)-T-A] A specialized CyberArm model with a built in somatic guidance/feedback system, the AgileArm moves with perfect smoothness and grace. Includes attached CyberHand (if character wants one of the other Hand models, subtract \$3,000 from its cost and apply the difference to the cost of the AgileArm). Given a Rtg#, the AgileArm adds a Rating Bonus to all maneuvers requiring somatic agility (including Acrobatics, throwing aim, etc.).

**AgileLeg:** Muscle/Nerves(Cyber)→ Translation→Actuate [MN(C)-T-A] A specialized CyberLeg model with a built in somatic guidance/feedback system. Includes attached CyberFoot (not listed — see CyberHand). The wearer must have both legs done or his agility will suffer severely. Given a Rtg#, the AgileLeg adds a Rating Bonus to all maneuvers requiring precise leg movement (Acrobatics, Climbing, Dance, etc.).

## 1.2.4 REFLEXES

The two Systems which follow are alternate methods of enhancing the wearer's reflex speed. Each possesses its own peculiarities.

**Nerve Booster:** Nerves→Amp/Formatting→Nerves [N-AF-N] A microprocessor implanted at the base of the neck, the Nerve Booster amplifies and speeds all neuromotor signals. Given a Rtg#, the Nerve Booster adds its Rating Bonus to the character's Quickness Stat Bonus. This will subsequently enhance all of the character's Quickness-based skills, as well as increase his DB. An ingrained part of the wearer's central nervous system, this device counts as two for purposes of totalling the number of Cyber Systems implanted.

**Adrenal Booster:** Nerves→Amp→Physiology [N-A-P] Attached to each adrenal cortex, this device monitors the body's regular use of adrenaline and can increase the "dose" somewhat. Given a Rtg#, the Adrenal Booster adds its Rating Bonus to the character's Quickness, Constitution and Strength Stat Bonuses whenever a stressful situation arises (combat, disaster, etc.). At the same time, Self Discipline and Reasoning Stat Bonuses suffer a corresponding penalty. These effects wear off 1-10 minutes after the Adrenal Booster is activated. The Adrenal Booster will activate a maximum of only once every ten minutes.

## 1.3

**PHYSIOLOGICAL SYSTEMS**

These affect the internal functioning of the body, as opposed to altering sensory input or producing different 'abilities'.

**1.3.1 REPRODUCTIVE**

**Contraceptive (Male):** Physiology→ Impedance→None [P-I-X] A 100% effective contraceptive device implanted in the vas deferens.

**Contraceptive (Female):** Physiology→ Impedance→None [P-I-X] A 100% effective contraceptive device implanted in the fallopian tubes.

**Proceptive (Female):** None→Distribution→ Physiology [X-D-P] An electrostimulator which prompts the female body to produce ovum regardless of menstrual stage, this unit grants a 90% chance of ovulation.

**Ovulation Control:** Physiology→ Distribution/Impedance→ Physiology [P-DI-P] Functions as a combination of the Contraceptive and Proceptive (Female) Systems described above. Must be linked to a trigger System (Somatic, Thought, or Sound Trigger) in order to activate/deactivate either function.

**Sperm/Ovum Filtering:** Physiology→ Impedance→ Physiology [P-I-P] A device which screens all sperm/ovum cells with a DNA check, allowing only perfect cells to continue into the physiological System. The result is offspring free of mutation or congenital birth defects.

**1.3.2 MUSCULAR/SKELETAL**

The following devices are not "Systems" at all, but synthetic muscle or bone replacements which offer special advantages to their wearer. Rather than diverge upon a lengthy explanation of the human anatomy, these rules treat such Implants by Body Locations (see *Random Body Location Chart* in Section A 4). The costs of these replacements cover the implantation in one Body Location. Except for very unusual circumstances, most such implantations are done to the arms and legs.

**NeoMuscle:** None→None→None [X-X-X] An advanced form of synthesized organic fiber, this durable substance is used to replace or supplement normal muscles in various body locations. It is highly resistant to pulling or tearing, and increases muscular efficiency by a considerable amount. Any hits to the NeoMuscle-implanted Body Location are reduced by 5 while criticals affecting the muscles are only at half effect. The GM may allow a strength bonus to maneuvers involving the Body Location where NeoMuscle exists.

**RigidBone:** None→None→None [X-X-X] RigiPlast Bone Implants are multilayered and solidified with a molecular catalyst prior to implantation. Given a Rtg#, RigidBone grants a Rating Bonus and a RR vs any critical "breakage" result to the associated Body Location. Whenever a critical effect specifying bone breakage occurs, the Rating Bonus (defending level) of the RigidBone is matched against the total points of damage delivered (attacking level). A roll is then made on the *Resistance Roll Table* (Section S 14). If the RR is successful, the bone is not broken.

**FlexBone:** None→None→None [X-X-X] Another variety of synthetic bone which is given a Rtg#, FlexBone also grants a RR vs critical "breakage" results, but is somewhat more effective than RigidBone against especially powerful attacks. Whenever a critical effect specifying bone breakage or shattering occurs in the associated Body Location, the character may attempt to resist the damage with an RR as explained for RigidBone.

**DenseBone:** None→None→None [X-X-X] A highly dense cermet developed in orbit and often implanted in NeoSumo wrestlers, DenseBone grants its wearer the same RR vs breakage as does RigidBone (see above). Thus, it is given a Rtg#. In addition, if implanted in a limb, it adds its Rating Bonus to any Brawling attacks which use that limb. Unfortunately, it is rather heavy; each Rtg# of DenseBone (regardless of Body Location) adds 1 kilogram to the wearer's body weight. This does not increase the character's Encumbrance capabilities, however.

**Fangs/Claws:** None→None→None [X-X-X] Popular biodecor amongst the more barbaric Sprawlgangs and Gypsy Clans, bio-engineered fangs, tusks, and claws are grafted right into the body. A character might have a hard time finding someone who will create or implant such items unless he knows someone in such a gang (or an unscrupulous black market Cyber-Medic). Either item allows a character to perform a "melee weapon attack" bite or claw. Both of these attack modes may be developed as unique skills, and cost the same as Brawling skill. Claws and Fangs may be made retractable for an additional \$200 for fangs, \$1,000 for claws. Note that claws are a special challenge because they 'grow'. The grafted material replaces fingernails and is alive, so must be filed or clipped for maximum effectiveness.

**1.3.3 DIGESTIVE**

All of the following Systems are means of altering the wearer's metabolism or processing his ingested energy sources. All are implanted within the digestive tract, and are constantly functioning, although for an additional cost of \$100, any system might be equipped with a special Somatic Trigger (such as tensing the stomach muscles) which activates/deactivates the System. If more than one System is present within a single Implant each trigger must be set and paid for separately.

**Tailored Metabolism:** Environ→ Distribution/Impedance→ Environ/ Physiology(Cyber) [E-DI-EP(C)] Another form of the Ingested Chemical Bypass above, which recognizes all standard, basic nutrients (proteins, carbohydrates and fats) and passes everything else. The wearer of this System must eat right or eat often.

**Ingestion Storage:** Environ(Cyber)→Storage→Physiology [E(C)-S-P] Often implanted in the bellies of the filthy rich, Ingestion Storage Systems hold food — lots of it — and monitor its eventual travel into the regular digestive tract. These systems allow a person to eat far more than his stomach actually has room for. Rated by Mk#, each Mk# adds 1/4 “normal” food storage capacity. (e.g., a person with a Mk.4 unit could eat twice as much as before implantation).

**Supermetabolism:** Environ(Cyber)→Distribution→Physiology [E(C)-D-P] A digestive assistant system, Super-Metabolism grants its wearer double normal metabolic efficacy; basically allowing his to eat half as much or half as often.

**Ultrametabolism:** Environ(Cyber)→Distribution→Physiology [E(C)-D-P] Another digestive assistant system, UltraMetabolism allows its wearer to obtain nutrients from all manner of sources, no matter how nutritionally arid. The wearer may have to eat a good sized amount, but this system could retrieve calories and protein from almost anything.

**Ingested Chemical Bypass:** Environ→Distribution/Impedance→Environ/Physiology(Cyber) [E-DI-EP(C)] A microprocessor and chemical analyzer set to divert specific chemical compounds without allowing them to be digested or absorbed into the bloodstream. Rated by Mk#, each Mk# allows one specific ingested chemical (drug, poison, trichinella spiralis, etc.) to be passed harmlessly through the body. Bypassed chemicals are either sent to another Cyber System (such as a Chemical Analyzer) or held in a synthetic receptacle beside the Ingested Chemical Bypass unit. This receptacle must be emptied periodically by a minor surgical procedure requiring a SM/CybT:H.

### 1.3.4 RESPIRATORY

The following Systems are implanted in or near the lungs, and serve to enhance or modify human breathing.

**Oxygen Extraction:** Environ→Storage→Physiology [E-S-P] A powerful extractor system placed in the lungs, this unit greatly enhances the body's ability to retrieve oxygen from the air. Given a Rtg#, the System grants a Rating Bonus to maneuver rolls involving extended physical endurance activities, as well as holding one's breath.

**Air Storage:** Environ→Storage→Environ [E-S-E] An inflatable plastic “organ” placed in the body, an Air Storage System allows a character to hold more air than normally possible. Rated by Mk#, each Mk# allows the character to hold an extra breath of airDin storage.

**Gills:** Environ→Environ→Physiology [E-E-P] Not uncommon in the Pacific Aqualogies, Gills allow the wearer to extract all needed oxygen from water.

**Inhaled Chemical Bypass:** Environ→Distribution→Impedance→Environ/Physiology(Physiology/Cyber) [E-DI-EP(PC)] A microprocessor and chemical analyzer set to divert specific chemical compounds without allowing them to be taken into the lungs. Rated by Mk#, each Mk# allows one specific inhaled chemical (drug, poison, gaseous bioactive, etc.) to be exhaled harmlessly from the body. Bypassed chemicals may instead be sent to another Cyber System (such as a Chemical Analyzer).

### 1.3.5 CIRCULATORY

**Blood Loss Healer:** Physiology→Distribution→Physiology [P-D-P] Mounted adjacent to any major blood vessel in the body, this device has a built-in Biostatus Monitor attuned to sense blood pressure levels, and an artificial gland which stores and releases Hemosclerex-III. Hemosclerex III is a drug described in T 4.2. When the wearer suffers any Critical Hit indicating blood loss (hits per round), the Monitor senses the flux in blood pressure, and triggers the Hemosclerex-III gland to open and dispense its drug into the bloodstream. From that point on, follow the regular rules regarding the effects of Hemosclerex. The unit will administer ten doses of the drug before requiring refilling, requiring a SM/CybT:M.

**Arterial Chemical Bypass:** Physiology→Distribution/Impedance→Physiology Cyber [P-DI-PC] A microprocessor and chemical analyzer implanted at the entryways to the heart, this unit is set to divert specific chemical compounds, forcing them out of the bloodstream. Rated by Mk#, each Mk# allows one specific chemical (drug, poison, venom, etc.) to be diverted. Bypassed chemicals are either sent to another Cyber System (such as a Chemical Analyzer) or held in a synthetic receptacle beside the Arterial Bypass unit. This receptacle must be emptied periodically by a minor surgical procedure requiring a SM/CybT:H.

### 1.3.5 SPECIAL PHYSIOLOGICAL SYSTEMS

**NerveLink:** Brain/Cyber/Nerves→Distribution→Brain/Cyber/Nerves [BCN-D-BCN] An organically engineered artificial nerve cable, suitable for carrying neural or cyber-electronic signals. NerveLink is used to patch Cyber Systems to the wearer's central nervous system, brain, or other Cyber Systems, and is also used to replace nerve tissue lost due to accident or damage.

**Chemical Analyzer:** Physiology(Cyber)→Organization/Physiology/Translation→Cyber [P(C)-OPT-C] An advanced storage and analysis system. Given a Rtg#, this unit grants a Rating Bonus to a Research Roll which will attempt to determine the nature of chemicals passed through the System. A Chemical Analyzer may be used to test compounds from the digestive, respiratory, or circulatory tracts, depending on where it is implanted and what it is connected to. Most Research Projects carried out by the Chemical Analyzer *Routine, Easy, or Moderate* A NerveLink between the Chemical Analyzer and a Neuroprocessor will allow the Neuroprocessor's Rating to also be added to the Research Roll. The Chemical Analyzer requires some sort of output System to route its findings to, such as an Internal or External Readout System, or a Neuroprocessor.

**Artificial Organs:** Various. The range of artificial organs possible runs the gamut of human anatomy: lungs, heart, liver, spleen, kidney, pancreas, intestines, bladder, stomach, etc. All may be replaced by technological equivalents. In many cases, the Artificial Organs work better than the biological organs they replace.

**New Organs/Glands:** Various. The rise of transplant technology and artificial organs has brought another new form of biocontrol onto the scene — artificial organs and glands can now be created where none existed before. These Systems generally serve to monitor or dispense some specific drug, hormone, or other bioactive chemical into the body. Most of these organs have beneficial medical uses (such as insulin glands for diabetics), although the same technology has allowed the creation of various underhanded devices. These Systems, frequently used by powerful employers who wish their employees to remain forever loyal, include such niceties as Analog Dependency Glands (which release periodic doses of some undetected chemical into the wearer's body, creating a dependency he doesn't even know he has) and Virus Glands (these release tailored viruses which can only be combated with a tailored antibiotic supplied by the employer). For more devious ideas on bioactives and their effects, see R 4.

**Biostatus Monitors:** Brain/Cyber/Nerves/Physiology→Distribution/Translation→Cyber [BCNP-DT-C] Allows constant monitoring of bodily functions and vital signs. A large variety of Biostatus Monitors exist, each with its own area of expertise. Some examples include monitors for pulse, respiration, brain waves, blood sugar, temperature, cholesterol, calories, menstrual cycle, blood routing, foreign substances, interferon, blood cell count, and alien substances in the body (these criteria must be purchased separately, but may be combined). A Biostatus Monitor requires an output System of some kind, so that its data can be translated into meaningful terms for the wearer. Commonly used Systems include Internal Readout, External Readout, or Neuroprocessor.

## 1.4 NEUROLOGICAL SYSTEMS

The devices described below are designed to interface directly with the wearer's neurological systems. These units are the cutting edge of technology in *Cyberspace* — the ultimate links between human beings and machines. Because of their neurological nature, all of the Systems described below have a marked effect on the human psyche. Therefore, they count double for purposes of totalling the number of Systems implanted when generating the CIRS Stat.

**Neurological Activity Controller:** Cyber→Processing/Storage/Translation/Distribution→Muscle/Nerves(Cyber) [C-PSTD-MN (C)] A Neuroprocessor implanted within the brain, a NAC runs specialized programs called *Neurosofts*. Through the translation and output routing of the NAC Processor, these programs are capable of influencing the wearer's perceptions, thoughts, knowledge, emotions, and/or body movements. This allows the wearer to perform as though he has mastered skills or capabilities which he has not. A NAC unit only holds the programs which were in it when implanted, unless the wearer has a DNI jack linked to the unit. Such external-link systems are known as "NACjacks"; the programs desired are plugged into the DNI trode.

**NOTE:** *As with all computers, a NAC unit has a limited amount of storage space (determined by its Mk#). This storage space places a limit on the number and size of programs which may be held within the System. A list of available Programs is provided in Section T 2.6.*

*NAC Systems are computers, and are governed by all rules pertaining to computers. Most importantly, the maximum Mk# and Failure Rate of a NAC are determined by the type of Processor Core within the unit (see Section T 2.2).*

**Computer Implant:** Cyber→Processing/Storage/Translation/Distribution→Brain(Cyber) [C-PSTD-B(C)] Although it is rarely done, any other sort of computer may be implanted within, and linked to, the brain. This includes Numeric Processors, Language Processors, and CyberDecks. The effect would be much like any external linkup, except that the computer would, of course, always be available. It would also only be able to run programs which were in the computer at the time of implantation (unless a DNI jack is purchased to allow external loading). An implanted CDeck must be attached to such a DNI jack, which could be patched into a phone-cord adaptor (readily available, cost \$50) before using.

**Sensory Data Transmission:** Cyber/Nerves/Telecomm→Translation/Distribution→Cyber/Nerves/Telecomm [CNT-TD-CNT] Allows wireless, real-time transmission of all sensory input (all five senses) to or from other devices via microwave or tight-beam communications laser. Transmissions are encoded in a standard Programming Language (see Section T 2.5), although alternate languages could be used if the programmer of the Sensory Data Transmission System is familiar with them (or if a translator/compiler prog is patched into the system). It is possible to transmit between two Sensory Data Transmission Systems, provided they broadcast and receive on the same frequency (broadcast and reception frequency is set when the System is implanted; one must remove the System from wearer to alter the original settings). These Systems are rated by Mk#; each Mk# adds 100 meters to the effective range of the System. Three types are available: transmitters, receivers, and transceivers.

If desired, Sensory Data Transmission units which deal with only one sense are available (at significantly lower cost). Otherwise these 5 variants function exactly as the Sensory Data Transmission System.

**Brainwave Transmission:** Cyber/Nerves/Telecomm→Translation/Distribution→Cyber/Nerves/Telecomm [CNT-TD-CNT] Functions exactly like Sensory Data Transmission System above, except that it transmits all neural activity (sensory impressions, thoughts, emotions, etc.).



**Sensory Processor:** Brain/Nerves(Cyber)→ Processing/Storage/Translation→Cyber [BN(C)-PST-C] A microprocessor which stores ALL sensory data in digital arrays. These Systems are rated by Mk#; each Mk# allows one minute of stored sensory data. The Processor is capable of searching for, replaying and translating all stored data by mental command. In addition, if the wearer is equipped with DNI or Sensory Data Transmission (see above), the Implant can route stored data through these output channels to be translated by another computer.

**Apparent Sensory Perception Recorder:** Brain/Nerves(Cyber)→Storage/Translation→ Cyber [BN(C)-ST-C] Functions as a Sensory Processor, except that the wearer cannot search for and replay the stored data. Instead, this information is translated into a standard Neuroprocessor Programming Language and piped to an output System capable of receiving such data (NACs, Sensory Processors, or external Neuroprocessors can all do this). The result is a recording known as an ASP (Apparent Sensory Perception) tape. These tapes can be played into an ASP Player (see below) or made into integrated (“smart”) programs which are bought and sold for entertainment or education throughout the world. These Systems are rated by Mk#; each Mk# allows one minute of stored sensory data.

**Apparent Sensory Perception Player:** Cyber→Storage/Translation/Distribution→ Brain/Nerves(Cyber) [C-STD-BN(C)] A limited version of a NACjack system, an ASP Player is capable of translating ASP tapes into sensory input, allowing the user to experience the sensations recorded on the tape. The cost of the unit includes a special DNI jack. This System can only run ASP tapes; any other form of Neurosoft will make no sense to it.

**Painblocker:** Nerves(Cyber)→Impedance→ Brain(Cyber) [N(C)-I-B(C)] A specialized synaptic inhibitor device which obstructs the flow of pain signals into the brain, making the wearer oblivious to the pain. The inherent danger of such a system is that it might cause the wearer to be unaware of bodily damage which requires immediate attention. Most damage, however, is accompanied by other sensations which would still be sensed normally — a stabbing blade would still tug at the clothes, the flow of blood would still feel like a warm, spreading wetness, etc.). Several types of PainBlockers are available, differentiated by the type of pain signals which they impede: Kinetic (open wounds/muscle tension/pressure); Thermal (heat/cold); Chemical (poisoning); Photic (intense light/sunburn). Each must be purchased separately, although they may be combined. Pain-Blockers do not negate damage, they just suppress the associated pain. A character with a PainBlocker will die like anyone else.

**Grav Adjust Rig:** Muscle/Nerves→ Processing/Translation/Distribution→Muscle/Nerves(Cyber) [MN-PTD-MN(C)] Implanted in the base of the neck or along the spinal cord, this System interprets and adjusts input from the central nervous system before passing it on to muscles. Given a Rtg#, the System provides a Rating Bonus which offsets penalties incurred by changes in gravity.

**Balance Rig:** Brain/Muscle/Nerves (Cyber)→ Processing/Translation/Distribution→Muscle/Nerves(Cyber) [BMN(C)-PTD-MN(C)] Implanted in the inner ear, this System is given a Rtg#, and grants a Rating Bonus applied to any maneuvers requiring balance.

## 1.5 **IMPLEMENTARY SYSTEMS**

Cyber-implants which directly link a human to a operating machine, implementary systems can be anything from a tool hand to a spacecraft linkup.

### 1.5.1 **DIRECT INTERFACE**

Interface is the combination of man and machine. The Direct Neural interface is essentially a plug into the brain, allowing DNI-interface devices to be connected to the cerebral cortex.

**Direct Neural Interface:** Brain(Cyber)→ Translation/Distribution→Brain(Cyber) [B(C)-TD-B(C)] DNI; this popular System creates an accessway into the brain (or NAC Neuroprocessor), linked to an external jack set-up in the skull (though one common option involves a NerveLink to the wrist). The wearer simply plugs (or “slots”) into whatever device he wishes to use. A DNI linked directly to the brain allows the wearer to use computers, “smart” machinery and vehicles, “smart” program modules, N-ROM modules or broadcasts, and DNI-2. If the DNI is linked to an implanted NAC (creating what is known as a “NACjack” system) the wearer may use all of the above devices plus load new Neurosoft programs and operate “dumb” DNI machinery and vehicles.

## 1.5.2 TOOLS AND WEAPONRY

These items are either offensive weapons or implements attached directly to a human limb.

**Toolhand:** Muscle/Nerve→Translation→Actuate [MN-T-A] Designed to hold such tools as power drills, laser cutters/welders, sheet metal punches, etc., the ToolHand is not a popular item, but is occasionally seen on hardcore tradesmen of various sorts. The System does not resemble a true hand at all; the tool appears to be an extension of the end of the wearer's arm. All tool functions are controlled by specific neuromotor commands (the wearer "grasps" with non-existent fingers and the tool is activated; "extends" the fingers and the tool shuts off; etc.). The total cost of the ToolHand equals 2x the cost of the tool itself — plus connection equipment and surgical costs, of course. The tool can be made retractable (if size and placement allow it) for an additional charge of (1/2x cost of the tool).

**Weaponhand:** Muscle/Nerve→ Translation→ Actuate [MN-T-A] Operating along the same general lines as the ToolHand above, the WeaponHand allows specific weapon implantation. The System does not resemble a true hand at all; the weapon appears to be an extension of the end of the wearer's arm, and is controlled by neuromotor impulses. The total cost of the WeaponHand equals 2x the cost of the weapon itself. The weapon can be made retractable (if size and placement allow it) for an additional charge of (1/2x cost of the weapon).

**Megaknuckles:** None→None→None [X-X-X] Metal knuckles which add +25 to the wearer's OB when making any sort of hand-to-hand striking attack.

**Razornails:** None→None→None [X-X-X] The razornails are popular with certain gangs. They are fully retractable underneath fingernails and the claws are of titanium alloy, reinforced and razor-sharp.

**Gas Projector:** Brain(Cyber)→None→Actuate [B(C)-X-A] Projects clouds of gases or chemical agents (see Section T 4.2). Cloud fills a conical area of varying width. Six types are available, differing only in terms of cone-width and range: 180 degrees (1m range), 90 degrees (2m range), 45 degrees (3m range), 10 degrees (4m range), 1 degree (stream of 5m range) and variable (this last allows the wearer to increase or decrease the width of the gas cone by utilizing an implanted Somatic

Trigger such as tensing the muscles of the arm in a specific way, etc.). Rated by Mk#, each Mk# adds one dose of gas to the projector's capacity.

## 1.5.3 AI CYBER WEAPONS

These implanted weapons are 'intelligent'; while they are under the command of their owner, they can act independently.

**CyberMole:** Brain→Translation→Actuate [B-T-A] Artificially Intelligent Cybercreature kept within the host's body. Given a Rtg#, the CyberMole may make an attack independent from the host using its Rating Bonus as its OB. In *Cyberspace*, a CyberMole attacks as a Small Melee Weapon. If *Claw Law* is available, the CyberMole may attack with a Medium Bite attack. A CyberMole may attack only to a 15cm range, and may be contained in a variety of locations within the host's body. A CyberMole has Armored Exoskeleton armor with a DB of 10 — **SM** AT 19(10) — and takes 10 hits.

**CyberSnake:** Brain→Translation→Actuate [B-T-A] Like a CyberMole, the CyberSnake uses its Rating Bonus as its OB. Due to its larger size, a CyberSnake must usually be located in the host's chest (attacking from out of the mouth), or in one of the host's arms (attacking from out of the palm of the hand). In *Cyberspace*, a CyberSnake attacks as a Medium Melee weapon. If *Claw Law* is available, the attack is a Large Bite. A CyberSnake has the same armor as a CyberMole, but has a DB of 20 and takes 50 hits.

**CyberBeast:** Brain→Translation→Actuate [B-T-A] Largest of the Cyber-creatures, a CyberBeast may only be housed in the host's abdomen, emerging from the center of the body to strike. Again, its Rating Bonus is its OB. In *Cyberspace*, it attacks as a Large Melee Weapon. If *Claw Law* is available, the attack is a Large Bite accompanied by two Small Claw attacks. A CyberBeast has Armored Exoskeleton armor with a DB of 30 (**SM** AT 19(30)), and takes 100 hits.

## 1.5.4 ARMOR

**Subdermal Padding:** Environ→ Impedance→ None [E-I-X] Resilient high-density plastic fibers placed in layers under the skin. Subdermal Padding is rated by Mk#; the Mk# is subtracted directly from any hits delivered to the padded Body Location.



**Crit Shielding:** Environ→Impedance→None [E-I-X] Subcutaneous plates of polymer fiber and/or alloys especially designed to reduce specific sorts of critical effects in the Body Location where they are implanted. There are different types of Crit Shielding, each of which must be installed separately into the individual Body Locations. The various Crit Shields are:

- Puncture/Slash/Shrapnel Crit Shielding
- Crush/Impact Crit Shielding
- Heat Crit Shielding
- Cold Crit Shielding

If the specified critical type is delivered to a shielded Body Location, all effects of that critical are reduced to half-effect (fractional results are rounded off). Specific "death" critical results are avoided half the time.

**Body Plating:** Environ→Impedance→None [E-I-X] The ultimate in cyberarmor consists of a skin-grafted exoskeleton made of synthetic polymers and alloys, jointed with Dermoplast. Body Plating is like wearing a suit of permanent armor, and it functions exactly as the armor type it imitates in all respects, including weight. Different types of Body Plating may not be layered over each other. Also, Body Plating may be chromed, or otherwise colored. Several types are available:

- **Polyastic** Body Plating is a lightweight, flexible but resilient synthetic which adds +10 to the wearer's DB and carries no Movement/Maneuver Penalty.
- **Lastex** Body Plating is the equivalent of standard Light Body Armor (LBA).  
*Note: In Space Master; Lastex I is AT5, Lastex II is AT6, Lastex III is AT7, and Lastex IV is AT8.*
- **Densiplast** Body Plating is the equivalent of a standard Armored BodySuit (ABS).  
*Note: In Space Master; Densiplast I is AT9, Densiplast II is AT10, Densiplast III is AT11, and Densiplast IV is AT12.*
- **Polycarbon** Body Plating is equivalent of a standard Armored Exoskeleton (AEX).  
*Note: In Space Master; Polycarbon I is AT17, Polycarbon II is AT18, Polycarbon III is AT19, and Polycarbon IV is AT20.*

### 1.5.5 MISCELLANEOUS IMPLEMENTARY SYSTEMS

What's left? These little items.

**External Readout:** Cyber→Processing/Translation→Environ [C-PT-E] A floating digital display on the surface of the skin, used as an "output system" for chronometers, biostatus monitors, transmitters, etc.

**Subdermal Pouch:** None→None→None [X-X-X] Implanted pouch which can be easily opened and shut. The opening may be disguised as a scar, wrinkle, or flap of skin.

**Homing Device:** None(Cyber)→Distribution→Telecomm [X(C)-D-T] A constantly-operating, Super-High Frequency transmitter which continuously repeats a programmed signal. The signal is set when the System is implanted, though it can be changed by a Cyber-Medic who opens the wearer up and succeeds in a SM/CybT:L. Alternately, the signal can be altered by a suitably-programmed computer attached by NerveLink. Rated by Mk#, each Mk# adds 100 meters to the transmission range.

**ECM Coding:** Brain/Cyber/Telecomm→Formatting/Distribution→Brain/Cyber/Translation [BCT-FD-BCT] Scrambles/unscrambles input according to a preprogrammed algorithm, making transmission interception useless (unless the third party wishes to spend lots of time cracking the code). Another ECM Coding System (implanted or external model) must be used to unscramble the resulting message/datastream. The receiving system must possess the same algorithm as the sending System to use the data easily.

**Solar Battery:** Environ→Storage/Translation→Cyber [E-ST-C] Rated by Mk#, Mk# equals current Potential (the number of Cyber Systems which can be powered under the present circumstances). See notes in Section T 1. Must be wired to Cyber Systems via NerveLink.

**Light Generator:** Muscle/Nerve(Cyber)→Translation→Environ [MN(C)-T-E] Sort of an implanted lantern, Light Generators are often worn by underground or undersea laborers. Seven types are available, differing only in terms of the "width of field": 360 degrees, 180 degrees, 90 degrees, 45 degrees, 10 degrees, 1 degree and variable (this last allows the wearer to increase or decrease the width of field by some preset somatic trigger). Rated by Mk#, each Mk# adds ten meters to the maximum effective range of the illumination.

**Electronic Detection:** Environ/Telecomm→Processing/Translation→Brain(Cyber/Telecomm) [ET-PT-B(CT)] Detects electromagnetic transmissions within its radius of effect. Rated by Mk#, each Mk# adds 10m to the effective detection range. Does not determine the frequency or type of transmission, but pinpoints the source.

**Datacard Player:** Cyber→Storage/Translation/Distribution→Brain(Cyber) [C-STD-B(C)] A card drive which must be linked to a Neuroprocessor, this unit is a rather outmoded variant of DNI which reads standard datacards (see COMPUTERS, Section T 2).

**Chronometer:** Cyber→Distribution→Cyber [C-D-C] A tiny atomic clock which keeps perfectly accurate time (down to the nanosecond range), this unit requires an output system of some sort (such as an NAC, or Internal or External Readout System). Often used to synchronize the operation of cyber-activities.

**Calendar:** Cyber→Physiology/Storage/Translation→Cyber(Brain) [C-PST-C(B)] A device which keeps the wearer's personal calendar in order, this unit requires an input device of some sort (such as a NAC or Data Transmission System).

**Somatic Trigger:** Muscle/Nerve→Distribution→Cyber [MN-D-C] Basically a small switching device connected to any Cyber System via NerveLink, and set to respond to a specific somatic (muscular) activity. Whenever the Somatic Trigger act is performed, the connected System is turned on or off, as appropriate.

**Sound Trigger:** Environ(Cyber)→None→Cyber [E(C)-X-C] A small microphone implanted in wearer's ear (Auditory Implant) and connected to another Cyber System via NerveLink. The device is set to respond to a specific word, phrase, or sound, and is sensitive to exact voice pattern. When the trigger sound is picked up by the device, it activates or deactivates the connected System.

**Thought Trigger:** Brain(Cyber)→Distribution→Cyber [B(C)-D-C] A small, specialized device implanted in the brain (or connected to the brain via NerveLink), and linked to another Cyber System. Device is set to respond to a specific thought or thought chain. Wearer activates it by thinking the trigger thought, thereby turning the connected System on or off. This System counts double for purposes of totalling Cyber Systems.