G U R P S

CYBERPUNK

High-Tech Low-Life Roleplaying

By Loyd Blankenship

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Dedicated with love to my wife, Whitney, who is my strength when I'm weak and my hope when I despair.

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STEVE JACKSON GAMES

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INTRODUCTION

Welcome to the edge. It takes a special kind of person to thrive here: tough, smart, mean, nasty… and just a little bit lucky. It's action and reaction. Sit still, and the world will pass you by - or roll over you - or eat you for breakfast. Trust? Trust is for suckers. Anyone out there will knife you for the price of a six-pack of beer.

You've got to be quick. There are deals to be made and deeds to be done. If you're on top, you can bet there's a pack of wolves at your heels, ready to leave you bleeding in the street without a coin to your name.

Welcome to the edge. See you next week - if we're both still here.

What is "cyberpunk"?

Cyberpunk" is the term applied to a science fiction literary movement of the 1980s. Although there are several authors from the 1960s and 1970s whose work appears cyberpunk in retrospect, the term wasn't coined until the publication in 1984 of William Gibson's novel *Neuromancer*, which won the Hugo, the Nebula *and* Philip K. Dick awards - something no novel had ever done.

Neuromancer presented a view of the future that was *different.* Gone were the glass-domed cities and Utopias of Golden Age science fiction. The domes are still there in cyberpunk, but they're occupied by the rich and guarded by security forces that shoot first and don't bother to ask questions. Gone were the monotone dystopian nightmares of Orwell and Levin — some cyberpunk worlds make *1984* look like Club Med.

The cyberpunk future is *vibrant* — pulsating with life, from the streets to the high-rises. Paradoxically, however, that life is cheap, perhaps because there's so much of it — there might be twenty million people in Tokyo or New York.

MEANWHILE BACK IN THE REAL WORLD...

The Steve Jackson Games staff offers our somewhat bemused thanks to the United States Secret Service for their diligent "reality checking" of GURPS Cyberpunk. It happened like this…

On March 1 the SJ Games offices, and the home of the GURPS Cyberpunk writer, were raided by the U.S. Secret Service as part of a nationwide investigation of data piracy. A large amount of equipment was seized, including four computers, two laser printers, some loose hard disks and a great deal of assorted hardware. One of the computers was the one running the Illuminati BBS.

The only computers taken were those with GURPS Cyberpunk files; other systems were left in place. In their diligent search for evidence, the agents also cut off locks, forced open footlockers, tore up dozens of boxes in the warehouse, and bent two of our letter openers attempting to pick the lock on a file cabinet.

The next day, accompanied by an attorney, I personally visited the Austin offices of the Secret Service. We had been promised that we could make copies of our files. As it turned out, we were only allowed to copy a few files, and only from one system. Still missing were all the current text files and hard copy for this book, as well as the files for the Illuminnati BBS with their extensive playtest comments.

In the course of that visit, it became clear that the investigating agents considered GURPS Cyberpunk to be "a handbook lor computer crime." They seemed to make no distinction between a discussion of futuristic credit fraud, using equipment that doesn't exist, and modern real-life credit card abuse. A repeated comment by the agents was "This is real." Now I'll freely admit that this book is the most realistic cyberpunk game yet released. It has a lot of background information to put the genre in context. But it won't make you into a console cowboy in one easy lesson any more than GURPS Fantasy will teach you swordplay. Sadly the distinction appeared lost on the investigators.

Over the next few weeks, the Secret Service repeatedly assured our attorney that complete copies of our files would be returned "tomorrow." But these promises weren't kept; this book was reconstructed from old backups, playtest copies, notes and memories.

On March 26, almost four weeks alter the raid, some (but not all) of the files were returned. It was June 21 nearly four months later, when we got most (but not all) of our hardware back. The Secret Service still has one of our hard disks, all Loyd's personal equipment and files, the printouts of GURPS Cyberpunk, and several other things.

About GURPS

Steve Jackson Games is committed to full support of the ***GURPS*** system. Our address is SJ Games, Box 18957, Austin, TX 78760. Please include a self-addressed, stamped envelope (SASE) any time you write us! Resources now available include:

Pyramid. Our bimonthly magazine includes new rules and articles for ***GURPS,*** as well as information on our other lines: ***Car Wars, Toon, Ogre Miniatures*** and more. It also covers top releases from other companies — ***Traveller, Call of Clhulhu, Shadowrun*** and many more.

New supplements and adventures. We're always working on new material. and we'll be happy to let you know what's available. A current catalog is available for an SASE.

Errata. Everyone makes mistakes, including us — but we do our best to fix our errors. Up-to-date errata sheets for all ***GURPS*** releases, including this book, are always available from SJ Games; be sure to include an SASE with your request.

Q&A. We do our best to answer any game question accompanied by an SASE.

Gamer input. We value your comments. We will consider them. not only for new products, but also when we update this book on later printings!

Illuminati Online. For those who have home computers, SJ Games has an online service with discussion areas for many games, including ***GURPS.*** Here's where we do a lot of our playtesting! It's up 24 hours per day at 512-448-8950, at up to 14.4K baud — or telnet to io.com. Give us a call! We also have conferences on CompuServe, GEnie, and America Online.

Page Reference

Rules and statistics in this book are specifically for the ***GURPS Basic Set,*** Third Edition. Any page reference that begins with a B refers to a page in the ***Basic Set*** - e.g., p. B102 means p. 102 of the ***Basic Set,*** Third Edition. A UT reference refers to ***GURPS Ultra-Tech.***

Cyberpunk is a style defined by two elements. The first is *the interaction of man with technology.* Computers are as common as dishwashers in the cyberpunk future, and the dividing line between man and machine is sometimes blurred. Is an artificially intelligent computer (commonly referred to as an AI) alive? If *your* brain were put inside a mechanical body, would you still be human? And if not, when was the line crossed? Characters in cyberpunk campaigns will have to be ready and able to deal with technology at all levels, from a broken beer bottle to a military battlesuit.

The second element found in most cyberpunk work is that of *struggle.* The world is divided into two groups - the haves and the have-nots - with a vast chasm between them. Those with power want to keep it; those without want to get it. This conflict can be military (as in John Shirley's *Eclipse* series), social (Bruce Sterling's *Islands in the Net*), economic (George Alec Effinger's *When Gravity Fails*) or a personal struggle with the character's internal demons.

Cyberpunk Gaming

Roleplaying in a cyberpunk environment can be very different from traditional genres such as fantasy or superheroics. Cyberpunk, more than any other genre, tries to accurately reflect "real-world" human nature. Traditional ideas such as party loyalty may be questioned or tested. Betrayal and deceit are common in the real world — just read any issue of the *Wall Street Journal* — so why should they be less so in the game?

The conventional gaming morality of good versus evil has a limited role in this genre. What are the reference points? Characters in cyberpunk literature are constantly committing unethical, illegal or immoral acts, but they sometimes do so for purposes we would define as "good." Conversely, a repressive government may define behavior as "good" that stifles the human spirit and grinds individuals into dust. In cyberpunk, there are rarely blacks and whites, but there are many shades of gray.

Finally, cyberpunk gaming (and literature) often stresses *style* above all else. If you're going to go out, do it not with a whimper but with a *bang* — the bigger the bang, the better. After all, once you're gone, who cares what happens to everyone else? Let 'em eat cake, and hope they choke on it.

So welcome to the edge… be careful you don't slip!

- Loyd Blankenship

Why were we raided? We didn't find *that* out until October 21, when we finally received a copy of the Secret Service warrant affidavit — at their request, it had been *sealed.* While reality-checking the book, Loyd Blankenship corresponded with a variety of people, from computer security experts to self-confessed computer crackers. From his home, he ran a *legal* BBS which discussed the "computer underground" and knew many of its members. That was enough to put him on a federal List of Dangerous Hoodlums! The affidavit on which our offices were raided is unbelievably flimsy… Loyd Blankenship was suspect because he ran a technologically literate and politically irreverent BBS and because he received and re-posted a copy of the PHRACK newsletter. The company was raided simply because Loyd worked for us and used a different BBS here! (The actual affidavit, and much more related information, is now posted on lluminati Online for those who are interested.)

The one bright spot in this whole affair has been the help we have received from the Electronic Frontier Foundation. The EFF was created in mid-1990 in response to this and similar outrages. It is a non-profit organization dedicated to preserving the Constitutional rights of computer users. (For more information, write them at 1001 G Street. N.W.. Suite 950 East. Washington, DC 20001.)

Nearly 1993, the case finally came to trial. The judge ruled in our favor on two out of the three counts, and awarded us over $50,000 in damages, plus over $250,000 in attorney's fees.

To some law-enforcement officers, anybody with any computer knowledge at all is suspect… especially if they own a modem. And users of any BBS are doubly suspect, regardless of the Constitutional rights you *thought* you had. Do "freedom of speech" and "freedom of the press" apply to computer users? Some say they don't.

Maybe the cyberpunk future is closer, and darker, than we think.

- Steve Jackson

P.S. The Illuminati BBS didn't die when the Secret Service took it away. The next month it was back — though we had to get new software and a new computer. And it's continued to grow. It's now *Illuminati Online,* a Unix system with conference areas, text files, online games, and a text-based virtual reality called the Metaverse… as well as full Internet access. To reach it, modem to 512-148-8950, or telnet to io.com.

Other GURPS Books

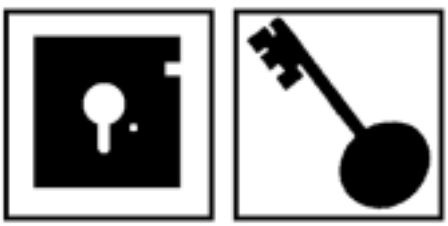
Several ***GURPS*** products already in print will be useful to the GM planning a cyberpunk campaign. These include:

GURPS Ultra-Tech. This book covers futuristic devices, from tomorrow's hardware to space-opera miracles. The first half of ***Ultra-Tech*** — Tech Levels 8 to 10 is practically a cyberpunk gadget list. Any device of TL10 or below, at the GM's discretion, can be included in a cyberpunk campaign. Note that much of the "bionics" information in ***GURPS Cyberpunk*** is repeated from ***Ultra-Tech*** so that nobody will have to buy that book — but many prices are lower, to reflect a background where such modifications are very common.

GURPS Humanx. This is the authorized roleplaying worldbook for Alan Dean Foster's "Humanx Commonwealth" series. This is not a traditional cyberpunk background — body modifications aren't everyday sights, and the tone of the stories is upbeat — but many of the devices described, and their social consequences, will fit right in.

GURPS Supers. This book can be used as an idea-mine for special abilities. A sufficiently advanced technology might be able to duplicate almost any super-ability… including some that you haven't (yet) seen in any cyberpunk story.

GURPS Autoduel. Set 50 years in the future, this book focuses mainly on the "bread-and-circuses" aspect of tomorrow's society. But the world that it describes is definitely cyberpunk in both technology and attitude, and the Abandoned Areas, cycle gangs and savage "dregs" will fit right into any "sprawl" scenario.

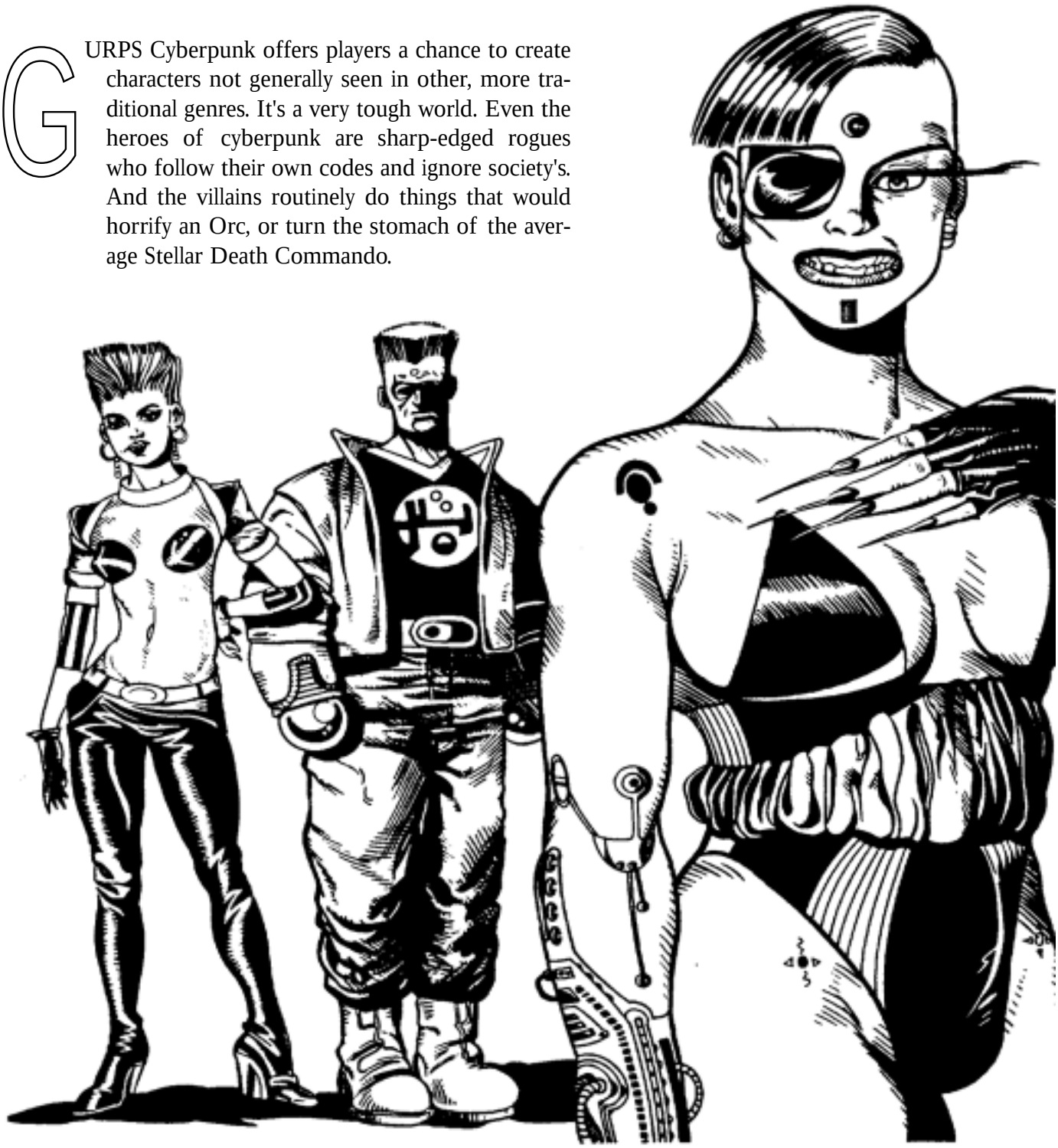


About author

Loyd Blankenship is the former Managing Editor for Steve Jackson Games, and is the author of the popular ***GURPS Supers*** and the ***Supers*** adventure ***Deathwish.*** He lives in Austin with his wife, Whitney, three cybercats (Daryl, Bert and Pippen), and enough computer equipment to put a man on the moon. On the net, he can be reached via e-mail at mentor@io.com.

1 CHARACTERS

GURPS Cyberpunk offers players a chance to create characters not generally seen in other, more traditional genres. It's a very tough world. Even the heroes of cyberpunk are sharp-edged rogues who follow their own codes and ignore society's. And the villains routinely do things that would horrify an Orc, or turn the stomach of the average Stellar Death Commando.



CHARACTER POINTS

The cyberpunk environment is always dangerous. Foes include roving packs of desperate nomads, warring street gangs in vicious turf battles, ruthless corporate enforcers or the cold amorality of artificial intelligence gone bad. The streets bristle with weaponry: cybernetic enhancements, high-tech handguns, powerful explosives and sharp, pointy things too numerous to mention. People play for keeps, and they have the hardware to do the job right.

With competition this tough, it seems only fair to give the PCs an edge, so they can stay alive long enough to learn their way around the urban nightmare. Therefore, the GM may want to start his campaign with characters having more than the standard ***GURPS*** 100 points.

150 Points —"Swimming With The Sharks"

This level will give a campaign in which the PCs start out at the bottom of the barrel. Initially, almost any opponent they face will have them out-muscled, out-gunned, and out-equipped. They will have to be very good *and* very lucky to make the long climb up the power ladder.

The disadvantage here is that a player will probably go through several characters before hitting upon one with the right combination of good luck and good play to survive. Admittedly, this can be very discouraging.

The advantages of this style, however, are threefold. First, this is an accurate portrayal of many definitive cyberpunk books — the protagonist starts out as a pawn, but slowly grows in power, connections and ability until he is a force to be reckoned with. Second, the character will have a much deeper background. By the time he's ready to play in the big leagues (250+ points), a PC will have a fully developed "story," a large number of NPCs he's interacted with (and who may owe him favors — or want to see him snuffed), and a wealth of knowledge about how the GM's world works.

Finally, the player will have a real sense of accomplishment when he *does* hit it big. He can sit back and reflect on each minor victory (and setback!) on his "road to the top," and will have some great stories to tell.

200 Points — "The Kid's Got A Rep"

This is the default starting level for a ***GURPS Cyberpunk*** character. The extra 50 points can be used to upgrade equipment from the low end of the spectrum to good quality, or for the purchase of an extra cyber-enhancement or two (whether by point expenditure or trading the points for cash).

Even in the urban sprawl of a cyberpunk world, 200-point cowboys or "street samurai" will be special. They may not be the most feared, sought-after or talked-about, but they *will* be noticed. They will not initially be strong enough to run with the *serious* heavyweights, but they can put together significant operations of their own against middle-level operatives, corporations or gangs.

250 Points — "Bad News On The Net"

A character at this level probably wields significant power of some kind. If all 250 points are spent on personal gear and equipment, the PC would be one of the most desirable employees around. If the points were spent on enhancing his power base (Wealth, Reputation, Contacts, etc.), he'll have a voice that commands attention, and probably control operatives of his own.

This is the threshold at which the PCs start attracting the attention (for good or ill) of major corporations, governments, criminal organizations and street ops. It is best suited for a campaign in which the GM and players are thinking on a global scale — no petty neighborhood politics here; there's a world to be conquered!

Points vs.Cash

The cyberpunk GM must decide how available cyberwear is and how players can obtain it when designing their characters. For instance, is cyberwear available for immediate purchase — can anyone get a bionic right arm simply by laying down the cash for it? The advantage to this system is that it makes sense. The disadvantages are that it encourages players to design characters with high levels of wealth, which isn't really how things are in most cyberpunk literature, and that it makes earned character points less meaningful when a 15-point advantage can effectively be purchased for a few thousand dollars!

Another option is to charge strictly points for cyberwear — either by a formula (1 point buys $5,000 worth of cybernetics) or by using the individual point values for various pieces of equipment. This ensures point balance, but is less realistic in most game worlds. The GM might want to introduce a modified form of this rule in which the characters have to pay points for any equipment that they use for more than one adventure or session.

The final option is to charge both points *and* cash — which is both realistic and point-balanced, but keeps the characters poor. Of course, many GMs may *want* a way to keep the PCs from accumulating too much cash.

Whichever method the GM chooses, he must explain it to his players *before* they start creating characters.

Spending Character Points

In a 250-point or higher campaign, it may be a temptation to spend all of one's character points on attributes. This might be acceptable in a fantasy or espionage campaign, but isn't a good idea in cyberpunk. It doesn't matter how high your attributes are — a set of rippers across the throat will still kill you.

There are three ways to handle this. The GM can set a ceiling on attributes (say, nothing over 15, and only one attribute of 15). This is very artificial, but it works.

A second, less artificial, technique is to limit the number of points that can be spent on attributes when characters are created. A suggested limit is 100 points. If spent evenly, this allows two 12s and two 13s — excellent attributes, but not superhuman. But if the player *wants* a superhuman character, 100 points would buy three normal attributes — and one at 17!

Finally, the GM may allow the players to spend their points anywhere they like but exploit any weaknesses this causes. Even if they can deduce his pattern and where he'll strike next, a party of techies with IQ 20+ will be no match for a single mad slasher with a bulletproof vest.

Disadvantage Points

Many characters in cyberpunk worlds are loaded with disadvantages — both mental and physical — that go far beyond the normal 40-point limit. To accurately reflect this, it is recommended that the ceiling on disadvantages be raised to 80 points, or any two disadvantages of *any* point total. Many characters may not take their full quota of disadvantages, and those who do may be short-lived (or dysfunctional), but the option should be there. The GM should keep an eye on them, though, to ensure that the disadvantages chosen are neither meaningless nor totally disabling within the concept of his campaign.

If the rather eccentric personalities and backgrounds produced in this manner bother him, the GM should feel free to lower the ceiling to 60 or 40 points, but remember — in cyberpunk, only the mundane are considered odd.

The GM should remember the increased level of disadvantages when choosing the starting point value of his campaign. A 275-point character with 80 points in disadvantages and five points in Quirks will have a total of 360 points to spend! Still, cyberwear is expensive — those points will go quickly.

Character Types

In cyberpunk, as in other genres, characters should never be pigeonholed into narrow "classes" that restrict what they can and cannot do. The following character types describe some of the most common stereotypes from cyberpunk literature. The player is the judge of how closely his character will follow a particular pattern. Some types will be inappropriate or *wildly* altered in different GM's worlds. The GM should be prepared to discuss with his players how various character types fit into *his* world; he need not follow any more of the literature than he wants to.

The list is by no means exhaustive. Players should feel free to alter these as they see fit, combine two character types (who says you can't have a combination cop/tinkerer?), or come up with their own, entirely new character conceptions!

Assassins

Life may be cheap, but death costs money. As long as there are people willing to pay to see an enemy or competitor permanently removed, there will be someone willing to do the removing - for a price.

An assassin may have grown up on the street, or perhaps he is an ex-soldier or cop who was deemed "undesirable" by his superior officers. Common advantages for assassins include Night Vision, Combat Reflexes, Alertness and Patron. Disadvantages could include Enemies (the friends and/or relatives of those he's killed), Megalomania, Overconfidence or any of a large variety of Odious Personal Habits and Trademarks. Combat skills are a must, although many assassins specialize in areas such as Demolitions or Poisons. Other important skills might be Area Knowledge, Climbing, Criminology, Disguise, Driving, Running, Shadowing, Stealth and Tracking. Some assassins rely very heavily on cyberwear - custom eyes, body weaponry (usually concealed), drug-amplified reaction time, chipped combat reflexes, etc. Others look disdainfully at cyborgs, and take great delight in defeating them with nothing more than their "natural" abilities. Most fall somewhere in between - a little bit of skill, a little bit of cyber.

Types of assassin include:

Corporate Gun: Some companies prefer to succeed in business the old-fashioned way - by liquidating the opposition. A corporate gun may be sent to eliminate key personnel from competing firm, uncooperative public officials, or disloyal employees of his own company.

The corporate assassin has a relatively cushy job. He usually has access to a great deal of high-tech equipment, cash and company resources. He will usually have the health and life insurance benefits that regular employees have, paid vacation, and all the other perks of corporate life (see pp. 12-13). The people that he works with will usually be the best — or the best his company can afford, anyway. He will always have a great deal of information about his target before he goes hunting.

But should the corporate gun want to quit, he may find that *he* is now a target — he knows too much! And if by some chance he should live to retirement age, it's anyone's guess whether he'll get a gold watch or a steel slug as a parting gift.

Enforcer: While corporations might *occasionally* need to eliminate someone, it's an almost daily necessity for a criminal organization. This requires a good deal of hired muscle. An enforcer never knows who his next target will be — a smart enforcer learns not to try and guess. Some jobs will be easy — a fat storekeeper who is late on his "insurance" payments, or a street punk who was in the wrong place at the wrong time and saw something he shouldn't have. Other jobs are tougher - rival criminals, most of whom have heavily armed and highly motivated bodyguards.

The enforcer doesn't have many of the legitimate benefits that a corporate gun possesses. Unless the organization he works for is *enormous* (in which case it is probably incorporated anyway!), there is always the chance that he'll show up for work one day to discover his employers are dead or in jail.

But the enforcer is usually known on the street — his reputation brings him a fearful respect that he wouldn't get as a corp, and he's usually better paid than his business counterpart.

Freelance: The freelance assassin is owned by *nobody.* He may be a fierce-ly independent loner or a member of a tightly-knit op team (see p. 121). Whatever the case, his quality of life depends on his abilities. A reliable, discreet freelancer who proves he can pull off the big jobs can name his own price. A freelancer who blows an assignment or talks about his clients may make headlines — but he won't be there to read them.

The freelancer's most precious asset is his reputation — if he becomes known as a loser, no one will hire him. For this reason, it's usually a bad move for someone to speak ill of an assassin, even if they're telling the truth!

Freelancers often have extensive contacts, both legitimate and otherwise, to facilitate their work.

Bodyguards

In the danger-filled world of cyberpunk, the wealthy and powerful are constantly under threat of kidnapping, assault or assassination. Those who wish to survive take steps to ensure they are protected.

A bodyguard has unique opportunities to move in the social circles of the political, economic or criminal elite without actually being noticed. People tend to think of him as a piece of furniture. A sharp operator can pick up *lots* of useful information this way. Many assassins try to get hired as bodyguards for their intended victim — what better way to learn about his security procedures?

Some possible advantages for a bodyguard include Acute Hearing, Alertness, Combat Reflexes, High Pain Threshold, Legal Enforcement Powers, Peripheral Vision, and Toughness. Good choices for disadvantages include Appearance (the more intimidating, the better), Eunuch (employers from some Arabic countries *insist* that their harem bodyguards have this disadvantage), Fanaticism, Honesty, Paranoia, Sense of Duty or Vow.

All bodyguards will have some type of combat — but this could be anything from Beam Weapons to Brawling. Other useful skills include Criminology, Detect Lies, Driving (many are employed as chauffeurs), First Aid, or Languages. A bodyguard who can also act as a translator is worth a

Changing Appearance

In a cyberpunk world, with TL8+ medicine, the human body becomes infinitely changeable. These changes are not limited to mechanical implants: there are other possibilities.

Cosmetics

For those who wish a temporary change of appearance, cosmetics are available. A variety of paints, creams and powders can be purchased to change hair, eye, skin and tooth color. These are used more for frivolity than for disguise; one can match his complexion to his mood, in any color of the rainbow.

Cost of these cosmetics is less than $20 per treatment. Time to apply or remove artificial coloring is two minutes for eyes (using eyedrops); ten minutes for a single-color skin job on hands and face, or 30 for an all-over job (using creams); 30 minutes for a single-color hair job (using shampoos); 5 minutes for teeth (special toothpaste). Some skin creams are temporary, lasting about a day; their appearance as they wear off is most untidy. Others dye the skin more or less permanently; the color lasts as long as the first few layers of skin do — usually a couple of weeks.

Biosculpt

To surgeons who can graft metal to living flesh, major "cosmetic" surgery is a simple matter. Almost any change is possible, given enough time. Some examples:

A minor but significant change (an acquaintance would have to make an IQ roll to recognize the subject) costs $500 and takes a week. A change that makes the subject unrecognizable costs $5,000 and takes two weeks.

Duplicating another person costs $25,000, and takes three weeks. (In some jurisdictions, personal appearance is protected by copyright. Infringement cases can be entertaining.)

Improving Appearance, without changing the basic features, costs $1,000 to be Attractive, $5,000 to be Beautiful (two weeks for either) or $25,000 to be Very Beautiful (three weeks).

Continued on next page…

Changing Appearance (Continued)

Any face that a customer can imagine can be provided. Some security forces, for instance, require their troops to wear identical faces. Street gangs often modify themselves to fit a common style, from beautiful to grotesque. Bodyguards and thugs wear monstrous faces from myth. Entertainers compete to invent unique features.

Reducing Appearance is also possible — for $500, Appearance can be reduced to any level. (Duplicating a specific, uglier person still costs $25,000.) This does not get any points as a disadvantage!

The GM may require PCs to pay character points equal to the difference in point cost between present Appearance and new Appearance if bodysculpt is used to increase attractiveness, or pay the points to buy off the disadvantage for surgical modifications to weight. There should never be any character point cost to simply alter one's body or face without changing Appearance, or to be made *less* attractive.

Height can be changed, up to 3" in either direction, by adjustments to the long bones of the arms and legs; slight modifications to the spine could change another 3". Cost is about $8,000 per inch of change. Time required would be a week for 1" to 3", and three weeks for more change (spinal work requires more recuperation).

A body can be rebuilt into any desired degree of perfection or exaggeration. For a female, these changes usually involve nothing more than addition or simulation of fat tissue, and are relatively simple ($8,000, 2 weeks of recovery). An ideal male body requires at least the appearance of muscle, which is more difficult; $20,000 and two weeks for artfully sculpted fake muscles which are really fat tissue, or twice that much for real, functional muscles which would improve ST by up to 3 points.

An arm could be changed into a functional tentacle of similar length. Few people would undergo such a change without coercion or great financial incentive, of course. Cost would be at least $50,000, and recuperation time would be two months or more, while the owner became familiar with the new limb.

Most of these changes can be detected by a thorough physical examination. Head X-rays, for instance, would show that the facial bones had been rebuilt, though they would give little clue as to the person's original appearance.

The GM should note that any change which improves a character's appearance or stats should also cost character points.

higher salary. On the other hand, translation can distract a guard at the wrong time — and some employers don't *want* the bodyguard to understand what they're talking about!

Most bodyguards have some sort of cyber-enhancements — grafted muscles, reflex boosters, weapon implants and anything else that might give them an edge over an opponent

Brokers

There are many different economic levels in most cyberpunk worlds. But no matter what level he operates at, the broker is in it for the money. A successful broker has mastered the art of supply and demand — a good salesman can sell *anything!*

Brokers bridge the gap between the smoothly organized corporations and the chaos of the street — most have contacts in both. Most brokers don't *want* to work for a corp. They're their own boss — they keep their own hours and do their own deals, and they reserve the right to refuse service to any-damn-one they please.

The broker knows who's buying and who's selling, and how to get them together. Some brokers deal in black- or gray-market goods and services; others remain strictly legitimate. They all find certain skills useful: Administration, Computer Operation, Detect Lies, Diplomacy, Fast-Talk, Economics, Languages, Merchant, Scrounging, and Streetwise are common. The differences lie in their advantages and disadvantages.

Black Marketeer: He supplies things that aren't available through normal channels. Unregistered weapons, illegal cybertech, drugs, dangerous chemicals, explosives, military equipment, secret documents, slick ice and icebreakers — or just information — he can supply it, if the price is right. Many black marketeers act as fences, paying anywhere from 10% to 25% of the value of stolen goods, then reselling them at half price. A broker who specializes in software knows that newness is everything… every day that he holds on to his goods decreases their value.

Most black marketeers prefer to remain ruthlessly neutral — but some of them will take sides, or at least stay bought. Still, it never pays to be *too* friendly with someone who'd sell his own grandmother.

Typical advantages include Intuition, Luck, Mathematical Ability, Contacts, and Wealth. Disadvantages may include Greed, Code of Honor, Miserliness, Social Stigma and physical disadvantages of all types. Outside of comm gear (brokers like to stay in touch with their markets), he rarely has need for cybertech.

Fixers: Fixers are confidential employment agencies. If someone needs to put together an op team (see sidebar, p. 121), they can talk to a reputable fixer — he'll provide reliable operators who have the required skills. A fixer gives the GM a great method for bringing together PCs, or for introducing important NPCs. Some fixers will only assemble teams for legal operations, others only for purposes they "believe in." Less moral fixers can arrange anything from an assassination to a military coup.

A fixer lives and dies by his contacts. He'll usually have some netrunning skills of his own, or work in close cooperation with someone who does. Double-crossing a fixer usually isn't a good idea — it's a solid bet that he knows someone who can even the score (and who might even owe him a favor).

Fixer advantages can include Contacts, Charisma, Eidetic Memory and Reputation. Enemies and physical disadvantages fit in well. Many fixers keep their client database chipped into a skull socket.

Scavengers: These brokers specialize in used hardware. They know every junkyard within 300 miles, and probably have one or two military supply sergeants on their payroll. If there's a wreck or firefight, scavengers will quickly descend on the scene to pick up the pieces — everything from hubcaps to body parts.

Scavengers will probably be on good terms with brokers of other types — many don't deal directly with the customer. A good scavenger will have some technical skills in addition to those listed for all brokers. They often find themselves in the middle of the action, and have to be in good physical condition. Many are heavily into cyberwear of the technical variety — built-in sensors, lockpicks and other cyberstealth hardware are all important. A big-time scavenger will have his own team of techies and enforcers.

Street Dealers: This is the low end of the economic spectrum — drug pushers, pimps and other low-life. Street dealers generally sell illegal goods to the dregs of society. Some aspire to a higher station in life; others are quite happy where they are. They usually have contacts in a criminal organization, and will often deal with other types of broker.

Useful advantages for a street dealer include Danger Sense, Contacts and Patrons. Disadvantages include Addiction (for those who sample their own goods), Illiteracy, Social Stigma, Poverty and Youth.

Few street dealers can afford cyberwear; those who can are most likely to choose some sort of personal protection or weapon system.

The GM should discourage PC brokers from becoming a free supply shop for the other characters — this can throw the game out of balance.

Celebrity

Celebrities are an ancient phenomenon — lewd verse about favorite gladiators was found scrawled on the walls of Pompeii. Those in power will always try to use popular figures to help sway the masses; sometimes it works.

What constitutes a celebrity, and how much and what kind of influence they have over the average citizen, will depend largely on the individual GM. In some worlds, movie stars are a thing of the past — nobody watches anything but TV. In other worlds, gladiatorial combat has reappeared, with heavily-cybered combatants duelling to the death in front of millions of home viewers. Or maybe autoduelling is the current rage, with helicopter crews patrolling the highways, looking for a show. In still other worlds, rock 'n roll rules!

A peculiar type of celebrity that could only exist in a cyberpunk world is the star netrunner, known to millions of adoring fans only by his handle and for his ability to break into and out of network feeds at will, usually to sing vulgar songs or deliver vaguely revolutionary messages. Popular politicians, religious figures, authors, poets or anyone else who rises to a position of public influence could also be celebrities.

The GM must also decide how much and what kind of influence celebs have over the masses. (Inverting stereotypes can lead to interesting results; for instance, Norman Spinrad's story *The Big Flash* has the U.S. Government using a rock group to gain popular *acceptance* for dropping an atomic bomb.) This is especially true of PC celebrities, whose main power will be their ability to manipulate and inspire (or demoralize) masses of people — their charms will have little effect on other PCs.

Whatever their area of expertise, there are certain things that are a *must* for a truly popular celeb. Appearance, Charisma, and Wealth top the list of advantages — add Musical Ability and Voice in many cases. Common disadvantages include Addiction, Alcoholism, Compulsive Behavior, Enemies, Lecherousness, Megalomania and Overconfidence.

Sex Changes

Perhaps the ultimate disguise, or the ultimate roleplay, is the adoption of the opposite sex. This operation is available in three degrees:

Superficial. The subject retains his or her own gender, but when fully dressed would appear to be a member of the opposite sex. $8,000, two weeks.

Full Cosmetic. Only a full physical examination would reveal that the subject has had a sex-change. To all exterior appearances, and for all social interactions, the change is total. Reproduction is impossible, however. $30,000, one month.

Complete. The subject truly becomes a member of the opposite sex. This procedure involves growing a brand-new clone body from a cell which has been subjected to chromosome manipulations. Time and costs are as for an ordinary clone change (see p. 57), plus $20,000 for a male-to-female change (relatively simple) or $70,000 and an extra two weeks for a female-to-male change (requires creation of an artificial Y chromosome, which is difficult).

Sex changes are legal in most Western countries and illegal in most Eastern ones, where sex roles are still written into law.

New Bodies

If clone bodies are available and memory transfers are not specific to a particular genetic pattern, a character can obtain a new body almost as easily as he can put on a new pair of shoes. Time and costs are as for an ordinary clone change (see p. 57), plus $20,000 if the character *chooses* new features for his clone.

When a character changes bodies, he takes all of his Mental skills with him. It takes a month of training to bring Physical skills up to the level they were in the previous body, assuming the new body has the same or higher attributes as the old one. (If the character transfers into a body whose HT is 1 less than the old body's, for instance, all skills based on HT will be at a -1 until he can build them back up again.) In addition, he must pay any character points necessary to upgrade from the old body's attribute to the new one.

Patrons

Many cyberpunk characters are lone wolves by nature, and will prefer to go by with no outside help. There are often advantages in group activity, however… such as having a Patron who can supply equipment that is otherwise unavailable or too expensive. In addition, most characters will pick up Enemies along the way. In a cyberpunk campaign, having a powerful Enemy can be bad news — for instance, a particular corporation might have a standard security program to deal with most forms of unauthorized access. But the security program might compare a hacker's electronic fingerprints — his cycle time, his methods of attempting to break through the security program, even the files he looks for when the hacker has broken into a "sting" area of the system (one set up simply to entrap data pirates) — and if it recognizes the would-be data pirate as someone on its Enemies list call up a special form of black ice just for them!

Here are a few examples of Patrons and Enemies a cyberpunk character might acquire. The point costs are *before* frequency bonuses and penalties: for other modifiers, see pp. B24-25.

Powerful Individual. Even in a world of mcgacorps and repressive governments, there will be a few individuals who are important by themselves. If they are involved with the corporations, it is as extensive stockholders; if governments are powerful, they will be people with considerable political clout. Such individuals will often have their own private agendas, and will sometimes hire under-the-table help. They can't always supply equipment to carry out the operation, but they can supply money to buy necessary tools, and let the hirelings keep the equipment as a bonus for a job well done. As an Enemy, of course, they will be doing the same thing — except the people they hire will be coming after *you!* An individual will be worth 10-15 points.

Continued on next page…

Some important skills for a celebrity might be Acting, Artist, Bard, Dancing, Leadership, Musical Instrument, Performance, Poetry, Politics, Public Speaking, Savoir-Faire, Sex Appeal, Singing, Theology or Writing.

A celeb PC will be in the public eye at all times. If he or she wants to engage in any shadowy activities, a second (and secret) identity may be necessary.

Cop

The role of the police also varies from world to world. In an urban jungle, the cops are often satisfied to keep the criminals isolated in certain sections of town. Actual *arrests*, at least in this "Zone," are rare. In a police state, though, a police officer may have absolute power as on-site judge, jury and (if need be) executioner.

Some police departments will discriminate against would-be officers with obvious cyber enhancements — others encourage this kind of modification, and may offer to pay a percentage of the cost for their officers. All cops need skills such as Area Knowledge (of their beat or precinct), Beam Weapons, Brawling, Criminology, Detect Lies, Driving, Fast-Draw, First Aid, Guns, Interrogation, Running, Shortsword (baton), Speed-Load, Shadowing and Streetwise.

Bad Cop: In a corrupt and capitalistic cyberpunk world, there will always be graft within the police department. Many cops will be owned lock, stock and barrel by a criminal organization, corporation or private party. In return for his services, the bad cop can expect regular payoffs.

Not all bad cops are on the make — some are merely badge-wearing thugs who take great pleasure in abusing their position. They will shake down street dealers, steal from merchants and beat up drifters. They will cheerfully commit perjury to protect themselves or their cronies.

Common bad cop advantages include Combat Reflexes, Danger Sense, Legal Enforcement Powers and Toughness. Disadvantages often found are Alcoholism, Bad Temper, Bloodlust, Bully, Duty, No Sense of Humor, Sadism and Bad Reputation.

Good Cop: Even in the grim world of cyberpunk, there will still be idealists who want to change the world for the better. The good cop operates "by the book" — anyone offering him a bribe will find himself behind bars. He is often unpopular among his fellow officers, as he can be ruthless in ferreting out corruption within the department.

Good cops (PCs or otherwise) will quickly accumulate an impressive list of Enemies. Other disadvantages include Code of Honor, Duty, Honesty, Sense of Duty, Truthfulness and Vow. Common advantages are Charisma, Empathy, Legal Enforcement Powers, Strong Will and Reputation.

Maverick: A maverick is a cop with a crusade. He has one or more issues that he feels strongly about (drug abuse, youth gangs, illegal cybernetics, net crime, etc.), and he is fanatical in his pursuit of them. He will often be considered the department "expert" on his particular peeve. Mavericks are notorious for breaking (or at least *bending*) the rules in their pursuit of justice; for this reason, a maverick may get demoted regularly — only to have his rank reinstated after the next spectacular bust!

Common advantages for a maverick cop include Combat Reflexes, Legal Enforcement Powers, Reputation, Strong Will and Toughness. Disadvantages might be Compulsive Behavior, Duty, Enemies, Fanaticism, Sense of Duty and Vow.

Corporate

The role of corporations will vary from world to world. In some places, they have been taken over by an all-powerful government that controls production, manufacturing and distribution of *everything*. In this case, any corporate charac-

ters will be mid- to upper-level civil service bureaucrats. But in other worlds the corporations *are* the government:; either they have replaced traditional forms of government with a corporate state, or the government is weak and ineffective enough to be unable to stop the megacorps from doing as they please.

Either way, in most cyberpunk worlds the corporations of today have mushroomed into ocean-straddling giants, with tentacles reaching from algae farms beneath the ocean to satellite factories in space. It is in this world that playing a corporate character becomes challenging.

A "corp" is *not* a merchant — that's for brokers. Instead, he is a middle- or upper-level executive in a large (usually multinational) business. His job is to see that the best interests of his company are forwarded — along with his career!

Competition is stiff inside most megacorps; an executive will always have to deal with jealous rivals envious of his success, competitors who scrutinize him for any sign of weakness, ambitious underlings who want his job, and paranoid upper-management types who see *him* as a threat to *their* jobs.

In some corporations, very civilized rules govern what is and isn't permitted in pursuit of the company's goals (see the Rizome Corporation in *Islands in the Net* by Bruce Sterling, for instance). Other companies conduct murder, sabotage and industrial espionage with ruthless efficiency.

All corporates must have the Duty disadvantage (usually on a 12 or less) — by definition, they *work* for someone. The problems that they must deal with are generally handed to them by superiors, though the method used to handle the problem is left up to the individual. This does *not*, however, mean that they have a Sense of Duty to the corporation! Many corporate characters will have private agendas of their own, and their goals may not coincide with that of the company Board of Directors.

As NPCs, corporates provide the GM with a good method of bringing the PCs together. They are *always* putting together op teams for some mission or another, and they often prefer to use non-company personnel, in order to preserve deniability.

The GM should be careful to limit the amount of corporation resources that PCs can draw upon — megacorps are in business to make a profit, not to outfit entire mercenary crews with state-of-the-art equipment. Of course, if the stakes are high enough, the operation important enough, and the PCs good enough, then the corporate purse strings will be loosened as much as necessary.

Typical corporate advantages include Charisma, Patrons (the corporation itself is usually an expensive Patron), Status and Wealth. Disadvantages such as Enemies, Jealousy, Sense of Duty and Odious Personal Habit (Workaholic) are all fairly common.

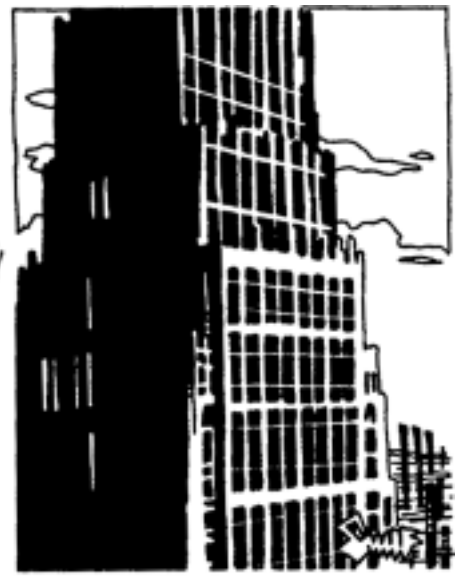
Necessary skills will vary widely from company to company, but some common ones are Accounting, Administration, Computer Operation, Diplomacy, Fast-Talk, Politics, Public Speaking, Teaching and Writing.

Many "suits" will have some sort of neural cybertech — sockets, plugs, etc. If the world as a whole frowns upon obvious physical cyberwear, then successful businessmen will shy away from it (or hide it as much as possible); otherwise, cybertech will vary from individual to individual.

Cyberprep

The cyberprep world is the flip side of cyberpunk. What are those outlaws rebelling against? There *is* a safe and secure world in the c-punk future, though it's available to few. Just think of the things that today's yuppies would do if they could augment their bodies and plug their minds into the net. Expensive, decadent fun.

The cyberprep character has *lots* of money to spend on himself, and no concept of what the real world is like. Typical advantages would be Appearance,



Patrons (Continued)

Small megacorporation. Even a small megacorp could probably buy and sell many Third World countries. These corporations need all the edge they can get in the fight against the Really Big Boys, and will often hire netrunners or street-talent to spy on the competition — or sometimes even perform direct actions such as sabotage or assassination. These actions need not be directed toward other corporations; for instance, a corp could hire an op team to silence a former hireling who turned against them or botched a job. Worth 15-25 points.

Governments and large megacorporations. These powerful organizations are more likely to hire characters permanently as troubleshooters or intelligence agents. Still, they will occasionally call in outsiders with useful skills. It's also relatively easy to turn a government or large megacorp into an Enemy — just harass one often enough, and soon they'll start taking notice of you. Worth 15-25 points.

AIs. If artificial intelligence has evolved or been created, an AI may have its own ideas about what it should do and how things should be run. It may occasionally need to hire humans to do things it can't — which includes just about anything for which a physical body, rather than access to the Net, is necessary. To make things even more complicated, the AI may not even let its employees know it's not human! This will require communication solely by messages or through virtual images on the Net. The average AI will be worth 15 points as a patron — treat it as a single individual with few assets but extra-special abilities.

"Style" In Cyberpunk

In many ways, cyberpunk *is* style. In a tough, disintegrating world, you have little to believe in or identify with except yourself. Who you really are is less important than the image you project — who people *think* you are, or might be. This goes for everything from clothes to accessories to handles on the Net. Someone carrying a Bible through a bad part of town is just looking for trouble; the same dude with a copy of *Munitions Weekly* is less likely to have people bother him, and if he's also carrying *Grant's Fugitive Digest* (a standard tool of bounty hunters) the locals are likely to stay well out of his way.

The GM should let the players dictate their characters' style, and have NPCs react accordingly. Here are a few suggestions; by all means invent more. And remember: a PC played with style is definitely worth more character points at the end of the adventure!

Good Corp. This man is one of the thousanduplets; the color of the suit may vary, and a few rugged individualists may wear bow ties instead of regular neckties, but the good corp is a loyal company man, probably in middle to upper management who looks, acts and thinks a lot like all the other good company men. The image he wants to convey is, "I have the power of Takashi Corporation behind me and if you mess with me, you mess with Takashi." Good for intimidating petty bureaucrats.

Cop. Similarly, the cop's image says that he represents whoever gave him his badge. Whether he's a corporate security man or an Interpol agent, the message is the same: "I represent society. I'm Authority." Thugs may think twice before they take him on, since the other part of the cop image is, "We protect our own. You kill one of us, we'll all come looking for you. And we're *bad* when we're mad."

Punk. This is the most common style on the street. It's a reaction to the times — a look that shouts violence. Lots of leather, studs, clashing colors and metal. Hairstyles range from shaved bald to long and unkempt to orange and spiked. The idea here is to look like the kind of person your mother warned you to stay away from. Gang members may share a look… with surgery, they may all look *exactly* alike!

Fashion Plate. The person who always wants to have what's newest and fashionable. Whatever is in this season, they'll have it. Oddly enough, the latest trends in fashion seem to come from the street — studded lapels, for instance, or leather accessories. The fashion plate's statement is simply, "I'm cool."

Contacts, Status and Wealth. He might even be smart and talented, but, by definition, he doesn't have the street tough or the corporate ruthlessness that goes into cyberpunk.

Cyberpreps aren't likely to have any significant physical disadvantages; Mummy and Dads had them fixed years ago. Mental disadvantages are much more likely. In particular, the typical c-prep also suffers from the 15-point Delusion "None Of This Is Real." When he encounters the gritty world of the streets — or, for that matter, of boardroom realities — he's likely to treat it as a game, where everybody gets their marbles back at the end of the evening.

Few of the cyberpreppie's skills would have been acquired for practical reasons. Area Knowledge (of the good side of town), Carousing, Languages, Savoir-Faire, Sex Appeal, and sports and vehicle skills would be common. Scrounging, Streetwise and most other thief/spy skills are right out! But a pleasure-seeker might wind up with high levels in a few useful skills, such as Judo or Karate, Netrunning, or any sport-type weapon.

A cyberprep type might have any modifications (cost is no object), or none at all. If augmentations are in fashion, he'll be solid chrome. If obvious mods are considered "declasse," all his improvements will be invisible.

A single cyberpreppie, slumming, might fit into a "normal" cyberpunk PC group… if he had abilities that made him worth babysitting. If nobody wants to play this poor innocent, he makes a good NPC.

Drifter

In many cyberpunk worlds, entire segments of the population have been disenfranchised. These homeless outcasts wander from place to place, or erect massive tent cities on public (or abandoned) land, victimized by the cruel and ignored by the majority.

Drifters are constantly in danger, whether from military press gangs, slave labor "recruitment" teams, roving organ-bank "harvesters" or other drifters trying to steal their meager possessions.

Drifters have few if any advantages — typical disadvantages are Bad Appearance, Illiteracy, Status and Poverty.

While most players won't choose a character of this type, they *will* meet them in most worlds…

Mercenary

Violent times call for violent men. A mercenary specializes in violence — in exchange for a salary he'll put his life on the line in a conflict he may know nothing about. Many mercenaries are ex-servicemen, or former cops who found that freelance life, while uncertain, was far more lucrative.

Some mercs organize themselves into companies and hire out to any government, corporation or other organization that wishes to contract with them. Such groups often have a lawyer on staff, and their contracts are carefully worded to ensure that the exact goals of the company, the means their employer will permit them to use, and the amount, method and time of payment are specified.

Mercenary companies are made up of much more than just fighters — they'll often employ netrunners, spies, thieves, medics and other specialists as needed. Such groups may be large enough to have their own system of ranks. Members of these groups have characteristics similar to those of military personnel (see below).

Other mercs are solitary figures, finding jobs through bodyguard services, or a place in an op team through the auspices of a fixer. Mercenaries with proven records or expertise in unusual specialties (off-planet demolitions, amphibious assaults, etc.) will find their services in high demand.

Useful advantages include Alertness, Combat Reflexes, Danger Sense, High Pain Threshold, Military Rank, Rapid Healing and Toughness. Among the common disadvantages are Appearance (from old wounds), Bloodlust, Code of Honor, Duties, Sense of Duty and Vow.

The most important skills will be combat-related: Beam Weapons, Guns, Gunner, Armoury, Battlesuit, Brawling, Camouflage, Demolitions, etc. Other common or useful skills include First Aid, Carousing, Karate or Judo, Leadership, Politics, Psychology, Tactics and Strategy.

Combat-related cyberwear — reflex implants, weapons, etc. — is very common among those who can afford it. It's also possible that this equipment is only loaned by the company… which would take it back if an individual mustered out.

Military

The role of the military varies in different world settings, both in game play and in literature. However, even if national governments have been weakened to the point that standing armies are inconsequential, there will more than likely be other groups structured along military lines. Examples might be worldwide "peacekeeping" forces (perhaps run by the UN), large mercenary groups, corporate defense forces, citizens' militia, etc.

Advantages, disadvantages and skills for PCs who choose a military background will be similar to those for a mercenary (see above), with the addition of Duty and Military Rank. Cyberpunk literature is full of military and ex-military characters, ranging from dedicated career servicemen to dissatisfied deserters who are now working against their former employers.

Mobster

Crime and criminal gangs are almost universal in cyberpunk worlds. In the thriving underground economy that exists in most worlds, it is inevitable that organized crime would want their own "piece of the action." PCs who have any "interesting" occupation, be it law enforcement or lawbreaking, will certainly meet the mob.

Some mobs are organized along "family" lines — even if they use hirelings of any race or nationality, the ringleaders will be monoracial and, in many cases, actually related. See p. 109 for a discussion of crime in cyberpunk worlds.

Large mobs employ "talent" of every imaginable persuasion — from low-end thugs and enforcers to lawyers, doctors, netrunners and cybertechnicians. The only requirements for a mob character are Patron (the mob) and Duty (to the mob). If someone has a high ranking in the organization, the advantages Status (or Military Rank, if the group is structured along those lines) and Wealth are recommended. Enemy (any of various law enforcement agencies) will be a common disadvantage. The amount and type of cybertechnology available will vary according to the paiticular individual and the desires of the group's kingpins.

Netrunner

The netrunner is a specialist in the art of penetrating computer security. In some worlds, there is no such thing as a "cyberspace net" (see Chapter 3 for more information), and this type of character will be referred to by his presently title of *computer hacker.*

Netrunners (and hackers) are motivated by many different things. Some are in it for the money, always trying to set up a big heist that will let them retire in luxury. Others are idealists, only attacking systems belonging to businesses, governments or individuals that have offended them morally. Still others are ill-seekers, addicted to the elusive "edge" of the dangerous playground of

Sleep Teaching

The sleep teacher is a computer-enhanced teaching machine. The student links the headset cable to a computer, inserts a teaching disk (see below) and goes to sleep (or is tranquilized). The machine plays learning disks to reinforce rote aspects of a skill while simultaneously using an electrical impulse to stimulate areas of the sleeper's brain, making him highly receptive to information. With this device, up to 25% of the total hours of study required to gain a character point toward learning or improving a skill may be spent while asleep.

A sleep teacher can also be used for behavior modification — also called brainwashing. Disks can be made for almost any *mental* disadvantage. Sense of Duty (loyalty conditioning) or Honesty (for criminal rehabilitation) are common, but others are possible. The time required to gain a mental disadvantage is 40 hours per character point — conditioning someone to a 5-point Sense of Duty would require 200 hours under a sleep teacher. At the end of this time the subject makes a Will roll; if he fails the roll, he acquires the disadvantage (but gets no points for it). The device can also be used in reverse to remove disadvantages; unless they were gained through sleep teaching, the GM may require these to be bought off.

The software for a sleep teacher requires an individual program for each skill or disadvantage; behavior modification programs are Legality Class 4 or less. Sleepteach programs are Complexity 3 for Easy skills, 4 for Average, 5 for Hard skills, 5 for 10-point disadvantages, and 6 for Very Hard skills or 15+ point disadvantages. Cost is $2,000x*Complexity.* A headset works for 2 months on a B cell. A sleep teacher weighs 4 pounds and costs $12,000.

Electronic Addiction

With direct access to the brain, a wide variety of psychedelic effects can be produced without actually having to ingest chemicals. A character can never experience any physical damage due to withdrawal from an electronic drug addiction — psychological dependency, however, can be real.

The most dangerous form of electronic drug is direct stimulation of the pleasure center of the brain. This is commonly referred to as "wireheading." Wireheading is cheap, totally addictive, and may be legal or illegal depending on the campaign world. At the end of each month of being a wirehead the character should make a HT roll. A failed roll indicates that the electrical current has damaged his brain — lose one point of IQ! This dangerous side-effect adds 10 points to the disadvantage point value of wireheading.

Wireheading is much like any other form of implant. Electrodes in the brain, connected to the pleasure center, are hooked to a jack in the back of the skull. A small transformer, plugged into normal house wiring, provides the trickle of current necessary to stimulate the pleasure center. While a wirehead is hooked in, he becomes impervious to everything except the stimulation and will forego food, water, sex or anything else. To help circumvent this, transformers may be required by law to time out after 10 minutes and not reset for 12 hours. (This timer can only be defeated with the proper, sophisticated tools — a soldering iron, for instance.)

For graphic descriptions of wireheading, see Spider Robinson's short story, *God Is An Iron* (or its novelization, *Mindkiller*) and Larry Niven's novel *The Ringword Engineers.*

corporate or international computer espionage. Finally, there are the mercenaries — also known as "console cowboys" and "interface jocks." They act as hired decks, operating for anyone who'll meet their (usually stiff) fee.

Netrunning is a young man's game — PCs can start as young as 12 or 13. Employers realize that hacking talent can come early, and don't usually discriminate due to age. Some of the best netrunners are teenagers presenting a mature, dignified persona via their cybernetic equipment (but at least one appears as a gunslinger with ROM decks in his holsters).

Netrunners often have moderate to severe physical disadvantages — working a keyboard or cyberdeck requires minimum manual skill or mobility. They will almost always have high IQs and many technical skills. Eidetic Memory, Mathematical Ability and Intuition can be useful advantages for a netrunner. The Computer Hacking or Cyberdeck Operation skill is absolutely necessary. If a netrunner is particularly familiar with one area of the computer network, he might have the Area Knowledge skill for that particular net.

Reporter

Most cyberpunk worlds feature active public media… sometimes newspapers, but often just TV for the illiterate masses. Whether the public media are aggressive journalists or lackeys of the biggest corporate interest, they'll be interested in many of the things that the PCs do — in any world, sensation sells.

If the press is more-or-less free, reporters will be interested in anything that hints of scandal — which definitely includes government or corporate misdeeds. A reporter for such an organization will have a relatively free hand (and sometimes a blank check) from his bosses. Executives and government types will be wary of him; bad cops will hate him, while some good cops will see him as an ally. Mercs and assassins will see him as a way to get publicity.

In some worlds, the press is just a mouthpiece for government or corporate interests. Reporters will remain interested in bloody crimes and accidents, but will look the other way when a story might embarrass the Powers That Be. (Of course, a reporter might still sacrifice his career to smuggle an important story past his bosses!)

Good reporter advantages include Alertness, Common Sense, Contacts, Intuition, Luck and Reputation. If the newspaper or TV station really supports him, it could be a Patron. Appropriate disadvantages include Code of Honor, Impulsiveness, Overconfidence, Sense of Duty, Stubbornness and Truthfulness. A very *inappropriate* disadvantage, which could be amusing: Gullibility!

Important skills would include Area Knowledge, Bard, Carousing, Computer Operation, Criminology, Fast-Talk, Holdout, Interrogation, Politics, Psychology, Research, Savoir-Faire, Shadowing, Streetwise and Writing.

A reporter could conceivably be completely unenhanced! However, some reporters might find data jacks (and even netrunning skills) useful. Built-in cameras, recorders and memory units, and self-defense weaponry, might also be common, and even paid for by a corporate Patron.

Splicer

This is street slang for a medic — or for any healer, licensed or not. Some splicers work only on "meat," but the good ones can deal with bionics as well.

On the street, a splicer works for whatever he can earn. Some customers will pay him in spare parts; if he's wise, he won't ask where they came from. Most splicers will joke about repossessing parts to take care of an unpaid bill. Some of them will do it… and the parts they take might not be artificial.

Useful advantages for a splicer would include Alertness, Contacts, Empathy, Immunity to Disease and Reputation. Appropriate disadvantages

could include Addiction, Bad Temper, Compulsive Behavior, Enemies, Honesty, and either a Sense of Duty or an actual Vow to help those in need.

First Aid or Physician is vital; other medical skills will be useful. Electronics (cybernetics) and Mechanic (cybernetics) will be required for a splicer to work on cyborg parts. Scrounging and Streetwise will help the splicer stay alive.

A pure-medic character may be of limited use as a party member, but would be a valuable NPC to know. However, a soldier, cop or street samurai would command a higher price (and be guarded carefully by his comrades) if he could patch up his friends in an emergency.

Spy

In a society where information is power, good spies will be in high demand. The spy is a specialist at covertly acquiring information — military secrets, industrial processes, biochemical or genetic formulae, corporate business plans — all salable goods to someone who knows who to sell them to. A spy might also be called upon for sabotage work.

There are many different techniques of spying. A spy many infiltrate the target, or make friends with employees of the target. He (or she!) may use the techniques of the cat-burglar or netrunner to steal information or prototypes. Some spies never go near the target; they use high Intelligence Analysis skills to assemble public information into non-public conclusions.

A spy usually works for a particular group — successful freelancers will be rare, as they quickly find their way onto an ex-employer's list of those who "Know Too Much."

A good spy should have at least a few of these advantages: Acute Hearing, Charisma, Combat Reflexes, Danger Sense, Eidetic Memory, Language Talent, Luck and Strong Will. Extra identities, temporary and permanent, are *very* valuable. Common disadvantages will be Duties, Enemies, Fanaticism, Paranoia, Sense of Duty and (from prolonged stress) even Split Personality.

Necessary skills will depend in part on the spy's "cover," but almost all can use Acting, Area Knowledge, Beam Weapons, Brawling, Computer Operation, Demolitions, Escape, Fast-Talk, Forgery, Holdout, Interrogation, Lockpicking, Photography, Sex Appeal, Shadowing, Stealth, Streetwise and Tracking. Like thieves, spies will frequently rely on stealth-oriented cybertech.

Street Op

This is the slang term for a *street operative*, and has somewhat derogatory connotations — at least to the general public. Some street ops adopt it as a badge of honor. "Yeah, I'm a street op. *So??*"

Also known as punks, dregs, lowlife, scum, vermin, headbangers, street samurai and other names not fit for publication, street ops are generally low-class, low-status hustlers who, for the most part, live on the city streets. Some band together like hyena packs, preying on anyone smaller or weaker than themselves; others remain loners — unstable individuals who don't fit into normal society. The high rate of social change in most cyberpunk worlds claims its share of victims in the form of techno-shocked outsiders.

The streets are a fertile recruiting ground for mobs, who often need cheap, disposable muscle. Most street ops will do almost anything for a buck.

Punks recognize no law outside their own small circle, and are well versed in violence and scare tactics. Those who can afford (or steal) it use cybertech, especially if it has a violent "look" — implanted fangs, glowing rippers, etc.

Addiction, Youth, Appearance, Bloodlust, Greed, Illiteracy, Poverty, Sadism, Social Stigma and Status are all appropriate disadvantages. Social advantages are unlikely, but Combat Reflexes, High Pain Threshold, Toughness

Non-Cybernetic Modifications

Not all modifications to the human brain need to be cybernetic. In fact, a surprising number of modifications can be made with TL7 techniques and a minor understanding of how the brain works. The GM should decide on the game effects be wishes to achieve and what procedures would be necessary to achieve them. Here are a couple of examples:

Prefrontal Lobotomy. This radical procedure involved destroying the prefrontal lobe of the brain, where certain aggressives tendencies are generated. The subject loses any Advantage or Disadvantage which would tend toward aggression, such as Combat Reflexes or Berserk. On the other hand, there are many deleterious side effects. IQ drops by 2, and *anything* beyond the most simple, routine tasks requires an IQ roll in addition to the normal skill roll! This is a -15-point disadvantage.

Killjoy. This radical procedure burns out or removes the brain's pleasure centers. The subject will never again appreciate the taste of good food, the joy of sex or the savage beauty of combat, though he can still participate in the activities. This has the secondary tendency to make him more docile and willing to follow orders; he won't even plot revenge against whoever killjoyed him, because there won't be any pleasure in it. The GM may rule that the killjoyed character can't even *remember* what the pleasures were like because that part of his brain is gone. This is a -15-point disadvantage as well.

Hotshotting. This is almost completely the opposite of killjoying. In hotshotting, the brain's pleasure center is directly wired to another area of the brain — the area that controls mathematical and analytical activity, for instance, so that any time the character works on solving a math problem, his pleasure center is activated. The effect is much the same as wireheading (p. 16), except that the pleasure trigger is internal rather than external. Hotshotting is a 0-point process: the good and bad effects tend to even out as long as the hotshot is in place.

There are persistent rumors that governments and corporations hotshot individuals to make them super-soldiers, for instance. Of course, these rumors are always denied, but they could have a basis in fact…

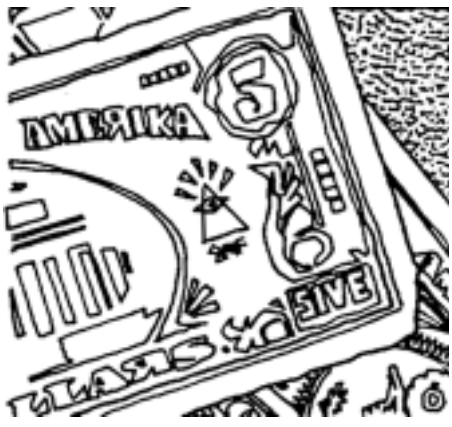
Continued on next page…

Non-Cybernetic Modifications (Continued)

Deadheading. Similar to a lobotomy, in deadheading a section of the brain is removed or otherwise deadened (perhaps through cauterization). Sometimes this is done out of mercy — to help erase memories of an abused childhood, for instance — but in many cases it is done as a form of punishment or behavior modification. Secret police in repressive societies, for instance, might literally have their senses of humor surgically removed. A monk might have the sexual centers deadened in order to be able to completely resist temptation (although this has revived an ancient religious debate as to whether one can be said to avoid temptation if it is not physically possible for him to be tempted). A spy might be subjected to deadheading as a condition of retirement, to burn out anything he might reveal to an enemy (voluntarily or otherwise).

Needless to say, playing around with someone's brain is one of the most frightening experiences possible, since it is the repository of everything that makes an individual unique. Anyone who is going to be "modified" in a way they think will alter their personality must undergo a Fright Check at -3 — even if the alteration would be an improvement. (Whether lobotomy would be an improvement for certain individuals is a question this book does *not* plan to address.)

If braintaping is an option in the campaign world, the braintape cannot write into a destroyed or missing part of a brain, of course. If a character is braintaped dies and has the tape restored into an unmodified clone, he regains any sensations and memories he was previously unable to experience due to physical modification. He may also remember what it was like to not be able to enjoy the taste of an ice cream cone, or the touch of a loving hand on his cheek. And now he may able to *enjoy* the thought of revenge…



and Reputation are all useful. Most punks will stick to combat- and thief-oriented skills, along with Survival (Urban) and Streetwise.

Technician

In the high-tech world of the 21st century, competent techs are *always* in demand. Good technicians can write their own ticket — to a certain extent. Corporations can be very touchy about letting their top scientists resign — the prevailing attitude is "If we can't have you, no one will." Other techs are just natural tinkerers — they may run a small repair shop, or keep a regular day job and do repair work on the side.

Whatever the case, a technician should be well-skilled in his area(s) of expertise. Advantage and disadvantage possibilities are limitless. Most techs, because of their affinity for hardware, will make some use of cybertech — many will be so enthralled with their work that they will be made up almost totally of mechanical and cybernetic systems!

Thief

The thief is a professional criminal (as opposed to many other c-punk characters, who may commit crimes in the line of duty or for pleasure). Successful thieves will often be heavily cyborged — both mentally and physically — to get every edge they can. Many advantages are common to any type of thief — Alertness, Acute Hearing and Vision, Ambidexterity, Contacts, Double-Jointed, Night Vision and Luck. Enemies, Trademarks, Overconfidence, Poverty, Reputation and Paranoia are typical disadvantages. There are several different types of thief, each with his own specialized skills.

Cat Burglar: A specialist in getting into well-protected offices or dwellings. Sometimes he's committing industrial espionage or sabotage for a corporation, other times he's working with an op team put together by a fixer. Some are strictly solo operatives, planning all their own heists and dealing the stolen goods to a reliable fence.

Important skills for a cat burglar include Acrobatics, Area Knowledge, Climbing, Electronics (Security Systems), Forgery, Jumping, Lockpicking, Running, Stealth, Streetwise and Throwing. Appropriate enhancements would increase night-sight, dexterity and area knowledge.

Armed Robber: This thief's specialty is taking money or other goods away from people by threatening them with violence. Note that not all armed robbers use guns; some will use razor claws, knives and similar instruments. Armed robbers range from back-alley muggers to specialists in banks and armories. Useful skills include Beam Weapons, Guns, Stealth, Tracking (to throw off pursuit), Driving, Tactics and Area Knowledge.

Hijacker: The hijacker is an armed robber who specializes in vehicles - usually to get their cargoes. Hijackers are usually good organizers, as the scope of their operations demands more than one person be involved. When planning a job he will either deal with a reliable fixer or use an op team of his own.

Some hijackers are for hire — the best command a steep rate! Others work strictly for their own reasons, be it profit, revenge or idealism.

A good hijacker will need skill in Administration, Beam Weapons or Guns, Camouflage, Demolitions, Intelligence Analysis, Driving, Shadowing and possibly Gunner and Underwater Demolitions.

Petty Thief: Overpopulated urban sprawls swarm with common thieves. Let someone turn their back on their groundcar for a moment, and they'll find it stripped down to the frame. This category also encompasses the common pickpocket, purse-snatcher and smash-and-grab robber.

Very few thieves of this caliber can afford any cybertech. They specialize in skills such as Climbing, Running, Lockpicking, Pickpocket and Sleight of Hand.

Advantages, Disadvantages and Skills

Many of the existing GURPS advantages, disadvantages and skills can be interpreted in a new and interesting manner when applied to a cyberpunk campaign. In addition, several new abilities and disadvantages are appropriate for this genre.

Advantages

Ally

This can be a very useful advantage for a cyberpunk campaign. If a character has an Ally, then he has at least one person who he can trust absolutely… For the most interesting results (and the most balanced parties), the GM may require Allies to be different types of character. Or, if all the players want to be street types, the GM can suggest that someone create a netrunner as an Ally, so the party will have a reliable data wizard.

Appearance

If his campaign world allows easy access to cosmetic surgery, then anyone can look good. By those increased standards, a 20th-century movie star might merely be "attractive." But everything is relative: if you look good enough to get a +1 reaction from the people around you, this costs 5 points.

Legal Enforcement Powers

The definition of this advantage will be broadened in many cyberpunk worlds. In some places, the government has chosen to contract out all law enforcement duties to private contractors. Thus, there will be individuals who have the power to enforce the law but are not under the direct supervision of government authority. There may well be "police" who answer not to the courts, but to the chairman of the board!

Literacy

As video and television become increasingly popular, reading may become a "dead" skill. It is appropriate to make illiteracy the norm in some campaign settings, especially post-holocaust environments and worlds with a large serf-like welfare population. In this sort of world, literacy becomes a 10-point advantage, just as it is in very primitive societies.

Luck

If the PCs regularly face cyber-enhanced combat machines who are hopped up on drugs and toting state-of-the-art firepower, it may take more than just skill to stay alive. This advantage is especially appropriate if the campaign is a "cinematic" one.

Magic Aptitude

Magic, other than quasi-religious net mysticism having to do with AIs (see sidebar, p. 113), doesn't exist in most cyberpunk campaigns. There is, however, the magic-meets-technology theme of books such as *Borderland* and *Bordertown* (edited by Terri Windling and Mark Ajan Arnold), which combines traditional fantasy elements with futuristic technology. If you wish to run this sort of campaign, it is suggested that anyone with Magical Aptitude be charged an additional Unusual Background cost. This could be anywhere from 5 to 50 points, depending on how common magic is in the general population.

Military Rank

In a world in which megacorps establish their own militia, rank in such an organization may be as meaningful as rank in a government-sponsored army. However, a mercenary leader may style himself "Captain" or even "Colonel" without paying the points for Rank. Military rank is only an advantage if the general populace recognizes it and other soldiers respect it.

Patrons

In a campaign where cyberwear costs points, all characters must pay the points for anything that is permanently attached, or that they can use on their own time — even if it is supplied by a Patron. See sidebars pp. 12-13.

Of course, many patrons will provide cyberware. This should not increase the point value of the Patron unless these items are available nowhere else. In that case, up the Patron's point value by 5 points, or 10 if the special equipment is very valuable.

Unusual Background

In some campaigns, the option to buy cybernetic or genetic enhancements isn't available to the general public. Characters wishing to buy these modifications will have to pay an appropriate Unusual Background cost before purchase.

The point cost depends on how rare the GM wishes cybertech to be — anywhere from "slightly unusual" to "only available from secret or experimental labs."

Rarity	*Point Cost*
Uncommon	10
Rare	l5
Very Rare	25
Experimental	40

New Advantages

Alternate Indentity — *15 points*

You have an extra identity, which to all appearances is legally-established. Your retina and fingerprints are registered under two different names, you have two sets of licenses, passports, birth certificates, etc. This can be extremely useful for anyone who is involved in illegal activities. You can purchase this advantages as many times as desired; each will give you a new identity. While the new identity may include credit cards and bank accounts, all money in these accounts must be supplied by the character — it doesn't come with the package.

If a government or megacorp attempts to identify your prints, with no clues as to your name, there is a 50-50 chance which of your identities will come up. The search will stop at that point unless they have reason to believe you have a second identity. If the search continues, the second identity will of course come up, and you will be unmasked. At that point, once the government decides who you "really" are, the other identity(s) are lost.

As an option, an Alternate Identity can be set up with *false* retina and fingerprints. You start with a pocket-sized and highly illegal device (called a Thumb) which can simulate an eye to a retina scanner, or a thumbprint to a print scanner. No search on your own prints will ever turn up the alternate, but you will not be able to use the identity in a security situation unless you have the Thumb with you — and you can't use it with people watching! See p. 54 for Thumb stats.

An Alternate Identity can be acquired during play, but it should not be easy. By definition, such identities are illegal. The criminals with the skill to set up an Alternate Identity are high-priced, hard to find, and cautious. The cost of a genuine Alternate Identity acquired after character creation should be at least $500,000, *plus* 15 character points. The GM should make the quest for the alternate identity into an adventure!

Alternate identities are illegal. If you are caught, you will face a stiff fine, and possibly a jail sentence, for tampering with the government databanks. If this would get you in real trouble, you can take it as a Secret, but you don't have to.

If you are Zeroed (p. 21), you cannot take this advantage. After all, by definition, no records exist of you *anywhere*.

An alternate identity can also be a "secret identity" (p. 25), but it doesn't have to be!

Temporary Identity

You have obtained a set of identity papers, and had the appropriate computer records altered, to set up an Alternate Identity. However, the quality of the work is such that the new identity will eventually be noticed and eliminated (and the user sought after!). Therefore, a Temporary Identity is not an "advantage," and costs no points. It is a convenience to be bought with cash.

A Temporary Identity is guaranteed to be good for one week. At the end of that week, a roll is made. On an 8 or less, the false records have been discovered. Each week an additional roll is made at a cumulative +1 (e.g. the discrepancies are discovered at the end of week 2 on a 9 or less, and at the end of week 3 on a 10 or less.)

Cost of a temporary identity is negotiable, but averages $5,000. This does not include a Thumb (p. 54). Unless you are Zeroed, you won't want your real prints to be used with a temporary identity… they'll be traced back to you when the ID is blown. So most temporary IDs aren't useful in really secure areas.

For an extra $5,000, the netrunner who builds the identity will put a "daemon" in the file. This will automatically place a warning phone call when the identity is blown! Cheaper identities may be available (perhaps the GM will roll every day for a $1,000 identity). More expensive identities, lasting longer or starting at a lower number, might also be available.

Someone who has been Zeroed (p. 21) can use a Temporary Identity.

Contacts *variable*

A Contact is an NPC. like an Ally or a Patron. However, the Contact only provides *information.* Contacts may be anything from a wino in the right gutter to the Chief of State of a country, depending on the character's background. The Contact has access to information, and he is already known to and guaranteed to react favorably to the character. The Contact may want a price, in cash or favors, for the information. The Contact is always played and controlled by the GM and the nature of the price must be set by the GM.

The GM may assume that a Contact is, in general, well-disposed toward the PC. However, the Contact is *not* an Ally or Patron, and is no more likely to give special help than any other generally friendly NPC!

A Contact doesn't have to be created when the PC is first developed. Contacts may be added later. When appropriate, the GM can turn an existing NPC into a Contact for one or more players, possibly in lieu of character points for the adventure in which the Contact was developed and encountered.

Whatever the case, the Contact can provide information only about his own area of expertise. The technician at the forensics lab probably has no information about currency transfers, and the VIP of the local Takashi branch probably can't do a ballistics comparison. The GM assigns a skill (Streetwise for a minor criminal, Forensics for a lab tech, etc.) to the Contact. All attempts to get information from him require a secret roll by the GM against the Contact's "effective" skill. Note that the effective skill is not necessarily the NPC's *actual* skill; the actual skill can be set by the GM if the NPC comes into regular play. For instance, the president of a local steel mill might actually have business related skills of 16-18, but he has an *effective* skill of 21, making him worth 20 points, because he himself has good connections!

Point values for Contacts are based on the type of information and its effective skill, modified by the frequency with which they can provide information and the reliability of the information. Importance of information is relative and the list of possible Contacts is virtually endless; a few are listed below as a guide to help the GM determine value.

Type of Information

Street Contacts. These are minor criminals, derelicts, street thugs, gang members, small-time fences and other streetwise NPCs who provide information on illicit activities, local criminal gossip, upcoming crimes and so forth. Base cost is 5 points for "unconnected" Contacts (not part of the local criminal organization; Streetwise-12) and 10 points for "connected" Contacts (Streetwise-15). If the Contact is a major figure in a criminal organization (the Don, Clan Chief, or member of the "inner circle" of the family; Streetwise-21), the cost doubles to 20 points.

Business Contacts. Executives, business owners, secretaries — even the mail room flunky — can provide information on businesses and business dealings. Base cost depends on how much the contact can be expected to know: 5 points for a mail boy or typists (effective skill 12), 10 points for the president's secretary (effective skill 15), 15 points for an accountant (effective skill 18) or 20 points for the president or Chairman of the Board (effective skill 21).

Police Contacts. This includes anyone connected with law enforcement and criminal investigations: beat cops, corporate security, government agents, forensics specialists, coroners, etc. Cost depends on access to information or services. Beat cops and regular private security officers are 5 points (effective skill 12); detectives, federal agents, or record clerks are 10 points (effective skill 15); administrators (lieutenants, captains, Special Agents in Charge, Head of Departmental Security, etc.) are 15 points (effective skill of 18) and senior officers (sheriffs, chiefs of police, District Superintendents, Security Chiefs, etc.) are 20 Points (effective skill 21).

Frequency of Assistance

Frequency refers to the chance that the Contact can be found when needed. When creating the character, the player must define the way the Contact is normally contacted! Regardless of the chosen frequency, a Contact cannot be reached if the PCs could not reasonably speak to him. No Contact may be used more than once per day, even if several PCs share the same Contact. Multiple questions may be asked each day, at a cumulative -2 for each question after the first.

Available almost all of the time (roll of 15 or less): triple cost.

Available quite often (roll of 12 or less): double cost

Available fairly often (roll of 9 or less): listed cost.

Available rarely (roll of 6 or less): half cost (round up).

During the adventure, if a PC wants to talk with his Contact, the GM rolls against the availability number for that Contact. A failed roll means the Contact is busy or cannot be located that day. If the Contact *is* available, then the GM must roll against the Contact's effective skill for each general piece of information the PC requests. A Contact can *never* supply information outside his particular area of knowledge. Use common sense. Likewise, the GM *must not* allow a Contact to give information that short-circuits the adventure or part of it!

If a PC gets a critical failure when trying to reach his Contact, that Contact can't be reached during that entire *adventure.*

Reliability of Information

Contacts are not guaranteed to know anything useful, and are not guaranteed to be truthful. Use the following modifiers (cumulative with frequency modifiers).

Completely reliable: Even on a critical failure, the worst response will be "I don't know." On an ordinary failure he can find information in 1d days. Triple cost

Usually reliable: On a critical failure the Contact will lie; on any other failure he "doesn't know now but check back in 1d days." Roll again at that time; a failure then means he can't find out at all. Double cost.

Somewhat reliable: On a failure the Contact doesn't know and can't find out; on a critical failure he will lie; on a natural 18 he will let the opposition or authorities (whichever is appropriate) know who is asking questions. Listed cost.

Unreliable: Reduce effective skill by 2. On any failure he will lie; on a critical failure he will notify the enemy. Half cost (round up).

Money Talks

Bribery, whether cash or favors, motivates the Contact and increases his *reliability level.* Once reliability reaches "usually reliable," further levels of increase go to effective skill; bribery cannot make anyone totally reliable!

A cash bribe should be about equivalent to one day's income for a +1 bonus, one week's income for +2, one month's for +3 and one year's for +4. Favors should be of equivalent worth. The favor should always be something that the character actually performs in the game. The GM must maintain proper roleplaying - a diplomat might be insulted by a cash bribe, but welcome an introduction into the right social circle.

Zeroed *10 points*

As computer information networks become more comprehensive, there are many times when it is an advantage to be an unknown. You are the sand in the gears, the wrench in the works. Whether through an accident of birth, a recordkeeping foulup, a computer crash, or something else, the authorities (and their computer systems) know nothing about you. You do not official-

exist. No records of you exist in any paper or computer files at the time play begins. Thus, you are immune to most varieties of government (or corporate) enforcement or harassment.

To maintain this status, you must deal strictly in cash or commodities — any credit or bank accounts must be either blind (the account isn't keyed to an individual, but to whoever knows a certain passcode) or set up through a Temporary Identity.

If you are investigated by the authorities, they will at first assume that there is a computer malfunction when they can't find you. They will become increasingly more animated and concerned over the course of the next few days as no information can be found concerning your life. They will then try to pick you up. If they can't find you, they're likely to shrug and give up.

But if they apprehend you, you will be in for a long, drawn-out questioning session, possibly involving truth drugs and/or torture. After all, a non-person has no civil rights!. Unless you have taken the right precautions in advance, no one can prove that you are being held, as you don't officially exist!

It is possible to *become* Zeroed. but it's not easy; the national databanks are well-guarded and multiply redundant. Treat cost and difficulty as for an Alternate Identity (p. 19).

Disadvantages

Cyberware can deal with many physical problems, and these problems are then no longer disadvantages for the formerly-afflicted character. For example, if a blind person gets bionic eyes, he is no longer blind. But blindness is still a disadvantage to the person without the money to pay for an operation. Just because an affliction *can* be cured doesn't mean it *will* be — especially in the gritty, unjust world of cyberpunk.

Addiction

In many possible futures, current trends toward drug legalization have continued. Many (if not all) drugs have been decriminalized, if not legalized. As drugs become a common part of society, suppliers and chemical engineers have had to produce a greater variety of designer drugs to keep up with a jaded clientele.

Most of the new drugs will be custom-tailored to be addictive, some after only one dose. See pp. 58-59. The GM may create new drugs tailored for his campaign, but should make sure that any drug has *some* harmful effect with long-term use or withdrawal — otherwise, it ceases to be a disadvantage!

Age

With advances in genetics, biology, immunology and medicine, longevity will increase in the future. Good health care makes it possible to remain active into the 80s or beyond, and to live to a very old age indeed.

However, in a typical cyberpunk world, the best health care is available only to those at the top of the heap. In the streets, the occasional presence of wonder drugs doesn't make up for the overall dirt and stress, and health care is at a 1990 level or below. Suggested aging rules for a "generic" cyberpunk world, with an average medical TL of 8:

Status -1 or less: Health care is part of the general "cost of living." Aging is as per p. B83; it starts at 50, and each roll is made at HT+4 (the effective medical TL here is 7).

Status 0, 1: Health care is part of the general "cost of living" until age 70; then it is an extra $5,000 per year. Aging starts at 70; rolls become more frequent at 90 and 110. Each roll is made at HT+5.

Status 2-4: Pay an extra $25,000 per year, *every year,* for health care: this doubles at age 90 and again at age 110. If a year is ever skipped, make rolls at basic HT, and pay triple the next year. Otherwise, as above, but roll at HT+6.

Status 5+: Pay an extra $50,000 per year for health care; this doubles at age 90 and again at age 110. Otherwise, as above, but roll at HT+7.

This means that a high-status person cannot take the Age disadvantage until age 70, while a low-status person can take it at 50.

In campaigns where cloning and brain transplants (see p. 57) are possible, the player must keep track of the *mental* age of his character. While no physical deterioration will occur, the brain cells will continue to die. If braintaping (see pp. 55-56) is available, then the question of age becomes irrelevant — a person lives as long as he can afford a new clone and braintaping every 30 years or so.

Appearance

In a world where people can give themselves fantastic or monstrous faces, the standard of true "ugliness" is likely to rise. A mere broken nose and missing tooth might not be noticeable, when the nightclub bouncer is a seven-root tall green goblin. There is no "absolute" degree of ugliness.

It is also possible that deliberate "uglification" is unknown, and almost everyone has been modified to be good-looking. A relatively minor flaw might qualify as "unattractive." In such a world, a person with a broken nose might have a -2 reaction, and a facial scar might be worth -3 or -4.

Code of Honor

The "Pirate's Code of Honor" (p. B31) is suitable for street gangs.

A new Code of Honor, suitable for underworld types in any campaign, is "Stays Bought" This is worth -5 points. Such an individual, no matter how dishonest or corrupt he may be in his normal dealings, can be trusted to keep his word once he's taken a payment. If he is forced to talk or otherwise betray the "customer" (and he survives the experience), he will do everything he can to warn the person who first bought his loyalty, and will refund what he was paid.

Compulsive Behaviour

Cyberpunk offers many interesting possibilities for this disadvantage. Many of them — snapping razor claws in and out, whirring gears (the cyborg finds this relaxing, but it drives other people crazy), taking out one of his eyes to let his other eye examine it — border on Odious Personal Habits as well.

Breaking into computer systems can be seen as a Compulsive Behavior, especially if the hacker does it for the thrill of being able to beat the best security minds in the world rather than to rape and pillage databases and cart off huge sums of money. So is an animosity toward a certain individual, government or corporation; a character might be able to function normally in every other way, but can't leave a building or exit a

database without stopping to leave obscene graffiti about the Takashi Corporation.

Odious Personal Habit

The decaying social fabric of a cyberpunk world means that some practices which are grossly illegal today might be merely unpleasant 50 years from now. A lowlife might have the OPH "Uses cats for target practice while walking down the street," for a big -2 to reactions.

Cyborgs have opportunities for many new and vile odious personal habits. Examples include "Occasionally removes body parts for inspection," "leaks oil," or even "Interferes with nearby video reception." Cyborg PCs should be creative in coming up with new habits.

Pacifism

A special, very limited type of Pacifism is "won't do wet work." In other words, the person won't kill for hire, and won't kill or maim others unless they are trying to kill him. Other types of violence are perfectly acceptable. This limitation isn't meaningful unless the person is a criminal or mercenary — and even then, it is nothing more than a 1-point quirk.

Primitive

In many campaigns, this disadvantage won't apply. But some cyberpunk backgrounds could include characters from the Third World (or Manians, or Arcturans). It is also possible that someone raised in a futuristic mega-slum might effectively be a primitive when faced with the world outside!

Social Stigma

There will likely be new Social Stigmas in each GM's world. In addition to the obvious racial/economic Stigmas, there might also be a negative reaction associated with being a cyborg. The unemployed masses of a major urban sprawl would have a *minimum* -1 reaction, while a seedy-looking drifter might get a -2 or more. The GM will need to decide how the various groups relate to each other.

New Disadvantages

Amnesia *-10/-25 points*

You've lost your memory — you can't remember any of your past life, including your name. There are two levels to this disadvantage; Partial and Total.

If you have Partial Amnesia, you can see your character sheet, but the GM may reserve up to 30 points for use as he sees fit for disadvantages. Other than these secret disadvantages, you know that you can do certain things and use certain skills, but have no idea where you learned how to do them. You are likely to have enemies — and possibly friends — that you can't remember. If yoa turn yourself in to the police, they can check your retina and fingerprints, but it's a gamble. You might turn out to be a wanted criminal, or even a Zero. And even if you're an honest citizen, finding out your name won't restore your memory! Partial Amnesia is a -10 point disadvantage.

Total Amnesia (-25 points) is much more serious. Your physical skills are unaffected, but the GM makes all rolls for you (because you have no idea what you can do until you try it!). Likewise, the GM makes all of your Mental skill rolls, but at a -2 penalty. You have no idea what advantages, disadvantages and skills you have — if a player chooses to play a character with this disadvantage, the only things he can choose when designing it are those things that can be seen in a mirror. Everything else is assigned by the GM (and the GM holds onto the original character sheet until his memory is restored)!

If you are playing a character with Total Amnesia, the GM knows what your quirks and mental disadvantages are… *and you don't.* So, from time to time, he will overrule your statements about what you are doing. For instance, you won't know you have the Berserk disadvantage until you go berserk.

This disadvantage can only be bought off if there is some rationale for the character recovering his memory. Meeting an old friend, reliving some fateful event, or the ever-popular blow-to-the-head are all reasonable. In most cases, the cure will be related to the cause of the memory loss.

Compulsive Carousing *-5 points*

You are a party animal. You must go in search of a social gathering at least once a day, and participate for at least an hour. You will try almost any mind-altering substance without a second thought, and aren't particularly picky about your romantic partners — you like your music loud and your women (and/or men) hot! You are likely to start the day with beer and cornflakes.

If you encounter a party that you should avoid for some reason, you must make an IQ roll to keep from joining in (IQ+2 if it's a private party that you would have to crash). Once you're there, you'll stay for at least an hour (you can roll vs. IQ to leave every hour), unless you are evicted.

You get a +1 reaction (or more, if you're very entertaining) from other carousers, and a -1 or worse from sober-minded citizens.

This disadvantage combines aspects of Alcoholism, Addiction and Lecherousness — without being as extreme as any of the three. Certainly, it could lead to any or all of them, however!

Cyber-Rejection *-10/-25 points*

Your immune system resists any cybertech implant — your body automatically rejects such things as foreign. This includes chip sockets, interface plugs, etc. If you lose any part of your body, it must be replaced with a vat-grown clone from your own tissue — otherwise you're out of luck!

If cyberware is relatively uncommon in the campaign (GM's option), this is only a -10 point disadvantage. If cyborg technology is common or necessary to the daily routine, this is a -25 point disadvantage.

Manic-Depressive *-15 points*

Your moods are on a see-saw — you bounce back and forth between bubbling enthusiasm and morose withdrawal. At the beginning of each play session, roll one die. On a 1-3, you are in your Manic phase; a 4-6 indicates Depression. Every five hours of gametime thereafter, roll 3d. A 10 or less indicates that you begin a mood swing. Over the next hour, you will shift from your current phase into its opposite. You will remain in the new phase for at least five hours (after which you roll 3d again).

In the Manic phase, you suffer from Overconfidence (see p. B34). You will be friendly, outgoing and excited about whatever

is you're doing. In the Depressive phase, the Overconfidence is replaced with Absentmindedness (p. B30) and Laziness (p. B34). You will not be interested in doing anything other than lying in bed, sitting in a dark room and moping, or other similar activities. If forced by companions to do something, you will be at a -5 on all skills.

No Physical Body *-100 points*

You have no limbs, sense organs, cardiovascular or gastrointestinal systems, etc. You are a disembodied brain, requiring that all senses be hardwired in. Your brain tissue must be supported by an artificial nutrient system. This life-support system will cost $250,000, plus $10,000/month in maintenance and upkeep. This cost automatically includes one standard interface jack. If you have the appropriate skills, you can use this for netrunning, RPV piloting, or anything else that a "normal" person could do via jack.

You have no Strength attribute; you *do* have a Dexterity attribute which will come into play when you try to learn a physical skill, such as Driving, to exercise by remote control. Your physical brain has a Health attribute, but one point of damage will render you unconscious, and two or more will kill you.

You have no glands, and therefore you feel no strong emo-tions. Lust, bloodlust, terror, and excitement… all are lost to you. You make all Fright Checks at +5, and ignore any physical result of a failed Fright Check (read down the chart to the first applicable mental result). But you can still feel intellectual emotions like reasonable fear, cold hatred, friendship and greed.

Squeamish people and necrophobes must make Fright Checks when seeing you; they must check at +2 even if they just talk to you on the telephone. Most strangers, except doctors, will react to you at -1 when meeting you in person.

No Sense of Humor *-10 points*

You never get any jokes, and think that everyone is earnestly serious at all times. Likewise, you never joke, and you are earnestly serious at all times. Others react at -2 to you in any situation where this disadvantage becomes evident.

On The Edge *-15 points*

Sometimes you don't care whether you live or die. You are not actively suicidal, but you will take unreasonable risks when in mortal danger. When you face a life-threatening situation (piloting a burning vehicle, assaulting black ice, staring down an entire street gang while armed only with a toothbrush, etc.) you must make a successful IQ roll before you can retreat (attempt once per turn, 14 or higher fails automatically).

Each turn that you are in combat, make an IQ roll (again, 14+ fails) to avoid making an All-Out Attack (or any other sligthly insane, suicidal type of behavior). You are avoided by most sensible people (-2 to reaction from anyone who realizes that you're crazy) — but primitives or lowlifes might respect your disregard for your life, mistaking it for bravery (+2 on reactions).

Quadraplegic *-50 points*

You are paralyzed in both arms and both legs, or possibly you lack the limbs entirely — you can't move without assistance. If you have cybernetic replacement limbs, you can't have this disadvantage! A Quadriplegic may start with a DX and ST of 6 without this counting against his disadvantage total — anything below this counts, however. (For instance, the point difference between DX 5 and DX 6 is 10 points, so DX 5 would count as 10 points of disadvantage.)

Quadriplegics can be good netrunners or hackers (with the appropriate voice-controlled equipment). A few of them will have the Delusion that the Net is the only "reality," and will never willingly jack-out — they either have automated systems maintaining bodily functions or a good nurse!

Secret *varies*

A Secret is some aspect of your life (or your past) that you must keep hidden. If made public, the information could harm your reputation, ruin your career, wreck your friendships, and possibly even threaten your life!

The point value of a Secret depends on the consequences if the Secret is revealed. The worse the results, the higher the value, as follows:

Serious Embarrassment. If this information gets around, you can forget about ever getting a promotion, getting elected, or marrying well. Alternatively, your Secret could be one that will simply attract unwelcome public attention if it is known. *-5 points.*

Utter Rejection. If your Secret is discovered, your whole life will be changed. Perhaps you would lose your job and be rejected by friends and loved ones. Perhaps you will merely be harassed by admirers, cultists, long-lost relatives, or the press. *-10 points.*

Imprisonment or Exile. If the authorities uncover your Secret, you'll have to flee, or be imprisoned for a long time (GM's discretion). *-20 points*

Possible Death. Your Secret is so terrible that you might be executed by the authorities, lynched by a mob, or assassinated by megacorp agents if it were ever revealed — you would be a hunted man. *-30 points.*

If a Secret is made public, there will be an immediate negative effect, as described above, ranging from embarrassment to possible death. There is a lasting effect — you suddenly acquire new, permanent disadvantages whose point value equals *twice* that of the Secret itself! The points from these new disadvantages go first to buy off the Secret, and may then (at the GM's option only) be used to buy off other disadvantages or (rarely) to buy new advantages. Any unused points are lost, and the character's point value is reduced.

The new disadvantages acquired must be appropriate to the Secret and should be determined (with the GM's supervision) when the character is created. Most Secrets turn into Enemies, Bad Reputations, and Social Stigmas. They might also reduce your Status or Wealth — going from Filthy Rich to merely Very Wealthy is effectively a -10 point disadvantage. Some Secrets could even turn into mental or physical disadvantages, though this would be rare.

Similarly, if the GM allows you to buy off old disadvantages with the new points, these too must be appropriate to the Secret. The most common disadvantages that could be bought off are Duties and Dependents.

In general, a Secret appears in a particular game session if the GM rolls a 6 or less on three dice before the adventure begins. However, as for all other disadvantages of this type, the GM need not feel constrained by the occurrence roll — if he thinks the Secret should come into play, it does!

When a Secret appears, it is not necessarily made public. The character must somehow prevent the Secret from being revealed. This may require him to cave in to blackmail or extortion, to steal the incriminating documents, or even to silence the person who knows the Secret. Regardless of the solution, however, it's only temporary — the Secret will appear again and again until it is finally bought off. Secrets may be bought off either automatically through exposure (see above) or with earned character points over the course of play.

Secret Idenitity *varies*

A Secret Identity is a special kind of Secret. It is another *persona* that you use for deeds that you wouldn't want connected with your "public" self. Note that this isn't necessarily the same as an Alternate Identity. If your Secret Identity isn't backed up by false databank records, it doesn't count as Alternate. If your alternate identity is used (for instance) only to hold a secret bank sccount, and you never try to "live" that persona, then it isn't a Secret Identity.

When a PC has a secret identity, the GM should occasionaly provide a serious challenge to the identity, in the form of someone who threatens to expose it. This can be determined randomly by rolling three dice before each game session; on a 6 or less, there is a threat of exposure.

Anyone with a Status of 3 or more gets an extra -10 points for a Secret Identity, because of the attention the media and the public pay to his every move. The GM should introduce a challenge to the identity on a roll of 7 or less, instead of 6.

If the Secret Identity is revealed, trade it in for twice its value in new disadvantages or lost advantages, as for a regular Secret

Social Disease *-25 points*

You have contracted some sort of contagious, antibiotic-resistant bacteria, retrovirus or similar disease. The disease is only transmitted by close, unprotected physical contact. Anyone who knows about it will react to you at -1. Members of the opposite sex who become aware of it will automatically resist any seduction attempts. The disease isn't fatal — at least not immediately — but may produce physical symptoms (left to the imagination of the player or GM).

Terminally Ill *-50/-75/-100 points*

You are going to die… soon. This is most often due to some sort of nasty disease, but could also represent an unremovable explosive device embedded in the base of your skull, an unbreakable suicide pact, or anything else that will result in your death.

Point cost is determined by the length of time remaining. One month (or less) is worth 100 points (and you'd better work fast!). More than one month but less than one year is worth 75 points, and from one to two years is worth 50 points. More than two years is worth nothing — anyone might be hit by a truck in two years!

If the GM is running a one-shot adventure where the characters aren't going to be reused, he should disallow this disadvantage as meaningless. If, during the course of a campaign, the character acquires a "miracle cure," has himself cloned or cyborged, or anything else that extends his life past his termina-tion date, he is required to buy off the disadvantage. If he doesn't have enough points to buy it off, all earned character points should go to this purpose until he does.

This disadvantage is straight out of the "existential despair" school of cyberpunk. It is best fitted either to a character whose player really intends to roleplay a doomed man, or to a character who will struggle nobly to beat his fate, right up to the last minute.

Trademark *varies*

Many cyberpunk heroes and villains have a special symbol — a Trademark that they leave at the scene of action, as a way of "signing their work." For a street op, this would be a physical mark; for a nettunner, it would be a special message or style of work.

No character may have more than one Trademark. Multiple actions (e.g., binding your victims with purple phone wire, painting a frog on the wall *and* wrecking every computer in the building) simply counts as a higher level of Compulsive Behavior, not multiple Trademarks.

-1 point: Your Trademark takes very little time to leave and cannot be used to trace your identity; it is essentially a Quirk. A typical example is something left at the scene — a playing card, a small stuffed animal, and so on — as long as it can't be traced and takes little time.

-5 points: Your Trademark is still simple, but you *absolutely* must leave it. You cannot leave the scene until you do, even if your enemies are breaking clown the door.

-10 points: As above, but leaving your Trademark increases your chances of capture — initial carving, notes, traceable clues, and so on. Leaving this sort of Trademark takes a minimum of 30 seconds. Anyone searching the crime scene and examining your Trademark receives a +2 to their Criminology roll.

-15 points: Your Trademark is so elaborate — dousing the captured thugs with a certain cologne, painting the entire crime scene pink, writing a long poem to the police — that it virtually assures your eventual capture (with this disadvantage, the GM may give clues *without* a successful Criminology roll).

Remember that a Trademark is an action separate from capturing the crooks or committing a crime. Entering a system with a customized icebreaker is not a Trademark: trashing all the files on the system by substituting a "7" for each "5," is.

Skills

Area Knowledge (Cyberspace) (Mental/Easy) *see p. B62*

A variant on the Area Knowledge skill, this gives you expertise on a particular area of the net. This skill may not be available in all campaigns - not all worlds have a cyberspace network. See Chapter 3 for more information.

Electronics (Cybertech) (Mental/Average) *see p. B60*

This allows you to work on the specialized electronic circuitry that makes up cybernetic equipment. This also includes the maintenance and repair of cyberdecks and other neural interface systems.

Mechanic (Mental/Average) *see B54*

This skill allows you to repair the mechanical portion of cybernetic equipment. To be a complete cyborg repairman, you need both this skill and Electronics (Cybertech), above.

Savoire-Faire (Mental/Easy) *see p. B64*

In a campaign where different social levels can seem like entirely different worlds, it can be hard to impersonate a member of another class. For a corp to successfully pass himself off as a street op — or vice versa — is not easy! In general, a Savoir-Faire roll is required to impersonate anybody more than 3 social levels away from your own. If your "native" social level is negative and you are trying to pass yourself off as someone from level 1 or better (or vice versa), a Savoir-Faire roll is required at -2.

Survival (Urban) *see p.B57*

This talent covers the *physical* part of staying alive in a city environment, whether it's overpopulated or empty. The *social* problems of city survival are covered by the Streetwise skill. A specialist in urban survival could (for instance) find clean rainwater; locate manholes from above or below; quickly locate building entrances, exits, stairwells, and so on; recognize and avoid physically dangerous areas, like crumbling buildings; make and read city maps, and find his way out of strange city areas; find a warm place to sleep outside in cold weather, and locate common types of buildings or businesses without asking anyone, just by his "feel" for the way cities are laid out.

New Skills

Computer Hacking (Mental/Very Hard)

Defaults to Computer Programming-4

This skill is used to "hack" into a computer system (see p. 63). No cyberdeck is needed — only a regular terminal with access to the system (whether directly or through a communications network.) However, the skill can be used in conjunction with a cyberdeck; see below. The skill defaults to Computer Programming-4. See Chapter 4 for more details.

Cyberdeck Operation (Mental/Very Hard)

Defaults to Computer Operation-8

This is the ability to operate a neurally-controlled cyberdeck; it exists only in worlds where there is a Net. It con-trols how well you move through the net, how many programs you can control at once, and many other variables. See Chapter 3 for more information.

In order to manipulate the Net in ways the original programmers did not intend, you will need both this skill and Computer Hacking. When you are hacking on the Net, your effective Decking skill cannot be greater than your Hacking skill.

Video Production (Mental/Average)

Defaults to IQ-6 or any Performance Skill-4

You are familiar with video production equipment, and can competently direct a show (TV, holovid, movie, etc.). This can be a very useful skill in a world of rock videos, politicians-as-performers and mass media.

Reputation

In a cyberpunk world, reputation is *everything* - at least, for the criminals, vigilantes, cops and corporate types who make up the bulk of the PCs. Almost every character should be created with a reputation… better yet, with several reputations, depending on the type of people he is dealing with. If you don't have a rep, you're nothing.

Reputations can change, for better or worse, and they need to be maintained. Good reputations are especially fragile in the big city; if a character with a heroic or "tough" rep goes for 3 months without doing anything to maintain it, the GM may reduce either the reaction bonus, the frequency of recognition, or the size of the affected group by 1 level. Bad reputations last longer. If a character goes for 6 months without doing anything to maintain his existing reputation, the GM may diminish it. This will require the expenditure of character points to buy it off.

It's important to note that a "good" reputation is simply one that earns a positive reaction. For a street warrior, a "good" reputation might be one that would earn him a long jail sentence… if the police could prove anything, and if they cared.

Style, Appearance and Reputation

A unique style helps you get and keep a reputation — especially on the street. Likewise, a distinctive appearance makes you easily remembered. If a character, *in the GM's opinion*, has a truly unique appearance or style, memorable even in the crowd-ed, jaded world of cyberpunk, *double* the time required for a reputation to fade. One-of-a-kind modifications are the easiest way to achieve a unique appearance.

Improving Reputation

Likewise, characters should always be permitted to spend their earned character points on improving their reputations, as long as their actions (or clever self-promotion) have been the sort to earn the respect of those around them. The better the rep, the more jobs will be open, especially in the underworld economy!

WEALTH AND STATUS

Average starting wealth in a cyberpunk world is $10,000. If the GM does not charge character points for cybernetic enhancements and equipment, then almost all the players will want to start at least Very Wealthy. This often results in very "unreal" characters, and it makes it hard to create some characters from cyberpunk literature. C-punk is full of people with very expensive hardware (built-in or otherwise) but no current income!

To create a character who has a lot of ultra-tech possessions (for whatever reason) but is not actually wealthy, the GM may let characters trade up to 30 character points for equipment or surgical work, at the time of character creation. Each point is worth $5,000 worth of cybertech. *The player should not be allowed to convert this into cash!* If they just need a little extra money, use the regular rule: one point equals a month's salary.

This allows the creation of characters like the street punk who scored big and bought lots of cyberware, the bodyguard whose employer paid for expensive modifications, or the netrunner who built a one-of-a-kind system from salvaged or stolen components.

Forms of Wealth

In a cyberpunk world, most wealth takes the form of credit (see p. 102). Law-abiding citizens use their credit transactors, and rarely touch cash at all. Indeed, some governments may ban cash. These are all decisions for the GM to make when the world is designed; see p. 101 for a detailed discussion of possible future economies.

Status

Status will chiefly be important to corporate types… but it is *very* important to them. To a corp, an underling with a great reputation is still an underling. Typical social levels for a cyber-punk world:

7	President (megacorp or U.S); top media figure	$50,000
6	Governor, senator, corporate officer	$20,000
5	Corporate Senior VP; media figure	$10,000
4	Corporate VP	$7,500
3	Corporate Junior VP; minor media figure	$4,000
2	Corporate middle management	$2,400
1	Corporate staffer, policeman	$1,200
0	Ordinary citizen	$800
-1	Poor	$300
-2	Street op	$200
-3	Homeless, helpless poor	$100

JOBS

One-shot Payments

The Jobs Table (next page) can be used as a guide to the appropriate payment for transient help. There will be occasions when the PCs find themselves in need of temporary employees — whether for muscle, finesse or computer skill. Generally, figure what the person would make in one day if they were employed full-time, then double it. That is the cost-per-day of the employee.

Especially skilled (16+) hirelings will command *quadruple* the full-time daily rate. If the job is illegal, the going rate will be 5 to 10 times normal, depending on negotiations.

Example: The PCs need a Pilot for a three-day operation. Dividing $2,000 (the standard monthly rate for a Pilot) by 30 yields a full-time rate of $66 per day. This would be doubled to $132 per day for a temporary job. If the pilot had Pilot-17, the rate would be $264.

JOB TABLE

	Success Roll	Critical Failure
Poor Jobs		
*Beggar (none), $125	10	-li/4d
*Gang Member (Streetwise 11+, any combat skill 10+), $350	Worst PR	-li, 2d/-li, 6d
Street Vendor (Streetwise 10+, Merchant 9+), $325	Worst PR	-li/-li, arrested
Welfare Recipient (no qualifications), $300	10	-li/dropped from rolls, reapply in 6 months
Struggling Jobs		
Bartender [professional skill (Bartending) 10+], $700	PR	-li, LJ/-li, LJ, 3d
*Gambler (Gambling 11+, Fast-Talk-10+), $650	Worst PR	-li/-li, 4d
*Gang Leader (Streetwise 13+, any combat skill 12+), $500	Worst PR	-li, LJ/-li, 5d, arrested
*Geisha (Sex Appeal 10+), $75xPR	PR	-li/-li, arrested
Servant (Savoir-Faire 10+), $50xPR	PR	-li/-li, LJ
*Street Samurai (any two combat skills 11+), $750	Worst PR	-li, 2d/-li, 5d
Thief (Streetwise 11+, DX 11+), $475	Worst PR	-li, arrested/-2i, arrested, 3d
Average Jobs		
Bodyguard (one combat skill at 12+, ST 11+), $1,000	ST	-li, LJ/-li, LJ, 4d
Civil Servant (Administration 11+), $1,150	Worst of PR, IQ	-li/-li, LJ
Computer Operator (Computer Operation 11+), $1,175	PR	-li/-li, LJ
Detective (Criminology 12+, Law or Streetwise 12+), $975	Worst PR	-li/-li, Lose License (reapply in 1 year)
*Drug Dealer (Streetwise 11+, Merchant 11+), $95xMerchant	Worst PR	-li, arrested/-3i, 4d
*Loan Shark (Accounting 10+, Streetwise 10+), $90xWorst PR	Worst PR	-li/-3i, 4d
Mechanic (any Mechanic 12+). $100xSkill	PR	-li/-li, LJ, 2d
*Mercenary (any 3 combat skills 11+), $1,000	Worst PR	-li, 2d/-2i, 5d
*Netrunnner (Computer Hacking 12+, Cyberdeck Operation 12+), $100xComputer Hacking	Worst PR	-li/-2i, 3d
Reporter (Research 12+, Bard or Photography or Writing 12+), $1,100	Worst PR	-2i, ld/LJ, 2d
Shop Clerk (Merchant 11+, no stat below 8), $900	Worst PR	-li/LJ
*Street Doctor (Physician 10+, Streetwise 11+), $100xPhysician Skill	Worst PR	-li/-2i, 3d
Teacher (Teaching 11+), $1,050	Teaching	-li/LJ
Technician (any scientific skill 11+), $100xSkill	PR	-li/LJ, 2d
Comfortable Jobs		
Computer Programmer (Computer Programming 12+), $3,500	PR	-li/-li, LJ
*Crime Boss (Streetwise 14+, Administration 12+), $7,500	Worst PR	-3i, arrested/-6i, 5d
Doctor (Physician 13+), $11,000	PR	-li/-2i, LJ, lose license
Engineer (any Engineer skill 12+), $7,500	PR	-li/-li, LJ, 2d
Judge (Law 12+, Criminology 10+, Status 2+), $8,600	Worst PR	-li/-li, LJ, 2d
Lawyer (Law 12+, Status 1+), $15,000	Worst PR	-2i/-2i, LJ, disbarred
Mid-Level Corporate Executive (Administration 12+, Status 1+, Leadership 12+), $12,500	Worst PR	-li/-li, LJ
Pilot/Driver (Driving or Pilot 11+), $2,000	PR	-li, LJ/-li, LJ, 6d
Police Officer (Criminology 11+, Pistol 12+, Legal Enforcement Power), $2,050	Worst PR	-li, 2d/-li, suspended for 1d months, 4d
Politician (Politics 13+, Bard or Fast-Talk 12+), $11,000	Worst PR	-li, -1 Status/-li, LJ, arrested
Professional Athlete (any Sports skill 14+, no stat below 10), $1000xSkill	Skill	-2i, injured for 1d-2 months/ -3i, 2d, permanently disabled
Religious Leader (Occultism or Theology 11+, Bard 12+, Status 1+), $4,000	Worst PR	-li/-3i, LJ, defrocked
Slumlord (Administration 12+, own property), $12,500	PR	-2i/-2i, lose tenants for 1d months
*Smuggler (Fast Talk 12+, Forgery 10+, Driver or Pilot 12+), $15,000	Worst PR	-li, vehicle impounded for 2d weeks/-2i, 4d
Spy (any three thief/spy skills 12+, Savoir-Faire 12+), Thief/Spy Skill total x $250	Worst PR	-li, 2d/-li, captured by enemy, 4d
TV/Tri-D Broadcaster (Journalism 13+, Bard or Writing 12+), $25,000	Worst PR	-li/-2i, LJ
Wealthy Jobs		
Cybernetic Engineer (Engineering (Cybernetics) 15+, Status 2+), $100,000	Skill	-li/-3i, LJ
High-Level Politician (Politician 15+. Status 3+, Fast Talk or Bard 13+, Charisma), $75,000	Worst PR	-li, -1 Status/-3i, LJ, -2 Status
Major Celebrity (Acting or Bard or Musical Instrument or Singing 14+, Status 3+), $150,000	Worst PR	-2i/-4i, Status-3, LJ
Major Criminal Figure (Streetwise 15+, Administration 13+, Fast-Talk 13+), $160,000	Worst PR	-4i, arrested/-6i, arrested, 4d
Top Corporate Executive (Administration 14+, Savoir-Faire 13+, Status 3+. Accounting 12+, Merchant 12+), $175,000	Worst PR	-2i/-6i, LJ, -2 Status

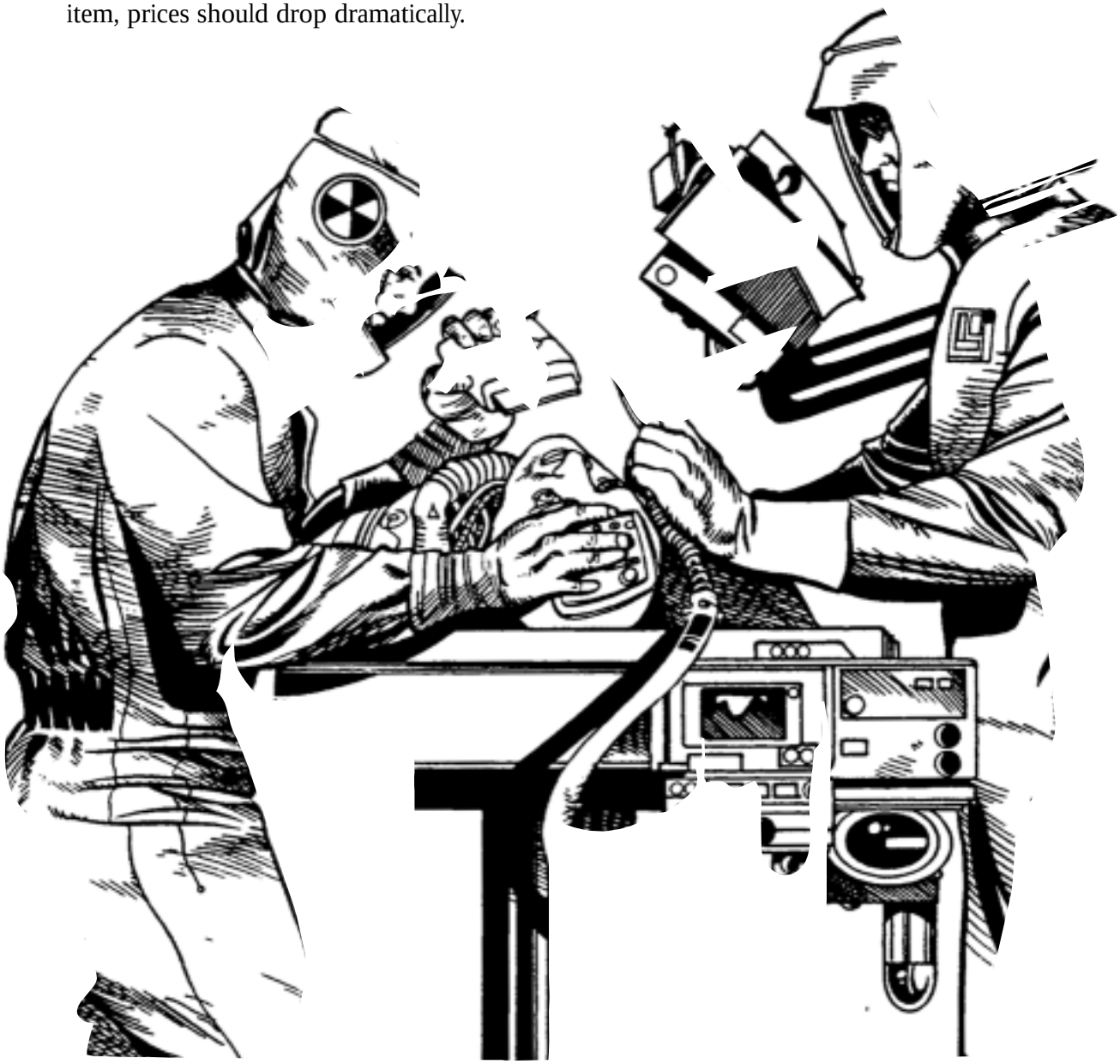
* indicates a freelance job (see pp. B193-194)

2 CYBERWEAR

As man learns more about his body and his mind, and computers grow smaller and more sophisticated, the union of man and computer is inevitable. Bionic limbs and implants will give man abilities he had only dreamed of. Neural interfaces will allow man to make the computer an extension of his mind. These enhancements — collectively known as *cyberwear* — are integral to most cyberpunk worlds.

Note: Much of the equipment in this and the next chapter is repeated from the TL8 section of ***GURPS Ultra-Tech.*** *It has been included so that no one is forced to purchase both books.*

These prices assume that the technology is fairly common, but much of it remains out of reach of the average citizen. In a campaign where cyberwear is brand-new, cutting-edge technology, the GM may wish to increase the cost significantly. In a world where cyberwear is an everyday item, prices should drop dramatically.



Cyberwear in the Campaign

In cyberpunk, almost any body part can be replaced or improved. Motors can be installed in a cybernetic arm or leg, making it much more powerful than a natural limb. As technology increases, so will the ability to make a limb look "normal" — from hair follicles down to sweat.

Second-hand parts are often available. They'll be cheaper, but they may or may not be a bargain, and there may be damage that is not immediately evident. Because of its value, cyberwear is never discarded until it's totally destroyed, giving the phrase "loot the bodies" a whole new meaning.

A person with cyberwear (either bionic or implanted) is sometimes called a *cyborg*, or "chromed." Either term can be an insult, or just a description. The terms "bionic" and "implant" both indicate cyberwear. Generally, an implant is inside, while a bionic is a limb, eye, etc.

The items described in this chapter are assumed to be state of the art. If the GM wishes to customize his world, several parameters can be altered.

Bionic parts weigh about the same as natural ones and are treated the same unless specified otherwise. Remember, bionic parts are attached to regular flesh. Reckless superhuman feats can damage non-bionic body areas.

Depending on the campaign, the GM may decide that charac-ter points must be paid for acquiring these advantages. Suggested point costs are listed for each device.

Power

Bionic limbs will require a reliable source of power much smaller than current technology can provide. The "default" assumption is that small implants need no power other than body electricity, and larger ones use the power cells described on p. 43. These are far more powerful than 1990 battery technology; bionic limbs will require several times more power than is possible with current batteries. Even so, the GM could require frequent battery replacements, *especially* if he keeps track of extra power consumed from stressful activities (it will take more power to move a 500-pound rock than a 50-pounder). Watching the characters scramble for outlets or new batteries will lighten up the campaign.

A fueled motor might be possible, A hydrogen-oxygen fuel cell can be very efficient and fairly safe in a controlled reaction — an active person might need several "refuelings" a day for his limbs, but at least the technology is feasible.

A flywheel arrangement might be a very good idea. There is no theoretical limit on how much energy a flywheel can store; it only depends on how much the design can eliminate internal friction. The owner would still need to recharge every night, and the limit on speed of recharging might also be a problem.

While there are few theoretical limits on flywheel technology, there are many engineering problems at each step of improvement, so the GM could set any limits of how much energy a flywheel could store and how much time was needed to recharge. Also, flywheels have strong gyroscopic action, so they would have to be contained in a sphere which let them maintain a constant orientation.

A miniature nuclear reaction such as that described in the television show *The Six Million Dollar Man* is possible, if technology has advanced to the point where adequate neutron shielding has been developed. This might be anything from a new kind of containment field to a neutron-damping isotope.

The GM must also decide whether an energy source is located within the limb or enhancement (a bionic eye might be too small to contain its own power source), and if not, where it will go. Some energy sources might be so large that they would have to go in the lower torso.

Strength

Unusual strength in a limb is possible; metal is stronger than flesh. But *inhuman* strength will be difficult; even if the bionic arm can lift a half-ton, the rest of the body can't! If the GM wants characters to lift several tons, he must provide some way to reinforce an entire skeleton or it will come apart — messily.

Cost and Availability

Costs, installation times, recovery times, and other stats listed in this chapter are suggestions; the GM determines what is actually available, to whom, and what it costs. Devices on the cutting edge of technology will be experimental, so a PC could only get them through an appropriate Patron, if at all.

The rules given here assume that installation of cyberwear is relatively simple. If a more specialized facility is needed, there will be fewer of them, and they will be more expensive and less accessible. The GM might require a whole adventure just to acquire the favors necessary to get the operation.

If the technology is common, "black" clinics will be available for all manner of cheap (and sometimes illegal) cyber-surgery. Since these are, by definition, unregulated, the quality of surgery available will vary widely — from the best work available to back-alley butchery. See *Organlegging*, p. 97.

Users of cyberwear will have to deal with their own differences — and with how others view them. Becoming a machine, in whole or part, might be considered a Social Stigma in many societies. Cyborgs could suffer losses in Appearance, depending on the nature and sophistication of their gear, and receive reaction penalties in a world where Intolerance against robots or cyborgs exists. Of course, "chromed" people are not always hated and feared — if many combat veterans have bionic replacements, cyborgs might even be respected!

INSTALLATION AND REMOVAL

It takes one month to recover from having a bionic limb attached and learn to use it. Most chips, implants and bionic organs require two weeks of recovery time. The operation to attach a part costs the same as the part does (including reduced cost for more obvious bionics).

A roll against the lower of Surgery and Electronics (cybertech) is required to attach a bionic part. Bionic eyes are harder — roll at an additional -2 to the roll. Failure has the same effects as any other surgical failure (see p. B56) and may damage or destroy the bionic part At the GM's option, a critical failure may result in a part that seemed to be property attached, but will later malfunction catastrophically (under conditions of the GM's choice). In this case, the GM may rule that the part is Unreliable or Breakdown Prone (see p. 31) — but the owner *doesn't* get the money he would have saved by buying a factory second in the first place!

Damage To Bionic Parts

All bionic limbs have PD 1, DR 3. It takes 2 hits to cripple a normal bionic ear or eye, 4 to cripple a bionic hand, 6 to cripple a bionic leg or 15 to disable a full cyborg body (rendering the cyborg unconscious). A full cyborg only dies at -75 hits.

Damage to bionic parts does *not* produce any stunning effects, bleeding, temporary loss of DX or other "pain" effects unless specified in the description for a particular part. But bionics won't heal naturally — they must be repaired or replaced.

Violent Removal of Cyberlimbs

To forcibly tear (or hack) a bionic limb from its living owner, roll a Quick Contest of the remover's ST versus (the bionic limb's TL + owner's ST). If the remover is using a method other than his own ST (he is using an exoskeleton's ST, an industrial shredder, etc.), the GM should give that method a temporary ST rating (if it does not already have one) for the Quick Contest. If there is no struggle involved (i.e. the victim is tied down), ignore the Quick Contest.

Roll for damage. If the remover lost the Quick Contest, he does only half the damage rolled (round down). If the remover won the Quick Contest (or there was no Quick Contest), damage is normal.

Reducing the limb to half or fewer hits than it had before the removal attempt will cripple it — it stays attached, but no longer works. If the limb's hits go to zero or less, it is torn off. Any limb that has been forcibly removed will be damaged — a bionic engineer is needed to return it to working order. Damaged bionics are worth 10% to 60% of their original value, and may often be found on the black market

Yes, removing bionics is hard to do with brute strength. They are built into the body, with direct attachments to bone and muscle — in many cases, bionics are better connected to flesh than the real thing! But remember, if someone really wants to pull a bionic leg off, they'll bring in the heavy equipment…

Repairs to Bionic Parts

Repair costs depend on the amount of damage the part has taken. If a bionic organ or limb has lost half the HT points necessary to cripple it the cost to repair it will be 25% the cost of the original part. If it has taken exactly enough to cripple it, the cost will be 50%, and so on. If a limb takes twice the damage needed to cripple it, it is *totaled* — it costs as much to replace it as it would to repair it. If the damage exceeds 5 times, the limb is destroyed and *must* be replaced — it cannot be repaired.

Electronics (cybernetics) skill is needed to repair bionic parts. Emergency repairs in the field will not restore lost HT to a limb, but might allow it to function again if crippled. Repairs take at least one minute per skill roll.

BIONIC MODIFICATIONS

Certain modifiers (both enhancements and limitations) can be applied to any bionic equipment. These raise or lower the price to a certain percentage. If the GM is charging points for equipment, the point cost is modified by the same percentage (round up) as well.

Detachable *+15%*

The part can be easily removed from the body, leaving only a socket with the cyber interface for it. This is useful for maintenance, for exchanging equipment if the owner has more than one item to choose from for a particular location, and possibly for other purposes — concealment, perhaps, or fashion. Fully internal parts (e.g., a Silver Tongue) cannot be detachable.

Unreliable *-10%/-20%*

In a stress situation (combat or other situation as determined by the GM), this equipment will fail to operate for 1d minutes. The cost savings depends on how often the equipment fails:

Savings	Failure roll (3d)
-10%	15 or higher
-20%	13 or higher

Thus, a character could get a $10,000 biomonitor for $9,000, but in combat if the player rolls a 15 or higher on three dice the biomonitor stops working for 1d minutes. After it starts working, it functions normally until the next stress situation. Only check once per encounter — maximum once every ten minutes.

Breakdown Prone *-10%/-20%*

This is similar to Unreliable, above, except that the equipment simply stops working until it can be repaired by a competent cybertechnician. Even after it is repaired, however, the equipment will still be temperamental and break down periodically.

Savings	Failure roll (3d)
-10%	16 or higher
-20%	14 or higher

Rejected *-20%/-40%*

This is a result of improper quality control, and also often occurs with equipment salvaged from dead bodies. Each week, the wearer must make a roll against Health (this roll always fails on a 15 or higher). If the roll fails, his body begins to reject the cyber implant. Each day thereafter, he must make a roll against Health (again, 15 or higher is always a failure); a failed roll means that he takes one point of damage. This is systemic damage, but a competent physician can treat this just as he would a normal injury. The condition cannot be *cured*, however, until a cybernetic engineer removes the limb and makes repairs (and the character pays back the extra points, if necessary!).

The normal version of this is a -20% limitation. Sometimes the problem is more subtle: in this case, the rolls to avoid rejection and damage are against HT+1 (same maximum rolls). However, the condition can only be detected by a Diagnosis-6 roll, and it cannot be treated on an ongoing basis at all, although it can be cured by removal and overhaul, as above. This version is a -40% limitation.

Unnatural *-50%/-80%*

All costs for cyberwear assume they are carefully engineered to look and feel identical to a human's — this is one reason why Night Vision costs so much more than an equivalent set of goggles. A bionic device that can be seen as artificial up close (requiring a Vision roll) and *feels* artificial to the touch is 1/2 cost, while for obviously artificial replacements (gleaming silver limbs, glowing eyes, etc.), the cost is 1/5 normal.

CYBERLIMBS

Hand *varies*

A bionic hand adds +1 to DX for manual tasks using that hand, and gives ST 12 for gripping and hand-to-hand damage (grappling, strangling or crushing only) purposes. It costs $12,000. For ten times the cost, either DX+2 or ST 13 is available; for 50 times the cost, both are available. The cost increases by 50% for each additional plus to DX or ST (e.g. DX+3 costs 75 times normal). The DX bonuses only apply to actions with that hand. Point cost is equal to 1/8 the normal cost for the DX or ST increase.

Arm *varies*

As for a hand, except that ST of a bionic arm, and the hand on the arm, is 14 and the cost is $25,000. For ten times the cost, either DX+2 or ST 15 is available; for 50 times the cost, both are available. Each additional +1 to DX or ST *doubles* the cost! Two-handed feats require two bionic arms to gain any increased ST or DX bonus; DX bonuses do not apply to actions involving the entire body, such as Dodge or Move. The purchase of a bionic arm includes the hand, so you don't have to pay for them separately. (You can, however, upgrade the hand separately by paying the cost to increase it from the arm's ST or DX.) Point cost is equal to 1/4 the normal cost for the DX or ST increase.

Leg *varies*

For $25,000 (10 points), you can buy a bionic leg which increases your Move and Jumping distance by 25%, rounded down. (Kickoff must be from the bionic leg to get the bonus.) It also adds +2 to the kicking damage for that leg. A leg with a 50% bonus costs $50,000 (20 points); each successive 25% increase to your *original* Move and Jumping distance costs *double* the amount of the previous increase, plus 10 points.

You must buy two legs if Dodge is to be increased along with Move. If the two legs do not have an equal Move bonus, your Dodge is modified by the lower of the two bonuses.

Full Cyborg Body

$250,000 *120 points*

All limbs, eyes and ears must be bionic, and the entire torso and much of the head is now replaced with artificial parts. The person is a total cyborg, only his brain human, without need to eat, drink, excrete or breathe, and lacking the capability to bear or sire children (though if the full cost is paid for a body that does not look artificial, sexual characteristics are retained). He cannot heal hits without repairs, but is immune to poison and disease, and can survive in a vacuum. Bionic arms gain a 50% increase in ST (or Move, etc. increases by 50% per leg) since they are no longer limited by human frailties. The cyborg has 15 hit points instead of his normal HT (hits to limbs do not reduce these hit points, only those of the limbs), and a torso DR of 3.

The modification costs $250,000 (and optionally, 120 character points), *plus* the cost of the limbs, eyes and ears chosen. This is a very advanced operation, and would likely be rare even in a world where single bionic limbs were common.

Cyberlimb Armor

$10,000 per point *1 point*

Cyberlimb armor, whether reinforced steel or advanced composites, is easy to obtain and not too expensive. It costs $10,000 (1 point) per point of DR per limb; three points of DR adds one to PD in that area, up to a maximum of PD 6 (DR may still be increased above that point, but PD remains fixed). A full cyborg can armor his head for the same price, and his torso for twice the price. This intrinsic armor protects against all attacks. Note that regular armor is often much less expensive, but some people like to have their advantages "built in."

Hidden Compartement

$1,000 *1 point*

A bionic arm or leg may have a compartment large enough for any small object of reasonable shape and not over 2 lbs. weight. There is no discount for looking artificial — it's hidden!

Special Limbs

varies *varies*

The GM may design special cyberlimbs to give special abilities, or permit the players to suggest designs. For ideas on abilities and appropriate point values, see ***GURPS Supers.*** For example, a character in an arctic environment might want to be able to move normally on ice. ***GURPS Supers*** describes this advantage (Ice Skates, 5 points). It would be up to the GM to set a reasonable dollar cost and to describe the physical appearance of the cybermod.

WEAPONS AND GADGETS

Any built-in weaponry will include troubleshooting circuits the user can monitor. For instance, a laser indicates a low charge by a faint warning tone audible to nobody else. An exhausted charge, or weapon damage, would give different tones. Anyone with an Optic Readout (p. 35) could get more specific information about the weapon just by wishing for it.

Claws

$4,000/$8,000 *15/40 points*

These are razored claws on the user's hands. They can be completely retracted or extended at will. The claws are also useful for climbing, adding +1 to Climbing skill.

The less expensive version is fairly short and does an extra +2 points of damage in any form of "unarmed" combat

The more expensive claws are 6" to 8" long, and emerge from the knuckles rather than the fingertips. They change the wearer's damage to thrust/impaling or swing/cutting damage. Karate bonuses, if any, add to final damage. Armorplast versions are not detectable by metal detectors.

Halve cash and point cost if only one hand is fitted with claws. Toe claws are available for the same cost, with the same effect — a (barefoot) kick is -2 to hit but does the damage listed above +1; if a character has both finger talons and toe claws he adds +2 to Climbing when climbing barefoot and without gloves. Claws normally take one round to deploy, unless the cyborg has Fast-Draw (Claws) skill.

If they are not retractable, cut the cost by 25%. If they are hardened plastic (invisible to many sensors), increase cost by 50%. Talons can also be added to a bionic hand or foot; cost is halved. These carry no discount for artificial appearance. Fake

claws cost $20 and are glued on — a strictly cosmetic modification popular with cyberpreps (see p. 13) and teenagers.

Poison Reservoire

$1,000 *10 points*

This is a reservoir of poison (or other chemicals — hallucinogens are a perennial favorite) which is compatible with claws or blades. A poison reservoir in a clawless hand comes with little "scratchers" under the fingernails, which do no extra damage but allow the poison to be applied more readily. The poison reservoir can also be used to coat ammunition of weapons located in the arm.

A poison reservoir holds 50 doses of poison and can be refilled. It can be split into two parts, allowing the cyborg to switch between two liquids; a poison and its antidote are common choices, in case of a mistake. A packet of 50 doses of synthetic cobra venom costs $5,000; the "standard pack" has 45 doses of venom and 5 doses of antidote.

Halve the price if the reservoir is built into an artificial hand; such a reservoir can use a contact poison which would be very unsafe if the hand were real!

Stinger

$2,000 *15 points*

This is a hypo implanted in the mouth, usually behind the tongue or in a hollow incisor. They are favored by assassins and special agents. A successful bite attack (see p. B111) in close combat (or a kiss…) is required to use one. Instead of doing damage, the hypo injects one dose of any drug or poison; the victim may feel a slight sting (this requires an IQ roll to notice). A maximum of two can be installed in a normal human. Unlike most implants, stingers cannot be detected without a full medical examination.

A variety of other exotic weapons may be installed in the mouth or genitalia. Some do actual damage; most inject drugs or venom into the victim. Generally, due to their nature, there is no defense against this sort of attack. If the weapon is bulky or unusual, the potential victim may be allowed one roll vs. IQ+Alertnness to detect the impending attack.

GMs or players desiring such modifications may use their imaginations…

Weapon Implant

$8,000 per lb+weapon's cost (5 points)

A weapon may be surgically implanted within living flesh, to fire at a mental command. The weapon will not be noticeable until the user is scanned or X-rayed, or until it fires. The loading and firing ports will be hidden by false skin until used.

A small weapon can be built into a hand and finger, firing through the fingertip. Only weapons of 1 lb. or less can be used in this way. Since it is quick to aim (just point and shoot) SS is lowered by 2, but the lack of sights reduces Acc by 1.

A weapon within the arm is triggered by neural impulses and fires through a fingertip or an opening in the palm. A weapon of 1 to 5 lbs. may be used; SS is reduced by 2, Acc by 3. Reloading is accomplished through a concealed port in the forearm.

A weapon can also be built into a leg, firing out the heel. This is more awkward (SS is increased by 2 and Acc is lowered by 5) as the user has to stand on one leg to fire — but weapons weghting up to 9 pounds weight may be installed. Weapon implants in other areas are possible, at the GM's discretion.

A weapon implant costs $8,000 per pound of weapon weight (minimum 1 pound) plus the normal cost of the weapon itself.

Weapon Mount

$2,000 per pound of weapon *5 points*

A *bionic* limb may incorporate a concealed beam weapon or gun as described above. Weights are the same, except that a bionic hand can hide a 2 lb. weapon. This does not require an separate operation — it is just a modified bionic limb. Function is the same as for implanted weapons (above).

Unless the weapon includes chemical propellant ammunition, it is nearly impossible to detect a weapon built into a bionic limb without either physically taking the limb apart or making a full medsensor or X-ray scan. Even with a scan, the inspector must roll against Electronics (Medical or Weapons)-4 to correctly interpret the results.

The weapon mount costs $2,000 for every pound the installed weapon weighs if it's being built into a new limb; double the cost if an existing limb is being retrofitted. Minimum cost for a hand-mount is $5,000. The weapon must be paid for separately. If the cost break for an obviously artificial mod is taken, then *anyone* can see that the limb incorporates a weapon!

Weapon Link

$10,000 *15 points*

This modification is usable only with a built-in projectile weapon or laser *and* a bionic eye. It projects crosshairs onto the field of vision, showing where the weapon will hit. This adds +2 to the to-hit roll. If you have more than one built-in weapon, it costs $10,000 (4 points) per weapon to add more storage capacity to the eye.

Each additional +1 to hit, up to a total +5, doubles the price. The to-hit bonus from a weapon link is not cumulative with laser sights, even if the weapon has them.

An experimental version of this device might be used with a separate weapon, connected to the user by an interface jack.

Other Gadgets Implants *varies*

At the GM's option, any gadget of roughly the same size and weight as the weaponry described above can be installed, with read-outs and controls spliced into the user's nervous system to allow direct operation. For instance, a surgeon or mechanic could have his tools built in, giving skill bonuses. Use the rules for weapon implants and bionic weapon mounts as a guideline for feasibility and costs.

BODY MODIFICATIONS

"Bod mods" cover a wide variety of implants, augmentations and other expensive improvements. Most bod mods require two weeks of recovery after the operation.

Airtight Seal

$50,000 or $125,000 *20 or 60 points*

This airtight, clear polymer seal around the entire body protects the wearer from vacuum, gas, and up to 60° of temperature. It is linked to the involuntary nervous system; it can be voluntarily opened, but in the absence of an act of will, the seal closes and lets no air in or out The user must have some oxygen in fairly short order, or suffocate within a few minutes. (Learning to sleep in one of these takes practice.) The seal maintains body temperature at its normal level, and valves are provided for the disposal of body waste.

The cheaper version must be kept under conscious control, or the body's internal organs and processes will begin to be stressed — roll against HT for every hour after the first that the wearer is unconscious; a failed roll means he takes one point of damage. The improved version has many internal compensators, and can indefinitely survive vacuum and other hostile environments — oxygen supply permitting, of course.

As a side effect, either version prevents any skin cells, hair or other biological residue from escaping; this is in demand by corporate executives who don't wish to be cloned by strangers!

Audio Dampening

$15,000/level — *5 points/level*

Microspeakers scattered about the body create an audio diffraction pattern which helps to eliminate all sound in the immediate vicinity of the cyborg. This gives +2 to Stealth for each level of the advantage, as long as the listener is depending on hearing rather than sight. This benefit is halved if the cyborg is moving at all.

Biomonitor

$5,000 — *3 points*

This is a device which monitors your vital signs; it normally includes a small display somewhere on your body (or projected onto your retina if you have an optic readout). It monitors pulse, heartbeat, blood pressure, respiration, blood sugar and alcohol levels, and includes a very simple EEC and electromagnetic monitor that will indicate extreme changes in mental state or the over-all condition of your cyberwear.

This gives a bonus of +2 to any First Aid or Physician rolls performed on you, as long as the medic can see the display or you can describe it to him. Or, if he has an interface jack (see p. 41), he can jack in to a port beside your readout and monitor you directly. A medcomputer can also monitor you directly.

Bionic Reconstruction

$50,000 — *25 points*

The bones are hardened with plastic or metal laminate, and redundant bionic organs are installed. The person is still mostly flesh, but is harder to kill: he gains 5 additional hit points, though actual HT remains unchanged, giving him a "split HT' (p. B101). As the character is half-bionic, injuries require special treatment — use normal rules to determine success of any medical treatment given to a bionically-reconstructed character, but an electronic tool kit must be used in addition to a medical kit, and the *lower* of the medic's regular skill (Physician, First Aid, Surgery, or Diagnosis as appropriate) and Electronics (Medical) is used. Any HT rolls to determine the effectiveness of medical drugs are made at -2.

Cortex Bomb

$500 — *-15 points*

This is a tiny explosive at the base of the brain, with either a timed or radio-controlled detonator. If it goes off, the subject is killed, his brain and any cyberwear in his head are destroyed, and all persons within two yards take 1 point of crushing damage. These are used as a means of insuring the loyalty of untrustworthy subordinates, or to prevent the subject from being braintaped (or sensitive cyberwear from being stolen) after he dies. They are generally boobytrapped to prevent tampering. Note that this is a Disadvantage!

It requires only a day to recover from implantation of a cortex bomb.

Elastic Face

$100,000 — *15 points*

Controllable microdevices are arranged under the skin, allowing subtle changes in bone structure and skin tension, creating (or removing) wrinkles, dimples and scars. Chemicals exuded onto the skin alter its color, moisture and general tone. The user can adjust his appearance dramatically.

It takes only 5 minutes to make a pre-planned drastic change, but up to 3 hours to specifically imitate someone else. This adds +5 to Disguise skill, or may be used to make one slightly more attractive, an extra +1 reaction modifier. The Unnatural limitation cannot be purchased for this cybermod.

Extra Hit Points

$10,000/hit point — *5/hit point*

The cyborg has internal biorepair systems which allow his body to continue to function after taking more damage than a normal human. These include cardial stabilizers, blood reserve oxygenators, artificial coagulants, shielded neurons with fiber optic backup, and similar systems.

This mod gives a split HT (see p. B101). For example, a character with HT 13 purchases three Extra Hit Points. His HT is now 13/16: he still makes HT rolls at 13, but can take 16 points of damage before rolling to see if he falls unconscious.

This modification can be combined with Bionic Reconstruction to give up to 10 extra hit points!

Full Metal Jacket

$20,000 per point of DR — *10 points/per point of DR*

You have an exoskeleton made of metal composite armor. Unlike removable exoskeletons, it does not augment your strength; it is just armor. Each 3 points of DR purchased convey 1 point of PD, up to a maximum of PD 6. (You can still buy DR after this point, but PD remains fixed.)

This modification is an exception to the rule that all costs assume realistic-appearing cyberwear. *Triple* the monetary cost and raise the point cost to 15 per point if the character wishes a "normal" appearance. In this case, the person is "dissolved" in a semi-porous clear polymer solution which binds to his skin cells and gives a strong ability to absoro any kind of shock. The polymer is treated with a benign virus which infects the cyborg's skin, causing the skin cells to produce the polymer as needed from ordinary organic components. Otherwise, the cyborg has an obviously artificial exterior, either metallic or rigid ceramic/plastic, often in designer colors and trimmed, in chrome or even gold or other precious metals. This is a *permanent* exoskeleton. For an exoskeleton as equipment, see p. 50.

Note that this can be combined with an Airtight Seal (above). There is no reduction of point cost, but subtract half the dollars paid for DR from the cost of the Airtight Seal. Only half the cost of the Seal can be defrayed this way.

Gills

$2,500/$5,000 — *0/20 points*

These artificial gills let the user extract oxygen from water. The more expensive version allows normal breathing in and out of water. It uses one C cell, which provides power for 24 hours. The battery can be changed without surgery, and can be disguised from a casual search. Turning off the gill and resuming air breathing takes 3 seconds while liquid is expelled from the lungs. The giller is at -5 to ST and DX for this time.

A person with the $2,500 version can *only* breathe underwater, but the device lasts indefinitely.

Gyrobalance

$25,000 *20 points*

A miniature electronic gyroscope in the inner ears (both ears must be modified, but there need be no other operation) gives the cyborg perfect balance. He can walk on tightropes, ledges, etc. without having to make a DX roll. If the surface is wet, slippery, or otherwise unstable, he is at +6 on all rolls to keep his feet. In combat he has a +4 on any DX rolls needed to avoid being knocked down. The cyborg also has a +1 on Acrobatics skill, and on Piloting any air or space vehicle.

Internal Oxygen Supply

$7,000/hour *2 points/hour*

This is an internal supply of heavily compressed oxygen, which can allow life underwater, in vacuum or in other oxygen-poor environments. Unfortunately, these micromodules explode dramatically if punctured. Whenever impaling damage is taken to the vital organs, roll 3d; on an 8 or less, the supply has been penetrated and explodes for 3d crushing damage per hour of air remaining. DR doesn't protect!

These will recharge themselves from the cyborg's normal breathing; each three hours of rest recharges one hour of internal oxygen supply.

Laser Reflective Exterior

$20,000/level *5 points/level*

This chrome/polymer layer over the skin reflects laser weapons. For each level of this cyber improvement, the cyborg gets a +1 PD and DR (up to PD 6) against laser attacks only. This gives no extra defense against any other attack. Note that this price *assumes* an unnatural appearance. For a normal skin appearance, increase cost by 20%. This requires a layer of normally transparent optically active polymers that look normal but still reflect a coherent beam of light

Pockets (Flesh Holster)

varies *varies*

Technically these are legal, since they don't *have* to be used for a gun or contraband, but most police officers or customs inspectors would be very unhappy to discover even an empty one. A flesh holster is a hollowed-out and sealed cavity within the wearer's living flesh. They are almost impossible to find (Holdout-20) even with a full-body search. The contents can be spotted with an appropriate scanner. Any object small enough to fit inside (the GM determines if it is too large) is also Holdout-20. A doctor specifically searching for a flesh holster starts at Physician-6 or Surgeon-6, and rolls again at +1 for each ten minutes, to a maximum of Physician-1 or Surgeon-1.

In an arm or a leg, these cost 5 points and/or $800 per pound of storage, up to 3 lbs. There's more room in the torso, so a "pocket" in the stomach area would only cost 2 points and/or $500 per pound there; the limit depends on the user's size. A Pouch in the head would cost 1 point and/or $500 per *ounce* of storage, up to 4 ounces, and is an extra +2 to Holdout

It takes a minimum of 3-5 seconds to remove or store an item in a flesh holster — longer if it's under clothing!

SENSE ORGANS

All bionic sense organs have a mental on/off switch. An organ with more than one mode (e.g., an eye that can see infrared) can switch between modes at a mental command. Any specialized eye or ear can switch to merely normal function. Recovery time for sense-organ implant surgery is usually two weeks.

Bionic Eyes

All eye modifications assume that the subject already has a normal bionic eye ($35,000). Any number of improvements can be built into the same eye; there is no price difference either way. To have one +3 eye and one infrared eye costs the same as to have one +3, infrared eye and one normal bionic eye.

If a person has two dissimilar eyes (a regular bionic eye is considered the same as a natural one), a patch must be worn over one or conflicting signals will give a -2 to any Vision roll. If the other eye is also bionic, of course, it can be turned off.

Acute Vision *varies*

A regular bionic eye confers 20/20 vision with no astigma-tism, but does not give any bonuses. However, improved eyes, giving vision bonuses of up to +5, are available. Improved eyes must be bought in pairs to work properly: prices below are per eye. If a PC is replacing an eye for which he has already paid points, he doesn't need to pay points for it again.

Bonus	$ per eye	Points
+1	$45,000	2
+2	$60,000	4
+3	$100,000	6
+4	$150,000	8
+5	$200,000	10

Bug Detector

$20,000 *10 points*

The user can "see" transmitters of whatever frequency. They appear as faintly glowing spots, with the color depending on the frequency. This *won't* detect passive recording devices — just transmitters!

Optic Readout

$5,000 *5 points*

The user has a text display on the edge of his field of vision. Other cyberwear can communicate with this display — for instance, an implanted weapon can warn of low power. There is no extra charge to tie other cyberwear to an optic readout, whenever it is installed. Nearly everyone who has cybertech installed has an optic readout to monitor it.

Polarization

$5,000 *5 points*

The user can't be blinded or stunned by bright flashes of light — the optic nerves automatically compensate and reduce pupil size. This eliminates the need for sunglasses — except to look cool, of course.

Light Intensification

$15,000 *10 points*

These eyes pick up and amplify any available light (even starlight). They halve any penalty for darkness (round in the user's favor) except complete darkness. They burn out if hit by a laser, unless Polarization (above) is added!

Independently Focusable Eyes

$40,000 per pair *10 points*

Note that the cost on this modification is for *two* eyes, plus work on the nervous system! The user can now see in two separate directions simultaneously (functions as the Peripheral Vision advantage, p. B22), and can aim at more than one target at a time if he has taken the Full Coordination advantage (p. SU22). Recovery time from this operation is a month. The sight of someone using this modification, tracking two different things at once, is unattractive; -1 reaction from strangers.

Infravison

$15,000 *15 points*

These eyes detect infrared light; the user can detect vary-ing degrees of heat. The wearer can see in absolute darkness if there is a 10° temperature difference between objects. No matter what the temperature, the wearer suffers only a -1 penalty when fighting at night due to the heat emissions from living things or active machines. These eyes give a +2 to see any living beings during daylight while scanning an area visually. They also allow the wearer to follow a heat trail when tracking, adding to Tracking rolls on a fresh trail (+3 if less than ten minutes old, +2 if less than 20 minutes and +1 if less than 30 minutes).

A sudden flash of heat can blind someone with Infravision, unless the eyes have been Polarized (see p. 35).

Microscopic Vision

$10,000/level *4 points/level*

Each level doubles the magnification of small objects. Maximum range is one foot. Example: level 1:2x, level 6:64x, and so on.

Night Sight

$20,000 *20 points*

These eyes emit and interpret ultraviolet light: the wearer can see objects even in pitch dark. Vision within 25 feet is normal; it is at -1 for each 10 feet farther away, unless there is a powerful separate source of UV light available.

Nightsight eyes will appear to "glow" to anyone seeing them through an ultraviolet sensor. (This will add +2 to any to-hit roll made through UV sights, or to someone else with Night Sight.) The projection function is separately switchable, so one person could turn his beams off and see, at a -1, by others' emitted beams. Note also that fluorescent objects will glow spookily, even to those with normal sight, when hit by the UV beams.

Retinaprint

$50,000 *5 points*

This allows the eye to store the retina prints of up to 20 different people for later retrieval and use. Retina patterns can be obtained by looking into the eye of the person that you wish to copy. If the user has an interface jack, they can be downloaded via a computer link or copied from a Thumb (p. 54).

Telescopic Vision

$15,000/level *6 points/level*

These eyes can zoom in from a distance. Magnification power is as for Microscopic Vision, but detail resolution is limited to anything that would be visible with normal eyes from 12 inches away.

360 Degree Vision

$75,000 *25 points*

You have a sensor array built into the back of your head and linked to your optic nerve. This lets you see what is going on in all directions around you — including above.

If you have Karate, you can attack targets behind you at no penalty; otherwise, treat "off-hand" and back hexes at -2 to hit. You suffer no penalties when defending against attacks from the side or rear.

Video Reception

$25,000 *5 points*

The user can receive television/holovision signals, which are then displayed to the optic nerve. Effectively, it's a TV in the head! The user's real surroundings may be displayed as a ghost image or split screen. Note that the Radio Reception mod is required to hear the soundtrack.

Bionic Ears

Most "bionic ears" are electronic receptors hooked into the auditory nerves. Standard ones detect sound; others pick up other frequencies and translate them as sound. The cost of bionic ears cannot be modified by making it obviously artificial — the modification is 99% internal! Standard bionic ears are $20,000 (for both ears) and allows normal hearing. All of the hearing modifications assume that the subject has bionic ears.

Acute Hearing *varies*

Improved ears, giving Acute Hearing up to +5, are available for an additional $15,000 (and 2 points) apiece for each +1 to hearing.

Parabolic Hearing

$5,000 per level *4 points/level)*

This is the auditory equivalent of Telescopic Vision. The user can "zoom in" on a particular sound or area, and includes a filter to sort out background noise from the desired sounds.

The table below shows how far away a listener must be from various sounds for them to have the same volume as nor-mal conversation at 1 hex (3 feet). Each level of Parabolic Hearing either doubles the range at which a sound can be heard (move 1 line down) or reduces the level of sound that can be heard at a given distance by 10 decibels (move up 1 line). For instance, a cyborg with Parabolic Hearing +2 can hear normal conversation at 4 hexes or a 10-decibel sound at 1 hex with equal clarity.

Sound level (decibels)	Example	Range (hexes)
10	Leaves rustling	
20	Quiet conversation	
30	Normal conversation	1
40	Light traffic	2
50	Loud conversation	4
60	Noisy office	8
70	Normal traffic	16
80	"Quiet" rock band	32
90	Thunder, heavy traffic	64
100	Jet plane at takeoff	128
110	Very loud rock band	256
120	Metallica at 50 hexes	512

Radio Reception

$10,000 *10 points*

The user can "hear" radio signals — from AM broadcasts or TV soundtracks to shortwave to police signals and beyond. This is very handy for someone who needs to monitor police broadcasts. Strong signals (local broadcasts, police, etc.) are easy to pick up; weaker signals (long-distance AM signals, shortwave stations, etc.) may require an antenna. Also, a metal helmet of any kind will affect reception (GM's determination).

Radio Descrambler *Prerequsite: Radio Reception*

$20,000 *5 points*

With the purchase of a special scrambler ($10,000, weight 5 pounds, runs for 24 hours on a B cell), messages can be broadcast that only a descrambler can decipher. The range of the scrambler is limited to 5 miles, but the scrambled signal can be sent across normal phone or communication lines as well, or linked into a radio or television tower (roll versus Electrical Engineering at -2 for commercial stations, no penalty for amateur or CB stations).

Subsonics

$10,000 *5 points*

The user can hear subsonic frequencies. A subsonic broadcast unit is available as a larynx implant ($20,000, 5 points), to allow covert speech. No one without a subsonic ear will hear it. Range is about one block.

Ultrasonics

$10,000 *5 points*

The user can hear supersonic frequencies. A supersonic broadcast unit is available as a larynx implant ($20,000, 5 points), to allow covert speech. Range is a half-mile, but dogs within this area will howl, and some children will be aware of a high-pitched sound.

Volume Cutout

$10,000 *5 points*

The wearer's auditory nerves automatically reduce the volume of any loud noise. He can never be deafened or stunned by high-decibel sound.

Other Senses

Radar

$100,000 *50 points, +1 point per hex/radius*

The cyborg has a complete radar "picture" of his vicinity; he can sense shapes and objects, and even surface textures, but not colors. A network of microtransmitters is patterned about the cyborg's body, so there is no single point source that is easily blocked out. The transmitters emit a continuous radar wave which reflects off surfaces to return a pattern which microreceptors receive and translate into an image. To see fine details, a Vision roll is required. This is an active radar sense, however, so the cyborg will shine like a beacon to any other radar receiver.

Sensitive Touch

$10,000 *10 points*

The cyborg has a cybernetically enhanced sense of touch and can sense minute differences in temperature, texture, and vibration. Only the hands may be so equipped. An IQ roll is required to use skill properly.

New Sensory Input

If the GM wishes to make exotic assumptions about cybertechnology, he could postulate whole new senses available from implants. A person could become aware of magnetic fields, or could have an innate radar sense, or other strange abilities not linked through more ordinary sense organs.

For ideas about such new senses, and general guidelines on character point values, the GM can refer to ***GURPS Supers*** and ***GURPS Aliens.*** Cost of such new senses should be high in comparison to "normal" enhancements.

Communications

Broadcast *Prerequisite: Radio Reception*

$15,000 *5 points*

You can broadcast on any radio frequency you desire. The current frequency can be displayed to an optic readout; otherwise, a synthesizer chip announces the band to your cyber ear.

Range on AM, FM and CB frequencies is limited to a few miles (usually 1 — more from high ground). Induction coupling to an efficient antenna or linear amplifier (or both) can dramatically increase range — up to 50 miles for AM or FM. Shortwave and CB usually have about a 50-mile range as well, but under the right conditions can reach anywhere on the planet

Cellular Link

$500 *5 points*

This is a built-in phone link. It only allows audio communication (see Remote Datalink, below), but can call anywhere in the world (credit permitting) through the standard phone network. It only works in urban areas that are part of the "cellular net," but that covers most of the world now.

The user will hear the caller's voice in bis head, and can answer by subvocalizing — speaking aloud is not required (it requires an IQ-4 roll to notice someone subvocalizing).

The user should keep his number secret; nuisance phone calls in one's head are no fun… -2 to any mental activity, or -4 if the "nuisance" is an attack such as a whistle broadcast.

For someone with the right underworld connections, $10,000 buys a connection to a pirate cellular transmitter. Calls placed through this number will remain unbilled and untraceable unless that system is penetrated or busted.

Remote Datalink

$150,000 *20 points*

This is a broad-band high-frequency computer link. It lets the user connect to any standard neural or data interface without a physical link, provided that interface is attached to a transmitter on the same frequency ($5,000, 1 lb.). Its range for an icon or environmental interface is only 100 meters, but it can present a marquee interface up to a mile away from the receiver (the small character set allows for error-correction). See pp. 71-72 for information about interface types.

Silver Tongue

$6,500 *15 points*

This is a cybernetically monitored and modified sound chamber in the larynx, programmed to create a soothing carrier wave whenever the cyborg is speaking, singing, humming or whistling. This gives a +2 reaction modifier, just like the Voice advantage, and is cumulative with that advantage. It also gives the user the benefit of a -3 modifier on any Detect Lies roll made against him. A Silver Tongue is negated by Audio Damping (see p. 34)

Speakers

$5,000 *3 points*

This is a built-in, high-volume sound system. The user is insulated from any deleterious effects (if he wants to be, that is — he may enjoy loud music), and anyone who has the Audio Damping or Volume Cutout mods, or is deaf, is unaffected as well. There are several possible applications:

Voice. You can project your voice like a megaphone. Your enemies can hear your taunts, loud and clear. A sudden shout, when unexpected, may distract foes. Any time you do this, your opponents must make an IQ roll, with a +2 for Hard of Hearing; anyone who fails is Mentally Stunned (p. B122).

White noise. The sound system generates random, multi-frequency noise. All Hearing rolls within 10 hexes are at -3; from 11-20 hexes, the penalty is -1.

Music. You can stride into combat with your own, very loud, soundtrack; the speakers will accept any music disk. *Ride of the Valkyries,* Alice Cooper's *School's Out*, the *William Tell's Overture*, the Clash's *Rock the Casbah*, Tuff Darts' *Your Love Is Like Nuclear Waste* — anything you think is appropriate. This can mentally stun foes, like a shout, as described above.

MENTAL IMPLANTS

Any number of different chips can be slotted into an appropriately equipped individual, giving an almost infinite variety of skills, abilities, and even new personalities.

There are several types of chip available, from offline memory to skill chips to reflex-boosters. Each chip is about 3/4" x 1/2" x 1/4" in size — just large enough to be easy to handle. A chip is tough enough to avoid most accidental damage, but can easily be broken, snapped or smashed on purpose. Most chips are color-coded and labeled prominently to avoid accidents.

Chips are convenient, but they have one huge risk. When you slot a chip, you are handing over your mind to the person who programmed that chip. If they were incompetent… or if they have some special plan for you… you're in trouble.

Chip Slots

$5,000 for first, doubles thereafter *5 points each*

A chip slot is a socket installed on the user's head. Slots are required to use the chips described below, unless an *induction helmet* (p. 41) is available. The first chip slot costs $5,000. As more slots are added, the circuitry required becomes more complex. The cost for each successive chip doubles, e.g. $10,000 for the second slot, $20,000 for the third. $40,000 for the fourth, and so on up to a maximum of $160,000 per slot.

A user is limited to IQ/2 slots (round up) — beyond that, the brain can't handle the incoming information. It takes 2 seconds to insert a chip, or 5 seconds to remove one and insert another. Chips are powered by the body's heat and nervous system — a corpse's chips don't work! For $20,000, *all* slots can be hidden (usually underneath hair or a fake flap of skin.) This fee is only charged once.

Personality Chips

Attitude Chip

varies *varies*

When installed, this chip negates or adds a single mental disadvantage.

If it negates a disadvantage, the point cost is half that of the disadvantage negated. The cash cost is $200 times the point value of the disadvantage.

If the chip is *adding* a disadvantage (causing Fanaticism in a follower, for example), there is no point cost, and the cash cost is $100 times the point value of the disadvantage.

The difference between this and a Psych Implant (p. 38) is that the attitude chip can easily be removed. If it is left in for a long time, it will have the same behavior-modification effect as a psych implant.

Behavior Chip

varies *varies*

This chip replaces the user's personality with that of another person. It conveys a whole new set of attitudes and reactions. Any mental disadvantages the user normally possesses are overridden. His skills are still intact, as is his memory -—it is his *attitude* that has changed. A user may also acquire temporary mental disadvantages while wearing the chip. The user's *advantages* are unaffected. Exception: Charisma, Common Sense and Strong Will can be granted, or *overridden*, by a behavior chip.

The GM should list of the mental advantages and disadvantages for a chip and the advantages and disadvantages a particular user would lose while wearing it. If the net point total is positive, that user can be charged up to half the point total for the chip (if this is appropriate to the campaign). Otherwise, there is no point cost. Dollar cost is figured as for attitude chips.

Some personalities are taken from famous celebrities via a braintaper (see p. 55). These will be much more expensive (and rare) than common personalities. A few of these may even have been done without the original owner's consent — while he was sedated, for instance. Of course, the drugs *could* affect the accuracy of the personality transfer…

Psych Implant

varies *varies*

The psych implant is a *permanent* installation which electronically stimulates areas of the brain to produce certain psychological reactions. Moderate regimes use them as an alternative to prison or psychiatric treatment; repressive ones rely on them for mind control.

In game terms, this implant gives the subject an additional mental disadvantage. This is worth character points only if a PC starts play with an implant. Common implants induce Gullibility, Pacifism or even Combat Paralysis and are used to restrain violent individuals or render the subject easily controlled. Illegal "black" implants, capable of inducing mental states identical to the disadvantages Berserk, Dyslexia, Paranoia or Phobias, are also possible. The GM may also allow other mental disadvantages (e.g. Sense of Duty to a specific individual, for mind control) to be simulated. Any implant-induced disadvantage ends when the implant is removed. However, anyone who has worn a psych implant for a long period of time may acquire the disadvantage permanently — make a Will roll at +4 to avoid, -1 per six months with the implant.

Therapeutic implants also exist which *negate* mental disadvantages, such as Bad Temper or Phobias. After several months the effect may become permanent (through behavior modification) — roll vs. Will as above when the implant is removed; if the roll fails, the disadvantage is gone. The GM may require it to be bought off with character points.

A psych implant (including therapeutic implants) costs $300 times the point cost of the disadvantage involved and is generally only available to governments or licensed doctors. Inserting or

removing a psych implant takes 3 hours and a Surgery skill roll at -3; the operation costs $1,500. "Black" implants are Legality Class 0; black market prices are usually three times those of legal implants.

Beserker Chip

$2,000 *no point cost*

The wearer of this chip will fly into a physical rage when placed in a combat situation (see the Berserk disadvantage, p. B31). The rich and powerful often have these chips implanted in their bodyguards. Another version of the chip activates when the user hears a code word — one eccentric millionaire is rumored to have amused himself with an army of gladiators who went Berserk at the mention of his ex-wife's name.

Dummy Chip

$1,000 *0 points*

This chip reduces the wearer's IQ by a predetermined amount. There are occasions — especially very boring ones — where it is less painful to be stupid!

Personality Implant

$60,000 *20 points*

Personality implants allow a person to mentally "become" someone else. They are useful for intelligence agents, politicians and diplomats, among others; many people find them entertaining.

The implant is surgically inserted into the brain, leaving a socket in the skull. To use it, a standard 100-gig minidisk containing a braintape is inserted into the personality implant's socket. The braintape may be accessed at any time by the user. When accessed, the effects depend on the tape.

The tape *completely* suppresses the user's personality, substituting that of the personality on tape. In game terms, this means that the character adopts the quirks and disadvantages of the new persona, while gaining his mental advantages and skills (but physical skills are modified by the difference in DX). The character ceases to exist and is replaced by another person for the duration of the tape.

The cost of braintape disks varies depending on braintaping technology (see p. 55). If braintapes are designed to be copyable, the cost of a copy on disk will usually be $2,000. Braintapes of famous people may even be commercially available. If braintapes are self-erasing, a new copy must be made from the subject every time, at the usual cost of $25,000 each, and implants will usually be restricted to governments or wealthy corporations.

The point value of each particular braintape, if the GM assesses a point value at all, is equal to the net value of that character's skills, mental advantages and disadvantages, and quirks.

Physical Control Chips

Amp Chip

$10,000 *10 points*

The user needs very little sleep; the amp (short for *amphetamine*) chip regulates his EEG to make up for the loss. All Fatigue losses from missed sleep (see sidebar, p. B134) accumulate weekly rather than daily — so a week without sleep costs 5 Fatigue rather than 35.

Incapacity Override

$15,000 *10 points*

This is a "cruise control" system for your body. If the user is stunned or rendered unconscious, this chip takes over active control of his body. Its first reaction is flight — flee from the danger to the nearest safe place. If retreat isn't allowed, then it will go into Berserk mode, as per the disadvantage (see p. B22). The chip will keep him on his feet until he dies or regains consciousness enough to override it.

Note that these functions can be reversed — the chip can be told to force the body to fight until it takes a certain amount of damage, at which point it will flee.

Macho Chip

$2,000 *5 points*

This simple chip overrides all the body's pain sensors. The user is immune to physical stunning due to pain; he does not slow down when down to 3 hits. However, he may hurt himself accidentally; he could feel a tap on the leg without knowing he had cut his shin open. The *player* no longer knows how many hits his *character* has taken when this chip is used.

Talent Chips

Advantage Chips

varies *varies*

When slotted in, these chips give the equivalent of a mental or physical advantage. Dollar cost is $1,000 per point. Advantages not listed here cannot be chipped in, but the following ones are available:

Ambidexterity	$10,000	10 points
Charisma	$5,000/level	5 points/level
Combat Reflexes	$15,000	15 points
Common Sense	$10,000	10 points
High Pain Threshold	$10,000	10 points
Literacy	$10,000	10 points

(Does not grant the language skill itself. A different literacy chip is needed for each language known.)

Strong Will	$4,000/level	4 points/level

Clock Chip

$500 *5 points*

This chip features an onboard clock and timer accurate down to milliseconds (1/1000 of a second). It conveys the Absolute Timing advantage (see p. B19). It can also be used as an alarm clock, set to alert or wake the user at a set time.

Eidetic Chips

$2,000 per hour *1 point per hour*

These chips give the equivalent of Eidetic Memory for the appropriate number of hours. A spy, for instance, wouldn't have to sneak a camera in to get a copy of a document if he was chipped in this manner — he'd just have to look at it and download it to some other storage medium. The chip can be turned on and off; a 1-hour chip could last almost a month if used for only a minute or two per day.

The chip can be sent to a computer via a datajack, or simply unplugged — the non-volatile RAM in the chip will hold the memories for up to one month before they discharge and decay. Once the chip is removed, the user has only “normal” memories of the time passed.

Another user who slots the chip can relive the physical experiences — sight, hearing, etc. — but will not know what the original user was *thinking* during that time!

Math Chip

$5,000 *10 points*

This chip gives the equivalent of the Mathematical Ability advantage (see p. B22). It is a very common chip, and is cheaper than other 10-point advantage chips.

Skill Chips

special *1/2 point cost of chip*

These chips convey extra ability in a particular mental skill. They are mostly databases and retrieval programs at the lower levels, but higher-value skill chips (or "skips") include an expert system.

Each skip grants the user a certain number of *character points* dedicated to its specific skill. This is indicated by a number in brackets after the skill. Note that no more than 4 points can be added to a creative or performance skill like Writing or Singing.

Example: A Metallurgy[8] skip grants 8 character points in Metallurgy. If used by someone with no Metallurgy skill, it would give them IQ+2 in that skill (8 points in any Mental/Hard skill gives IQ+2). If the user already had Metallurgy, it would increase his effective skill by 4 levels — 2 per character point. Even an expert can benefit from a skip; it puts huge amounts of data at his command, and he knows how to use it.

The dollar cost of a skip is $2,000 per point for up to 8 points, $5,000 per point on chips from 9 to 20 points, and $10,000 per point for chips of more than 20 points. If the GM is charging character points for skips, they cost *half* their calculated point value: an 8-point skip would cost 4 character points.

Examples: A chip worth 6 points costs $12,000. A 14-point chip would cost $70,000, while a 26-point chip would cost $260,000.

Reflex Chips

special *1/2 point cost of chip*

Reflex chips (or "flips") are very similar to skips, with a few important differences. First, they cover physical, rather than men-tal, skills. Second, they are more expensive. Flips require control over the user's body *and* his mind. Hence, flips cost twice as much as an equivalent skip. Third, they require time for the user to synchronize his body with the chip — 10 minutes per point of the flip is recommended (e.g. a Karate[6] flip would require 60 minutes of acclimatization before it could be used). If a particular campaign calls for a faster (or slower) time, the GM should feel free to change it. Some cyberpunk worlds have instant flips — just plug it in and go — while others require days or even weeks of fine-tuning the body and the mind!

If a user is already a master of a particular skill, it is possible that a cheap flip won't add enough skill to make any difference. In that case, it does no harm, either.

Occupational Chips

These chips, also called 0-ROMs (Occupational Read Only Memory), include the skill databases and expert systems necessary for someone with little or no training in a given field to act as a competent professional. They can also be used by someone who has trained in that field to increase skills in a particular area, but are not as cost-effective for this purpose as a regular skip. Many 0-ROMs also include advantages, disadvantages and quirks that are useful for the profession; these are operative whenever the 0-ROM is in use and cannot be switched off.

0-ROMS are used like other cyberwear chips (see p. 38) — the user physically attaches the chip to his body through a socket, usually in the head or spine. Thus, a socket is required to use a chip.

These chips are not cheap — cost is 12 times the monthly salary listed on the Jobs Table! On the other hand, they do allow someone who wants to be a corporate accountant, for instance, to work at his job while he studies for the "unenhanced" version. Count each five hours of work at a job while using an 0-ROM as one hour of study toward the attaining of any one skill it includes.

Of course, the high price encourages bootlegging, and there are many black market versions of every available 0-ROM. A few are good, but most have bugs. (Some of the bugs are intentional; several versions of the Accountant 0-ROM exist which have the Honesty disadvantage removed, replaced by the Law skill and Portuguese language — for crooked accountants who want to cook the books and escape to Brazil.)

Like software (see sidebar, p. 79), 0-ROMS decline in value as they become older. For game purposes, this is treated as a loss of skill, as the world changes to obsolete the information in the chip. For most jobs, though, an 0-ROM takes six times as long to (effectively) lose 1 point of skill. A chip designed to teach Computer Programming skill would lose one point of effective skill for every *two months* of age. Each lost skill point reduces the value of the 0-ROM by 20%.

Accountant: Includes Mathematical Ability, Lightning Calculator, Accounting, Administration, a database of current accounting practice and the Honesty disadvantage. Note that Honesty is included as a matter of course in any commercial 0-ROM involving money or other tangible assets.

Cop/Soldier: Includes Combat Reflexes, Guns (several types at the appropriate TL), Strategy, Tactics and a handbook of procedure. Police will usually have Area Knowledge for their beat and may also have a language built in, depending on the area (Spanish for San Antonio, Chinese for San Francisco). Soldiers may have an MOS specialty built in; Intelligence Analysis, Telegraphy or perhaps an enemy language. Note that the two chips are *not* interchangeable, though the skills are the same. A good cop is usually not a good soldier, and vice versa.

The Odious Personal Habit "No Sense of Humor" occasionally shows up in the police 0-ROM; it started out as a joke by the original programmers, but some departments liked it so much they wrote it into their specifications.

Geisha: Technically, this is a misnomer, since the traditional geisha does not offer sexual services. (For reasons unknown, in Japan this chip is called *kauguru* — "cowgirl.") This chip includes skills not detailed in the ***GURPS Basic Set;*** suffice it to say that joygiris who use this chip can command a hefty fee and make their customers think it's worth every penny of it. The male version is usually called the "gigolo" chip.

Military Cyberwear: Soldiers and mercenaries have their own specialized forms of cyberwear. Some of this involves cyborging - equipping Special Forces units with bionic arms, internal weapons, gyroscopic stabilizers and so forth - but most military cyberwear is similar to the standard occupational ROM. For instance, a forward observer 0-ROM might include Mathematical Ability, Lightning Calculator, Intelligence Analysis, Geography, Surveying/TL8 (a Mental/Average professional skill) and Gunner (Heavy Artillery)/TL8. Duplicating 0-ROMs is much faster and easier than running soldiers through forward observer training, the skill can be reused indefinitely, and they make the Army's job of keeping important information classified much easier (especially if the 0-ROMs are designed to fuse their internal components within two hours after the user dies, making them useless to the enemy).

Some of the 0-ROMs used by military units are Military Police, Intelligence Analysis, Hand-To-Hand Combat, Weapons Repair and Vehicle Repair. A particularly specialized 0-ROM

includes a foreign language, Mathematical Ability and the professional skill Cryptography (a Mental/Hard skill), along with extensive databases of word patterns, letter frequency, etc. By using this 0-ROM and some basic training, a cryptographer has only to look at a coded text, do some database searches and arithmetic, and on a roll against the chip's Cryptography skill can read a code as though it were plain text!

Some specialized military chips use a nonstandard jack design, making them harder to use by the wrong people. Adapters for military jacks are a Legality 0 item; the street price is $10,000.

Zap Chips

A zap chip, or zapper, is a talent chip with built-in misinformation. It may make the user generally inept, giving only a low level of ability or actually subtracting. Or it may have one key error in it, perhaps as part of some complex plot! Zap chips are theoretically illegal. Sometimes a zap chip with a known error will be found for sale at a discount. "It's Driver[18], hot as can be, with one little zap. Stay off the freeway and you'll be fine."

To deliberately acquire a made-to-order zap chip would require a crooked contact inside a big chip publishing house… or a lot of skilled hacking time to steal legitimate skill-chip source code and modify it. Either way, mere cash won't do it; this would be the subject of an adventure.

Other Chips

Jackhammer

A jackhammer is a chip which incapacitates the user. They are available to fit both chip slots and interface jacks. There are many different kinds of jackhammer. They are primarily weapons or control devices, so they have no point value. If a foe is immobilized, it takes only two seconds to plug a hammer into his head - of course, it's much easier to trick him into plugging it in himself. Any jackhammer also contains a command which prevents the victim from pulling it out! Some common types:

Happy Hammer. Contains an A-cell, and stimulates the user's pleasure center for a week. Not quite as good as wireheading (p. 16), but good enough to keep the user docile. The draw-back: after a few weeks on the Happy Hammer, a victim must make a *daily* Will+2 roll to avoid going out and becoming a wirehead, each day for a week. $2,000.

Headbanger. This is a torture device; it is Legality Class 1. It stimulates the victim's pain center. Some also keep him from screaming… $3,000.

Harvey Wallbanger. The user is mindlessly drunk. $1,000.

Nightmare. Simulates a very bad "trip." $2,000.

Slave. The victim must roll at Will-3 to avoid obeying any verbal command while the chip is slotted. Even if a command is resisted, it can be repeated anew in 5 minutes, and must be resisted all over again. Legality Class 1. $10,000.

Trips

This is short for "travel chips." They let the user re-live a memory programmed by someone else. Two examples are scenery chips, which allow the user to visit places he's never been, and pornographic chips of all varieties. These do not normally affect game play, but they're good background. Mundane chips cost anywhere from $500 (an hour-long tour of the subways of New York) to $5,000 (a day of skiing in Vermont) to millions (three famous holovid stars in a hot tub with *you*).

Datachips *see p.67*

NEURO-TECH

This is the ultimate combination of man and computer… pure mental control of a computer.

Interface Jack

$30,000 *10 points*

This is a neural-interface implant that lets the user send and receive information from a piece of hardware — anything with the proper hardware, from a TV set to a cyberdeck. Connections are made by a fiber-optic cable 1/16 of an inch in diameter, which is plugged into the user's skull socket. It takes 2 seconds to connect or disconnect an interface cable. (In an emergency — if a Flatline program is on its way to your brain, for instance — you can disconnect in 1 second, but this does 1d-4 cutting damage to your head. A small price to pay for keeping your brain intact)

When the cable is connected, the implant allows direct mental control of the equipment. The user can operate an interface-equipped computer without touching the keyboard, control a remotely-piloted vehicle, fire an interfaced gun without pulling the trigger, etc.

The cost for an interface jack, *including* the surgery, is $50,000. Two weeks of recuperation are required afterward.

Making equipment (other than cyberdecks, which can *only* be run this way) neurally operable adds 75% to the cost of the item.

Using a neural interface is faster and more precise than manual control. Add +4 to effective skill level whenever interfacing with equipment in a situation where reaction speed is important (GM's call). This includes piloting vehicles, using jet or thruster packs, firing an interface-equipped weapon, etc.

Neural Cyberdeck Interface

Netrunners (see Chapter 3) use a special type of interface. These are described on p. 71. A regular interface jack cannot be used for netrunning. A cyberdeck interface includes both its own jack and special chipped interface software.

Implanted Computer

At very high tech levels (beyond the average cyberpunk world) a whole *computer* could be implanted in a human brain… or even a cyberspace deck. The GM should probably keep such devices as expensive, unreliable experiments, if they appear at all.

For more information about the human brain and computer storage, see *Ghostcomps* on p. 56 and *Braintaping* on p. 55.

Induction Helmet

This device allows you to "plug in" without actually having a socket in your head. It is from a higher-than-normal TL, so the GM should feel free to disallow it in his campaign.

There are three different levels of induction helmet. The first is a mirrored half-sphere with electrodes attached to it. It is placed on the user's head to establish contact. This is $75,000.

The second level is a miniaturized version that is incorporated into a necklace or amulet — it must be touching the body at shoulder level or higher, and costs $150,000.

The ultimate in induction technology is an *induction field.* All that is required is that the user be in a particular area to be plugged in. Cost is $200,000 *per hex* that the field encompasses.

An induction helmet has 10 standard chip slots.

3 TECHNOLOGY & EQUIPMENT

Many cyberpunk backgrounds assume a technology and equipment that differs only a little bit from Tech Level 8 in ***GURPS*** terms. Often medicine is farther advanced, to TL9, although the benefits of high-tech medicine are available only to the very rich.

This chapter covers most technology and personal equipment from a TL8 viewpoint, and medical technology at a slightly higher level. A few devices of a higher Tech Level are included because they seem especially appropriate. The GM who would like a significantly higher level of cybertech may refer to ***GURPS Ultra-Tech***.

POWER CELLS

An important feature of a cyberpunk campaign is that gadgets make the users very powerful… *while they work*. But a laser without power isn't even a good club. Most gadgets need a power source. If no power requirements are listed, the device needs none.

At TL8 and above, most equipment runs on standardized *power cells.* How they work is up to the GM. These rules assume that they use plutonium, metastable helium, antimatter, or some-thing equally esoteric and expensive. They can't be recharged, and can't be discharged quickly enough to explode. Any cell will store power indefinitely if not in use; they have an indefinite shelf life.

Types of Power Cells

There are six sizes of power cells, designated by letter from AA (the smallest) to E (the largest). Power cells increase in power exponentially. An A cell is ten times as powerful as an AA cell, a B cell has ten times the power of an A cell, and so on.

AA cell: This cell is a disk the size of a pinhead, 1/16" in diameter and 1/32" thick. AA cells are used to power microbots, brain implants, calculators, etc. They cost $2; 500 AA cells weigh one ounce.

A cell: An A cell is a cylinder 1/4" in diameter and 1/8" tall. A cells are used to power wristcomps, short-range radios and other devices with small power requirements. An A cell costs $10; 25 weigh one ounce.

B cell: B cells are cylinders 1/2" in diameter and 1/2" tall. They are used to power various sorts of hand-held equipment, including small, easily-concealable weapons. B cells cost $30; 20 weigh one pound.

C cell: This is a 1" diameter by 2" tall cylinder. C cells are the most common power source for personal weapons, tools and equipment. They are the most familiar power source in most advanced societies; equipment designed for larger or smaller cells often has an adapter for C-cell operation. C cells cost $100 and weigh 1/2 pound.

D cell: A D cell is a cylinder 2" in diameter and 4" tall. D cells power military weapons and heavy equipment; TL8+ battlefields are littered with expended D cells in the way that TL7 battlefields are littered with expended cartridge cases and machine-gun links. Each D cell costs $500 and weighs five pounds.

E cell: Each E cell is a cylinder 4" in diameter and 6" tall. E cells power vehicles, support weapons and other power-intensive systems. An E cell costs $2,000 and weighs 20 pounds.

Replacing Power Cells

It takes three seconds to replace an A, B, C or D cell with a new one, or six seconds to replace a tiny AA or larger cell. Speed-Load (Power Cell) skill (see p. B52) applies to B and C cells being reloaded into weapons. Successful use of this skill reduces the time to one second. Life-support systems, and other items that cannot afford power interruptions, have two or more cells, so that if one is drained another takes turn immediately. They are also usually equipped with a warning system to notify the user that one cell has been expended.

PERSONAL WEAPONS

In most cyberpunk worlds, personal electromagnetic weapons — Gauss guns and lasers — are available. Rapid-fire lasers are the deadliest small arms, but cheaper, chemical-propellant slugthrowers are still in wide use. Gyroc weapons — rocket guns — are a compromise between expensive lasers and cheap slugthrowers. They are recoilless and extremely versatile.

Most personal electromagnetic weapons are constructed of high-impact plastics or composite plastic/ceramic materials. LCD displays show the number of shots remaining in the power cell or magazine, and are generally "vacuum-proofed" so they can be used in space if necessary. Cheaper and older weapons usually lack these features.

Laser scopes, head-up display sights and personalized firearm locks are all available at extra cost — see *Weapon's Accessories*, p. 46.

Chemical Slugthrowers

Conventional pistols and rifles use a chemical reaction to propel a solid projectile, causing damage through kinetic energy. In cyberpunk, the main advantage over older firearms is in the ammunition. Rather than using an ejectable cartridge case, the bullet is embedded in a solid cake of propellant, which is consumed when the bullet is fired. Caseless ammunition lowers bulk and weight and increases magazine capacity. Ammunition is usually in pre-packed disposable cassettes; a whole cassette can be loaded into the weapon's magazine at one time, or cassettes can be broken down and a magazine topped off with loose rounds. Loading or reloading a cassette takes 3 seconds; Fast-Draw (Magazine) can reduce this to 1 second. Topping off with loose rounds takes 1 second per round.

Another benefit is that no ejection port is needed for spent cases — the weapon can be completely sealed against dirt. These chemical slugthrowers have a *Malf (malfunction number)* of *Ver*. This means that they only malfunction on a verified critical miss; on a critical miss result that is a weapons malfunction (jam, misfire, etc.), roll again against Guns. Any failure verifies the roll and the weapon malfunctions; any success is simply a miss and the weapon keeps working.

All conventional slugthrowers suffer penalties in zero or micro gravity — minimum ST to hold recoil is increased by 5. Muzzle brakes are available for all guns at 50% of the cost of the weapon; with a muzzle brake the increase to minimum ST is only 3.

Modifying Slugthrowers: Both the machine pistol and assault carbine described below are fully automatic weapons, but semi-automatic (RoF 3.5) civilian versions are available; legality class is 2 and higher. If he doesn't mind risking jail, a gunsmith can convert one to full automatic in four hours on a successful Armoury-2 roll. Failure requires another try (and four more hours), critical failure breaks the gun.

Chemical Slugthrower Weapons (see tables, p.60)

Sporting Pistol: Used for small-game hunting and target shooting, the sporting pistol is likely to be available and legal even if other gunpowder weapons are not. It fires the caseless .20 short round, which does only 1d damage; special (explosive, armor-piercing) ammo could be custom made for it at triple cost, but is not usually available. It uses the Guns (Pistol) skill. Ammo weighs 1/8 pound and costs $10 per ten-round cassette.

Machine Pistol: This is a typical military sidearm, firing a caseless .40 caliber bullet from a 30-round magazine.

Loaded with armor piercing or explosive bullets, this weapon can penetrate light combat armor. Because of the bullet's high caliber, damage that gets through DR is x 1.5. Recoil is only -1 if used two-handed. It is fired using the Guns (Pistol) skill. An efficient silencer is available ($200, 1 pound); when silenced, damage is only 2d+2, but a Hearing roll at -2 (0 if autofired) is needed to hear it even if the listener is in the same room. Ammo weighs 1 pound and costs $20 per 30-round cassette.

Assault Carbine: The carbine is a short, bullpup-style automatic rifle, fired using the Guns (Rifle) skill. It is cheaper to build than a military laser, though not as lethal nor quite as good at penetrating armor, even with APS bullets (see below). One feature is its twin 30-round magazines, both feeding into the same firing chamber. Each magazine can be loaded with a different type of ammunition, usually a mix of armor-piercing and explosive rounds. The firer can select between magazines; on a successful skill roll this does not take an action, but it must be announced before firing. Ammo weighs 1 pound and costs $30 per 30-round cassette.

Special Slugthrower Amunition

A variety of special ammunition is available for conventional slugthrowers.

Armor-Piercing Saboted (APS) rounds use a high-density depleted uranium or tungsten-carbide penetrator encased in a much larger plastic sheath — the "sabot" — which is designed to fall away as the round leaves the barrel. This gives a flatter trajectory and much higher velocity to the smaller, sub-caliber bullet. Increase 1/2D and Max ranges by 50% and add +1 to damage per die. More importantly, the target's armor protects with only half its DR. However, because of the small size of the projectile, APS rounds do less damage to living tissue; halve the damage that gets through armor (round damage down). APS rounds cost five times as much as standard ammunition and are Legality Class 1.

Plastic Bullets are used for riot suppression. They do half the damage of regular ammunition, and have half the normal range. They are still deadly, particularly if they hit the head or vitals. They cost the same as normal rounds and are Legality Class 4.

Explosive Bullets are -1 per die to bullet damage (e.g. an assault carbine does 6d-6) and double the DR of any armor they hit. In addition, they do 1d of explosion damage. If this explosion damage is on the surface of personal armor, it only does blunt trauma damage to the target underneath (1 point of crushing damage for each 5 or 6 rolled). If the bullet penetrates armor and buries in meat, the explosion damage is ldx5 in addition to the bullet damage. Explosive bullets have a 50% chance of setting fire to flammables. Explosive ammunition is twice the cost of standard and is Legality Class 0.

Gauss Needlers (see table, p.60)

Gauss needle weapons use a magnetic impulse to fire heavy steel slivers. They are recoilless automatic weapons, and use the Guns (Needler) skill.

Monocrys has minimum resistance to needles (see p. 49). Gauss needlers are widely used by security guards; they are not as heavily regulated as beam weapons, are small in bulk and weight, and can fire a lot of shots without reloading.

The enormous rate of fire of Gauss needlers makes them especially deadly to unarmored targets. Since they are effectively recoilless, it is easy for a skilled shooter to get most of the shots from a long burst into the target. The long needles are unstable in flesh; damage to living tissue (that which gets past DR) is x2. Their weakness is rigid armor; the thin, frangible needles disintegrate against anything they cannot penetrate. The DR of anything but open-weave armor — mail, Kevlar and monocrys, for instance — is doubled against needles.

Gauss needlers produce a crack as the needle breaks the sound barrier. However, since they have no muzzle flash, this sound is hard to localize; a Hearing-2 roll is necessary to locate the firer by sound alone.

For an extra $500 a Gauss needler may have a variable-velocity setting (it takes one turn to switch settings). Needles can then be fired at normal or low velocity; when fired on low-velocity setting they do 1/2 damage, but are *subsonic;* the noise they make is no louder than a mosquito. On low-velocity setting they can also fire drugged needles — use spring needler rules, p. 46.

Each Gauss pistol and rifle magazine contains a B cell, which is almost completely discharged after firing its 100 needles. Magazines can be reloaded with a new cell and needles; this takes an Armoury roll and 60 seconds. A fully-loaded and charged pistol magazine weighs 1 pound and costs $55; a rifle magazine is 1 1/4 pounds and costs $65. Needles are $25 and 3/4 pound per 100. Needles for Gauss rifles and pistols are interchangeable, but the magazines are not. Ammo for spring needlers and Gauss needlers is not interchangeable.

Gyros

Gyroc weapons fire .75 caliber spin-stabilized rockets. Along with lasers, gyrocs are basic infantry and police weapons. The use of a standardized caliber of ammo for all gyroc pistols, carbines and machine guns makes them easy to supply, while the low stress of rocket firing enables them to fire high-caliber bullets without requiring heavy construction. More than half of a gyroc weapon's weight is its ammo load.

Gyroc weapons use the Guns (Gyroc) skill. Effectively recoilless, they are not silent. The hissing sound the rockets make is hard to localize; a Hearing-2 roll is needed to spot the firer by sound alone.

Since they are propelled by a rocket motor, gyrocs have a flat trajectory and a long 1/2D range. They lose velocity fast when the motor burns out, so maximum range is not much longer. Gyrocs start slowly and do less damage close to the muzzle; see the descriptions below.

Gyroc weapons are available in pistol, carbine and machine gun configurations, but the different weapon types only affect the weapon's SS, Acc, range and RoF; damage of a gyroc weapon depends on the ammunition being used. There are several different types of gyroc rounds, each designed for a different application:

APEX (Armor-Piercing Explosive): APEX is the usual military round. It has a big motor and the projectile is a maximally-streamlined shell around a super-hard penetrator packed with explosive and fitted with a delay fuse. APEX halves the DR of armor it hits. APEX rounds have a fast-burning first stage; they do 3d crushing damage to one yard, 6d to two yards and 8d from there to 1/2D. In addition, they do ld+3 explosive damage. If the projectile is in flesh when it explodes, damage is x5. APEX rounds have a 50% chance of igniting any flammable they explode against. Legality Class is 0. Because the initial firing is so much more boisterous, unfamiliarity penalties are doubled for anyone shooting APEX rounds. APEX rounds cost $500 per hundred.

CHEM (CHEMical): The CHEM round does 1 point of crushing damage to one yard, 1d-3 to two yards and 1d to 1/2D. The filler covers one hex for three seconds. Price is $100 per hundred, plus filler costs.

HEX (High EXplosive): HEX rounds are designed for use against unarmored targets. They do 1d of crushing damage to one yard, 2d to two yards and 4d to 1/2D. In addition, they do 2d explosive damage. Buried in flesh, they do damage x5. HEX has a 2/3 chance of starting fires; the incendiary effect is enhanced. Legality Class is 0; cost is $300 per hundred.

SLAP (Standard Light Anti-Personnel): SLAP is the usual police and civilian load for gyroc weapons. This round does 2d crushing damage to a range of one yard, 4d to a range of two yards, and 6d thereafter as it reaches full velocity. Because of its large caliber, damage that exceeds DR is multiplied by 1.5. Legality Class is 3 and cost is $150 per hundred.

Stingray: The stingray round is a highly-charged capacitor sheathed in an insulator which is burned off in flight. The stingray does 1 point of crushing damage to one yard and 1d-3 to two yards. Beyond this, it does 1d crushing damage and delivers an electric shock. The victim must roll against HT, with a +1 to HT per 5 points of armor DR. On a critical success he takes no damage. On a success, he loses 1d fatigue. On a failure, he loses 3d fatigue. On a critical failure, his heart stops and he goes to 0 HT. He dies in HT/3 minutes unless someone makes a CPR roll (against Physician or First Aid-4) to save him. Legality Class is 4 and cost is $300 per hundred.

Gyroc Weapons (see tables, p.60)

Launch Pistol: This is a standard police weapon, usually loaded with stingray, CHEM and SLAP rounds (see p. 44). It uses three separate magazines (on the bottom and each side) feeding into the same firing chamber. Each magazine has a three-round capacity. The pistol can be set to strip a round off any magazine. Selecting a magazine can be done in no effective time with a Guns roll; failure counts as a ready-weapon action. This allows rapid alteration between different ammunition types in the middle of a firefight. The gun will automatically switch to the next magazine if one is emptied, moving from bottom to right to left to the bottom magazine again. Each three-shot cassette of gyrocs weighs 1/2 pound and costs $6.

A six-shot revolver version of the launch pistol is also available; there is only one magazine and the cost is halved, but different rounds can be loaded into each chamber. Loading is with loose rounds, not cassettes; loading each chamber takes 2 seconds. Police usually load two stingray or gas rounds and four SLAP, figuring that two chances to surrender are enough.

Rocket Carbine: The carbine is a rapid-fire military assault weapon. It has two magazines, each with ten rounds, and is capable of automatic fire. Switching between magazines uses the same procedure as the launch pistol, described above. When one magazine is empty, the weapon automatically switches to the next. Amunition weighs 2 pounds and costs $20 per ten-shot cassette.

Automatic Rocket Launcher: The third weapon in the gyroc weapons, the ARL is a general-purpose machine gun. Loaded with a cassette of APEX rounds, it is often mounted as a secondary weapon on armored fighting vehicles. With gas or stingray rocket it is used on police vehicles for riot control. The weapon is equipped with three separate 20-round cassettes and the gunner can switch between them each turn (see Launch Pistol, above). When one is empty, the weapon automatically switches to another. Ammunition weighs 3 pounds and costs $40 per 20-shot cassette.

Lasers

LASER was originally an acronym for *Light Amplification Stimulated Emission of Radiation*. In cyberpunk worlds, the name has become generic; any coherent energy beam is called a laser. A laser has no recoil, either for successive shots in the same turn or for successive groups in a burst. It is thus so accurate that the dispersion of shots is less than the diameter of the beam.

Because of this, automatic fire lasers use special rules. When a laser is fired on full automatic setting (see p. B119-120 for automatic fire rules), successive shots from *all* groups fired in the same turn at the same hit location are effectively a single beam. Instead of making defense rolls and applying armor or force screen DR separately against each "round" that hit, only one defense roll is made, and if it fails, the damage from all rounds striking the target is *totalled* into a single damage roll *before* subtracting DR.

For example, if eight 2d shots are fired, and five of them hit, the target would get *one* Dodge/PD roll. If he made it, the entire burst would miss. If he failed, all five rounds do damage as a single 10d attack, which will have a much better chance of penetrating armor than five separate 2d attacks!

Semi-automatic lasers cannot be held on target precisely enough to get this armor-penetrating bonus. The mechanical action of firing each shot is enough to disperse it.

Lasers are fired with the Beam Weapons (Laser) skill. They do impaling damage, so damage that gets through DR is doubled. Reflec armor is very effective against lasers, as are some mirrors and other reflective surfaces. In rain, fog or smoke, lasers do half damage or less. Smoke bombs and blackout grenades block lasers entirely.

In vacuum, laser weapons are silent and invisible, but not in any kind of atmosphere — while the beam itself is invisible, a laser weapon (though not, of course, a normal sighting or communication laser) is powerful enough to ionize the air, leaving a trail of sparks and producing a sharp crack as air rushes into the vacuum left in its wake. While this means it is easy to spot a laser gunner, when autofired it enables the laser firer to see exactly where his shots are going and use the weapon like a garden hose (see *Aiming Successive Groups*, p. B121), greatly improving accuracy.

Any laser hit to the face (location 5 from the front, see p. B211) blinds the victim unless he makes a HT roll, +5 if wearing anti-glare goggles, whether or not the hit penetrates armor. If blinded he may recover later — roll as per crippling injuries. If any penetrating damage gets through to the eye, permanent blindness results.

Modifications

Lasers are often modified. For an extra $50, a laser weapon can serve as its own laser sight (see p. 47). The weapon then has a two-stage trigger; first pressure on the trigger activates a low-intensity aiming beam that places a visible dot where the weapon , is pointed. When the target is acquired, the firer simply presses harder to increase the intensity of the beam.

For an extra $100, a laser can have a more variable beam, making it useful as a tool. Welding uses one "shot" every 5 seconds; cooking a meal would use one shot per minute; a weapon can even be used as a flashlight, expending one shot every five minutes. A variable-beam laser weapon can also be used to light a fire, expending a trivial amount of energy (100 fire starts in dry wood equal one shot; GMs can decide how much more for damp wood if the problem comes up).

Various *illegal* modifications can be made to convert civilian weapons to military specifications, giving them a continuous beam, higher power or more shots. These are described in ***GURPS Ultra-Tech.***

Laser Weapons (see tables, p.60)

Laser Pistol and Rifle: These are the most common civilian laser weapons. They are sufficiently powerful for most unarmored targets, but have very limited effect against armor. The laser pistol is very small and easily concealed (+2 to Holdout). They are a favorite of criminals. A laser burn cannot be identified, whereas a bullet can often be traced back to the gun it was fired from.

Military Laser Rifle: This is the basic military personal weapon, and has become as widespread as the flintlock musket was in its time. The main reasons are its lethality and its reliability. A burst of eight shots can do up to 16d of damage, penetrating most armor. It malfunctions only on a jam or misfire result of a critical miss, and then only if the malfunction is verified by rolling a second critical miss; that is, Malf is Ver.(Crit.). Any result except another critical miss on the second roll means the laser does not malfunction, it simply misses the target.

Military Laser Carbine: A shortened "assault" version of the Military Laser Rifle.

Heavy Laser Pistol: A common military sidearm, widely used by those police who are allowed lethal force.

Sniper Mirror: A laser gunner may set up an high quality optical mirror for ambushes. The sniper can fire at the target's image in the mirror, the beam will reflect off and strike the target. The range is equal to the range of the target to the mirror, plus the range from the mirror to the sniper. The laser's Acc is -2. Strategically set (the GM may require a Traps/TL8 roll) these mirrors allow a laser sniper to fire around corners, and may confuse the enemy about the direction from which fire is coming. The standard mirror is about two feet across when unfolded, but folds to the size of a paperback book. Cost is $50 and weight is 1 pound.

Needlers (see tables, p.60)

Spring needlers (or just "needlers") use the Guns (Needler) skill. They fire thin, needle-like flechettes by means of a gas-propelled spring, and are sometimes called "spring-guns." They are silent, semi-automatic weapons, with a slight (-1) recoil. Needlers are useful to assassins, and are therefore found even when "better" weapons are available.

Needlers carry their gas cartridge in their ammo magazines. Magazines can be reused, but new, commercial ammo should be used if at all possible. It is possible, but very difficult, to make needler ammo, because the tolerances are so close. An Armoury-5 roll, and good equipment, is required. A failed roll will ruin the weapon on the first attempted shot when the bad needles are used. (GMs should make the Armourer roll; on a failure they can tell the armourer that the needles are bad; on a critical failure they just note it down and wait until the firing attempt is made. The armourer can still sell bad needles to unsuspecting customers, of course.)

Needlers may also fire needles coated with one dose of any drug or poison. Drugged needles do no damage (they may not even be noticed — roll against IQ), and only penetrate armor with a DR of 2 or less vs. impaling weapons. (Toughness does not add to DR in this case).

Standard drugged needles are nonmetallic and biodegradable. Three hours after the needle penetrates and delivers its drug, the target's own metabolism (if he's still alive) will have dissolved it, leaving no evidence. It is particulariy difficult to detect a needle while being stung by insects; -2 to an IQ roll to be aware of the attack.)

Tanglers (see table, p.69)

Tanglers are short, stubby weapons that resemble 20th-century riot guns or flare pistols. They use a compressed-gas propellant to fire egg-shaped capsules that release a number of strong, sticky strands to wrap around and completely immobilize a target Use Guns (Tangler) skill to fire them; recoil is high (-4).

The major advantage of tanglers is their ability to incapacitate soldiers in even the heaviest armor. The victim can then be dispatched in many ways — such as the old Marine joke about bringing up a high-powered drill and boring him to death.

To escape such a fate, the victim may try one Contest of Strength per minute to break the strands; the strands are ST 20. Alternatively, if the victim is fully clothed, an Escape-3 roll (one try every ten minutes) will let him wriggle out of the clothes and escape. Any failed attempt to break free results in the strands constricting, causing 1 point of damage.

Ten hits from intense heat, such as a laser or flamer, will free the victim, but he will also take full damage from the weapon if he isn't otherwise protected. The strands are too tightly wound around the victim, and too sticky, to be cut off. The easy way to remove tangler strands is with anti-tangler aerosol spray. A can costs $100, weighs 2 pounds, and treats 25 captives at one per turn. If a target is hit by multiple tangler rounds, each additional round adds 5 to the ST of the strands and -1 to any Escape attempt. The strands lose their constricting ability after 24 hours, then lose ST at a rate of 1 per two hours.

Anyone hit by a tangler round has an extra Dodge roll to evade the strands before they close, but neither armor PD nor DR protects against being hit by tanglers, as they simply wrap around the armor as well as the person wearing it. Any armor with DR 2+ protects totally against the constriction damage, however.

WEAPON ACCESSORIES

Power Holster: This is available for any pistol-type weapon or knife. It consists of three parts: a wrist sensor unit, a homing sensor on the handgrip of the weapon and a break-away holster. When the wrist sensor detects nerve impulses that mean the wearer wants to draw, the holster ejects the weapon toward the hand. This lets the weapon be readied instantly.

For game purposes, treat this as a separate Fast-Draw skill. However, Fast-Draw (Power Holster) rolls always have a +2. Failure indicates the weapon isn't gripped properly and still requires a turn to ready. On a critical failure, the weapon bangs the user's fingers and falls, or at GM's option, the user is shot/stabbed in the foot! The holster gets 100 ejections on a B cell. Cost is $1,000 and weight is five pounds. Each make of weapon requires a specially-made holster. Price doubles if the weapon is very unusual.

Articulated Weapon Harness: Used to steady very heavy weapons, it straps on like a backpack and has a chest plate in front, with a supporting arm and three articulated hydraulic joints positioned to allow universal motion and easy suspension. The harness reduces ST requirements for the weapon it was designed for by 3; a harness designed for a Gatling laser would allow the laser to be fired from the hip by someone with ST 12. Weight is 5 pounds and cost is $600.

Anti-Theft System: A basic anti-theft system may be installed in any weapon; any attempt to fire the weapon without unlocking it first will disable the firing circuits. To disable the anti-theft

system, make a roll against Electronics Operation (Security Systems); a failed roll at least permanently disables the gun, and may have other nasty consequences (explosive charges etc.). This costs $100, or $250 for a laser key system (-1 to Security Systems skill) systems; double cost for each additional -1 to a maximum of -5 ($4,000).

D-Tag: This is a tiny receiver built into a weapon or other item. Upon receiving a coded signal on a specific radio frequency it sends out a homing signal. D-tags are often built into police equipment, and some regimes may put them in weapons sold to civilians to control them. A successful Electronics Operation (Security Systems) roll is required to find it; a second roll (at -2) must be made to disable it without disabling the weapon. A D-tag costs $20.

Laser Sight: Attached to any pistol or rifle weapon, this item adds 2 to Acc and halves the weapon's SS number (round *up*). When turned on, it projects a low-powered laser beam, placing a dot at the point where the weapon will hit. It can be tuned to use an infrared laser beam, projecting a dot invisible without an infrared vision system. It gets 200 shots on a B cell. Weight is 1/2 pound and it costs $250.

Head-Up Display (HUD): A HUD is mounted in a helmet or pair of special goggles. It displays visual information (vehicle instrument readouts, a computer screen, targeting crosshairs) by projecting it directly onto the wearer's visor. Any piece of electronic equipment (sensors, control panels etc.) which uses a visual display screen may be connected to a HUD by a short cable or a communicator link (most electronic gadgets have a socket and cable for this).

Once connected, sensor or instrument readouts are then pro-jected directly onto the user's goggles or faceplate. This adds +1 to skill level of skills such as Driving, Piloting or Free Fall where quick reaction to information is important — maneuvering with a thruster pack, for example. Note that all vehicle gunnery computers are automatically assumed to be using HUDs at TL8+, and the bonus is already factored into the chance of success.

A set of HUD goggles costs $500 and weighs 1/2 lb; it will run off an A cell for a year, or can use the same power as other helmet or suit systems.

HUD Sights: All TL8 rifles and carbines include basic low-light (image intensification) and telescopic sighting systems at no extra cost; bonuses for these sights are already included in the weapon's accuracy. But weapon sights need not be mounted on the gun; they can be part of a head-up display in a helmet or goggles. They must be connected (using a short cable) to the wearer's helmet HUD. When the sights are activated, a targeting reticle is displayed on the users's HUD which shows the wearer exactly where his gun is pointing, reducing its SS number by 2. If a laser scope is being used the sights will also project range-finding information, telling the user how distant the target is.

Fining a weapon to use a HUD sight costs $500; weight added to the weapon is negligible. To use the sight, the wearer must have a head-up display mounted in his helmet or goggles.

MELEE WEAPONS

Improvised and low-tech weapons are still popular in the world of the future, and still pretty much the same as they've always been. Technology has made some unexpected improvements, though; in general, melee weapons are lighter and stronger than before, and there are a few *new* weapons out there that couldn't exist in the 20th century.

Super-Fine Blades

Standard medieval weapons can be manufactured at "cheap" cost, fine weapons for normal cost. and very fine weapons for the cost of a fine medieval blade (see p. B74). "Super-fine" durasteel swords and knives can be made, adding +3 to damage and costing 20 times the price of a normal blade. All quality bonuses are cumulative with the vibro enhancement (see below), but they multiply the cost by the price of a vibro blade, not a normal one!

Stun Wands

Also called shock clubs or stun sticks, these are batons which use a very low-powered electric current to disorganize nerve function. They are often carried by police officers and MPs. Some are *jointed*, to prevent a victim taking damage even when struck by an adrenaline-charged riot policeman; others do damage as a baton. In addition to any damage from being struck by the baton, the victim must make a HT-3 roll to avoid being stunned; if stunned, the victim loses 1d fatigue and remains stunned for as long as the weapon is in contact, and (20-HT) seconds longer, before any recovery rolls are permitted. HT can be modified up by +1 per 10 points of DR for purposes for stun determination.

Stun wands are wielded using Shortsword skill. Stun wands, using a B cell, strike 20 times before losing power. They weigh 1 pound and cost $100.

Vibroblades

These weapons vibrate thousands of times per second. This adds 1d to the regular damage of the weapon, in addition to any bonuses for weapon quality (see above). Because the blade vibrates so rapidly, its movement is invisible, and it is impossible to tell a vibroweapon from a regular weapon of the same type. A Hearing roll made from 1 hex away will detect a faint hum that marks the vibroweapon for anyone familiar with it. Anyone parrying (or whose weapon is parried by) a vibroblade will realize the vibroblade's nature on an IQ roll.

Vibroweapons are powered by B cells. To find the life of the battery, divide one hour by the weapon's weight in pounds. Thus, a half-pound knife runs for two hours, but a five-pound sword vibrates for only 12 minutes.

Turning on the vibro effect takes one turn. A successful Fast-Draw roll activates it as it is drawn. When not activated it performs like a normal weapon.

Any cutting weapon can be made in a vibro versions. Regular knives of all sizes cost $200 extra in vibro; regular swords of all sizes cost $400 extra and are less common. Any other weapon (e.g. a vibro halberd) would be very unusual, costing $1,000 or more over the cost of a regular weapon, if it's available at all.

HEAVY WEAPONS

Grenades

Hand grenades are still used for close combat, but all hand grenades are also designed to be fired by electromag launchers, eliminating the need for two different kinds of ammunition.

All grenades weigh 1 pound; they are made of plastic, but come with a removable metal sabot enabling them to be fired from electromag and mini-grenade launchers. To use a grenade, the activator is pressed and the grenade is thrown: if the delay was 1 second, the grenade will then explode immediately. It takes one turn to set or change the delay on a hand grenade and another to press the activator and throw the grenade. If the grenade is loaded in a grenade launcher, either the delay or impact setting must be preset (most grenades are set to explode on impact) and activation is automatic when the grenade is fired.

The ability to throw a hand grenade where you want it is the Throwing (*not* Thrown Weapon) skill: see p. B49. The range of a hand grenade depends on ST (see p. B90). A grenade miss may *scatter*; see p. B119.

Types Of Grenades

All but chemical and flare grenades are Legality Class 0. Chem grenade legality depends on the chemical used; flares are Legality Class 5.

Chemical Grenades: These come in many varieties, from sleep gas and nerve gas to smoke and prismatic smoke. They create a cloud with a radius of six hexes. Chemical grenade clouds may disperse within a few seconds or linger for minutes, depending on the wind. Most chemical clouds last for 300 seconds before dispersing; divide this by the wind speed in mph. Most chemicals have no effect once dispersed, but some virulent poison gases will cause injury even when greatly diluted. See *Biochemical Weapons*, below, for different types that may be used in grenades. Cost is equal to ten doses of the chemical.

Concussion Grenades: These are similar to frag grenades, but fragmentation is limited to that picked up from the ground a the site of the explosion — see pp. B121-122. Concussion grenades cost $20.

Flare: These grenades release a pillar of smoke and burn brightly, even underwater, removing all combat penalties for darkness over a 100-yard radius. They may start fires if in contact with flammable material, or do 2d of burn damage to anyone directly hit by one. If a flare is set off, anyone within 15 yards who is looking in that direction without anti-glare protection must succeed at a HT roll or be blinded for (20-HT) seconds. Roll against HT+3 if more than five yards away; roll at HT-3 at night (modifiers are cumulative). Flares burn for five minutes; they are visible to the horizon if fired at ground level and for up to 20 miles if fired in the air (weather and intervening terrain permitting). Flares cost $5.

Fragmentation Grenades: Frag grenades do 6dx2 concussion damage and 2d cutting damage; see p. B121 for explosion rules.They cost $20.

Grenade Launchers (see tables, p.60)

All grenade launchers may fire any of the grenades described above, usually set for contact detonation, though they may be timed instead. Misses will result in scatter, see p.B119. In magazine-fed launchers, grenades of different types may be mixed in each load.

Electromag Grenade Launcher: An EMGL is a short, stubby shotgun-like weapon, similar to 20th-century grenade launchers, with a magazine of five grenades. Essentially a small mass-driver, it uses a magnetic impulse to propel grenades. It is recoilless, and except for the crack as the grenade breaks the sound barrier, silent. For an extra $500 the launcher's velocity can be varied by the gunner, so subsonic shots can be fired, silently, with 1/4 normal range.

Electromag grenade launcher's may fire one round per turn. Grenades may also be loaded and fired one at a time, but it takes 1 second to load each grenade and 1 second to fire. A magazine weighs 5 pounds; cost depends on the load. The launcher will fire 100 grenades on a D cell. At triple cost and weight, fully automatic versions of the electromag grenade launcher are available. Automatic EMGLs fire from a 20-shot magazine (weighing 20 pounds), with a RoF of 4.

Electromag Mortar (see tables, p. 60)

Basically a large indirect-fire electromag grenade launcher, this weapon is a heavy base-mounted tube. All grenade types described above are available as mortar shells. In general, cost and weight double. A fragmentation or concussion shell does 6dx4 damage; a gas shell covers an 8-hex radius.

Cluster Bomblet shells are available for mortars. They burst overhead, scattering six bomblets over a 15 yard radius around the impact point. Assume each bomblet scatters in a different direction, landing 3d-3 hexes away from the target hex. Each bomblet does 4d concussion damage and 2d (cutting) fragmentation damage. Cost of cluster bomblet shells is $50.

Heavier Weapon

For stats on heavy antivehicular weapons and artillery, set ***GURPS Ultra-Tech.***

Biochemical Weapons

Aerosol sprayers, grenades, gyrocs and mortar rounds may all deliver chemical rounds; price is per "dose" (see p. B132). Ten doses are used in a grenade, 30 in a mortar round and one in a gyroc. An aerosol can sprays one dose at a time and holds five doses. As well as tear gas and smoke (see p. B132), other chemical agents may be used.

Sleep Gas: For every turn spent in a sleep gas cloud without holding his breath, the victim must roll against HT-4. If he misses the roll, his ST goes to 0 and he falls asleep. If he makes the roll he takes 1 point of Fatigue. If Fatigue drops to 0, he falls asleep. If he leaves the cloud, he may regain lost ST normally. Those who fall asleep remain so as long as they continue to breathe the gas, and for at least 30-HT minutes after that. When that time is up, the victim must roll against HT each minute to awaken. He may be awakened normally by a successful First Aid roll. Sleep gas costs $5 per dose; Legality Class is 5.

Nerve Gas: This is a contact agent — only sealed armor, or an NBC or vacc suit, will prevent exposure. Each turn, anyone exposed to nerve gas takes 1 hit of damage, or 2 hits if not wearing a gas mask. He must also make a HT-4 roll each turn (unless wearing airtight armor); if it is failed, he will be paralyzed for (30-HT) minutes, and take 4d of damage if not given an antidote within five minutes. Nerve gas costs $5 per dose and is Legality Class 0. Earlier poison gases are also available; they are distinguished by different colored markings on the grenade or canister. See p. B132 for typical poisons.

Blackout Gas: This gas creates a nearly opaque cloud of thick, inky-black smoke that covers the area of effect. Everyone in the cloud functions as though in complete darkness: any action requiring sight is at -10, or is impossible (see p. B92). Light intensification is useless, but infrared vision reduces the penalty to -5, and non-light-based senses or sensors (such as radar or sonar) are unaffected. Lasers (except for X-ray and gamma-ray lasers) cannot penetrate the cloud. Anyone without breathing gear must make a HT roll each round or take 1 point of damage. Cost of blackout gas is $3 per dose and it is Legality Class 5.

Prism: This forms a slightly opaque cloud of prismatic crystals, designed to reflect laser beams and block radar. Radar, laser fire, lasercoms, laser scopes and laser designators cannot penetrate the cloud, but normal vision is only at -1. Prism is harmful if breathed; the effects are as with Blackout gas (see above). Prism costs $5 per dose and is Legality Class 5.

ARMOR

Improved materials technology based around zero-gee composites and synthetics has ushered in a new generation of light-weight, incredibly damage resistant, and, most important, *comfortable* personal armor.

Monocrys

The usual armor worn by civilians seeking discreet protection, Monocrys is similar to Kevlar but is woven of a two-phase, single metallic fiber. Monocrys provides full protection against crushing and cutting attacks. It is less effective against impaling attacks such as needles or laser bolts, which penetrate the weave. Protection against impaling attacks is always PD 1, DR 2. Against crushing and cutting attacks, DR depends on thickness.

Light: PD 2, DR 8. $400, 3 lbs. for a vest; $1,000, 7 lbs. for a full suit.

Medium: PD 2, DR 16. $600, 5 lbs. for a vest; $1,500, 12 lbs. for a full suit.

Heavy: PD 2, DR 24. $800, 7 lbs. for a vest; $2,000, 16 lbs. for a full suit.

However, because monocrys is flexible, any "6" rolled for damage indicates one hit that affects the wearer through the armor.

Time to put monocrys armor on and take it off is as per ablative armor, below.

Ablative Armor

This is a heavy, treated cloth that offers protection against beam weapons. It ablates, or vaporizes, as it is hit, carrying away part of the destructive power of the beam. It is also effective to some extent against other weapons. It's much more useful against a single assassin than it is in a firefight. Because it is extremely cheap, it is often used to equip militia or conscript armies.

Against lasers, flamers and blasters, ablative armor gives PD 4, DR 12. Against other weapons it gives PD 1, DR 1. However, the ablative effect means that each 4 hits a particular location (arm, torso, etc.) stops reduces that location's DR by 1; for every 3 points of DR reduced, PD is reduced by 1.

Ablative armor comes in vests that cover the torso only (locations 9-11, 17-18), or full suits covering everywhere but the head, hands and feet. It is too bulky to be worn under or tailored as normal clothing, but can be concealed by a heavy overcoat or jacket, or tailored to resemble fatigues. Vests take 10 seconds to put on and five to take off, weigh 15 pounds and cost $100. Full suits weigh 40 pounds, cost $300 and require 20 seconds to put on and 10 to take off.

Reflec Armor

Reflec is a light, highly-reflective armor of polished metallic fibers that reflects laser fire, and that of other beams to a lesser extent. It is useless against other attacks. It can be worn over other armor, giving the wearer the benefit of its PD. Reflec gives PD 6, DR 2 against lasers and flamers; PD 3, DR 0 against other beam weapons, including blasters but not sonics, and PD 0, DR 0 against all other weapons. It protects completely from normal fire (but not flamers) for 3 seconds, after which normal damage is taken.

A jacket (covering torso and arms only) costs $150 and weighs 1 pound. A suit covering the entire body costs $300 and weighs 2 pounds. It takes 20 seconds to put on a suit and 10 seconds to take it off (ten and 5 seconds for a jacket).

Reflec helmets (made of light plastic, silvered) weigh 1/2 pound and cost $25. Any helmet can be made reflective, getting the PD of reflec, for $50.

Ablative Foam

Ablative foam can be applied to skin or to body armor. It is a 1/2-inch-thick layer of sticky foam, available in a variety of camouflage colors. It gives DR 8 against beam weapons, except sonics, but each full 8 hits of damage boils away 1 DR. The foam gives DR 1 against other attacks. A tube covers one person or two square yards; a spray-can covers a vehicle or up to ten square yards. Generally, only one layer of foam can be used on a person, while up to three layers can be applied to vehicle armor. Application takes three turns per square yard or person. As well as providing DR, ablative foam is somewhat radar absorbent; -3 for radar to detect anything covered with it. Weight is 1/2 pound and cost is $10 for a tube, one pound and $40 for a can.

Combat Infantry Dress

The standard body armor worn by soldiers. Combat Infantry Dress consists of a chemically-coated and contamination-proof jacket and pants worn as an external garment: the suit comes with pockets, attachment points and harnesses for holding weapons or gadgets.

The wearer's chest and abdomen are protected by durasteel plates inserted in a compound fiber mesh which provide PD 4, DR 40 over the torso (areas 9-11 and 17-18). Armorplast plates and compound fibers protect the arms and hands (areas 6, 7, 8) with PD 2, DR 12. Similar pants are available to protect the legs (locations 12, 13-14) with PD 2, DR 12; armored boots cover the feet (15-16) providing PD 3, DR 15.

A Combat Infantry Dress jacket with gloves weighs 25 pounds and costs $300; the gloves on their own weigh 2 pounds and cost $30. Combat Infantry Dress pants weigh 10 pounds, costing $140. The boots weigh 5 pounds and cost $70. A complete suit, excluding helmet, weighs 40 pounds and costs $510. If the entire suit (gloves, pants, jacket, and boots) is worn with the Combat Infantry Helmet, it is totally sealed against chemical and biowarfare agents and unbreathable atmospheres, though it is not pressurized for vacuum.

It takes 45 seconds to put on Combat Infantry Dress, or 20 seconds to remove it, or 1/3 this if only the jacket or pants are to be worn and the suit is left unsealed.

Combat Infantry Helmet: Normally worn with the rest of the Combat Infantry Dress, this is a full-face, full protection helmet. Two CBR filter units are built into the cheek pieces, and when swung down and locked into place on the attachment points of the torso armor, the visor provides a complete air-tight seal for operations on a hostile battlefield or in a contaminated atmosphere. The helmet has PD 4, DR 18, except for the visor (covering the face, location 5 from the front) which has only PD 2, DR 10. Weight is 8 pounds and cost is $240.

Most Combat Infantry Dress helmets incorporate additional accessories. The standard TL8 battlefield helmet has a HUD ($500), a voice-activated 128-channel short-range communicator with scrambler ($100), and chin-activated multiview visor (light intensification, antiglare and thermal imaging) ($1,200). Rather than using individual power cells, the system runs off a single C cell for six months. These accessories add two pounds to the basic helmet weight and $2,000 to its cost.

Exoskeletons

An exoskeleton is an open framework of bulky, artificial "muscles" and a strap-on power pack. When the user moves, the sensors in the suit react to and match his movements. The wearer uses the ST of the exoskeleton rather than his own.

Exoskeletons are slightly clumsy. For any ordinary DX roll, an exoskeleton wearer rolls against DX. For other DX-based skills, he rolls on the skill-1. The GM may assess extra penalties for actions that should be especially difficult, such as Acrobatics. However, most exoskeletons (or "exosuits") have removable gauntlets to allow the wearer to do delicate work.

Exoskeletons give no protection in themselves (they are too open), but may be worn over light clothing or concealable armor. Anything heavier worn under the exo interferes with its sensors, while the suit is too bulky for anything to be worn over it. Exoskeletons should be fitted to the user, though "generic" models may be worn by anyone of the right general size, at an extra -1 to DX or skill rolls. It takes two minutes to strap into an exo, and one to remove it. All necessary bodily functions can be performed while wearing an exoskeleton.

Cost for a typical exoskeleton is $35,000 (ST 15). Subtract $4,000 if the suit is generic rather than fitted. Increase the cost by $10,000 for each ST point added, up to 20. Above 20, ST points cost an additional $20,000. An exoskeleton will run for one week on a D cell; it has sockets for two, for safety. An exoskeleton weighs 10 pounds per point of strength to 20 ST. Above 20, each additional point needs 20 pounds of weight.

COMMUNICATIONS EQUIPMENT

Implant Communicator: See Cellular Link, p. 37.

Short-Range Communicator: This is a hand-held radio communicator the size of a cigarette lighter. It has an effective range of ten miles (which can be increased to a maximum of 20 miles on an Electronics Operation (Communications) skill roll, at -1 per extra mile). It may also be linked into a larger comm net to reach vidcoms or other radio communicators. A short-range communicator can be built into a helmet, watch, locket, etc. at an additional 10% to cost. It uses an A cell, which lasts a year of steady use. The unit costs $50 and weighs 1/8 pound.

Medium-Range Communicator: This unit is larger, the size of a man's palm. It has an effective range of 100 miles (and can be increased to a maximum of 200 miles with a successful Electronics Operation (Communications) roll, -1 per ten miles extra). It can be linked into a comm net. An optional booster unit doubles the cost and weight and allows it to reach any satellite or orbiting starship equipped to pick up its signals. One B cell powers the unit for a year of steady use. Cost is $200 and weight is 1 pound. A communicator with video display is twice as expensive.

Long-Range Communicator: This unit is carried on a shoulder strap; it is the size of a desk dictionary. It has an extensor mike and a headset for private listening. It has an effective range of 1,000 miles (this can be extended to a maximum of 2,000 miles on a successful Electronics Operation (Communications) roll, -1 to skill per extra 100 miles). It is able to reach satellites in geosynchronous orbits. One B cell powers it for three months of steady use. Cost is $600 and weigh is 10 pounds. Increase cost by $100 if a video display is included.

Com Scrambler: Attached to a communicator, it scrambles the message according to a preset pattern, so that only another comm scrambler tuned the exact same combination can translate it. Given several minutes of conversation, a computer might be able to crack the pattern — roll against the Electronics Operation (Communications) skill of the user, +1 per level of complexity of the computer, and minus the TL of the scrambler. This can be avoided by sending a short message, using prearranged alternative settings, or compressing a message into an ultra-fast "burst" transmission (which precludes conversation). It uses the communicator's power. Cost is $100, weight is 1/4 pound.

Vidcom: This device is about the size of the office telephone of the 1990s. Since it uses fiber-optic cables rather than radio, it is more secure than a communicator. Vidcoms provides both audio and video channels for communication. Cheap models (half cost) are black and white, standard models are color. All include an automatic answering service and automatically inform the user of the comm number of the person calling thus enabling incoming calls to be selectively screened. Most roam output from the small six-inch screen to a home TV for a better picture. A vidcom uses household power. Cost is $80 and weight is 4 pounds.

RECORDING EQUIPMENT

Digital Camera: The camera takes full-color still or motion pictures recorded on standard computer media: no "developing" is required. One gig of computer memory can hold about 21,768 still pictures, or just over 12 minutes of broadcast-quality TV signals. The camera runs for one month on a B cell. Cost is $500 and weight is 2 pounds.

Helmet Video: A closed-circuit camera built into a helmet and attached to a helmet communicator, it continuously transmits live pictures of whatever the wearer is looking at to a video-display-equipped communicator or linked computer monitor. It is powered by an A cell; cost is $100 and weight is 1/2 pound.

Newscam: This is a rifle-sized and -shaped camera used by news teams (or surveillance crews). It is identical to the digital camera described above, but incorporates a laser range finder (+2 on Photography rolls), a televiewer lens (see *Televiewers*, below), and a parabolic microphone (+5 to Hearing rolls at up to 200 yards range). It also includes a disk reader so it can read and display its own pictures, to allow simple on-the-spot editing. It can record, or be linked by integral communicator or cable port to enable it to transmit live broadcasts to a relay communicator or TV station. Cost is $2,500 and weight is 7 pounds. It looks so much like a rifle that it is dangerous to use around hair-triggered counter-sniper teams; cameramen are advised to wear armor.

Reader: This is a simple "dumb terminal" that reads databases or camera disks and projects them onto a screen. Cost is $100 and weight is 2 pounds.

Recorder: A recorder records and plays back sound, using standard computer disks. One gig of memory can store 120 minutes of recorded sound. The recorder may be linked directly into a surveillance device such as an audio bug or laser listening device. Cost is $175 and weight is 1 pound.

ROM Burner: This device is used to inscribe a program or database onto a silicon chip. The source may *not* be another ROM, because of copy protection (see p. 78). The copy is usually then encased in plastic (a ROM deck: see p. 65). It takes 10 hours per gigabyte to burn, read and verify the contents of one ROM.

Blank, burnable ROMs cost $500 per gigabyte (minimum size is 1/5 gig). The burner costs $125,000, weighs 15 pounds, and will run for 3 months on a B cell. A successful roll versus Computer or Electronics Operation is required to successfully burn a ROM.

SENSORS AND SCIENTIFIC EQUIPMENT

Anti-Glare Goggles: These are polarized goggles that darken automatically to cut glare and ultrabright light, allowing direct viewing of the sun without risk of blindness. They protect the wearer's eyes against laser flash or flares, adding +5 to HT to resist light blindness. Cost is $150 and weight is 1/2 pound.

Light-Intensifier Contacts: A pair of contact lenses which pick up and amplify any available light (even starlight). They halve any penalty for darkness (round in the user's favor) except complete darkness. They burn out if hit by a laser! They work two weeks on an AA cell and cost $300; weight is negligible.

Infrared Goggles: These extend the wearer's vision into the infrared portion of the spectrum, enabling him to see varying degrees of heat. The wearer can see in absolute darkness if there is a 10° temperature difference between objects. No matter what the temperature, the wearer suffers only a -1 penalty when fighting at night due to the heat emissions from living things or active machines. The goggles give a +2 to see any living beings during daylight if the wearer is scanning an area visually. They also allow the wearer to follow a heat trail when tracking, adding to Tracking rolls on a fresh trail (+3 if less than ten minutes old, +2 if less than 20 minutes and +1 if less than 30 minutes). However, a powerful heat source will mask lesser heat sources behind it. Infrared visors are available at the same weight and cost They work for six months on an A cell, cost is $600 and weigh 1/2 pound.

Multi-view Goggles: These are combined infrared, light-intensifier and anti-glare goggles. They work for three months on an A cell, cost $1,200 and weight is 1.5 pounds. They may be added to a helmet for the same price and weight

Televiewers: These are electronic binoculars that provide an extremely sharp, computer-enhanced image. Magnification can be adjusted from 5x to 50x. Included is an electronic range finder accurate up to 5,000 yards. Such a range finder gives +2 to Gunner or Forward Observer skill if used with artillery of TL6 or below, which does not normally have such accurate distance measurements. Infrared or light-intensification can be built in at $300 extra each. The binoculars get three months continuous operation on a B cell. Cost is $950 and weight is 2 pounds.

PERSONAL VEHICLES

All air vehicles and many ground vehicles are fitted with computer autopilots, which, in conjunction with an inertial satellite map and anti-collision radar, can perform routine driving functions.

Taxis may be totally automated - insert a credcard and give the destination. $20 per person per ten miles is the usual fare. (Overpopulated areas may reserve such jobs for humans; primitive zones may have better uses for computers.)

In densely-populated metropolitan areas, in areas with high control ratings, manually-controlled vehicles may be illegal. All vehicles can be required to lock into an automated Master Municipal Traffic Control system. After a destination is indicated (by light pen on an electronic map or by giving an address to the computer) the system takes control of the vehicle and guides it to the specified destination. This makes it hard to sneak around, and easy for the government to corral fugitives in vehicles.

Smartcar: A typical middle-class family car, the smartcar is a four-wheel drive, four-wheel steer electric ground car with integral personal computer (usually with an autopilot program) and inertial navigation map. Safety features include traffic-avoidance radar, a foam crash web that reduces damage from collisions by 50%, an automatic fire extinguisher and a "dead-man" sensor that switches control from the driver to the autopilot in the event of the driver falling asleep or becoming incapacitated. (Unless it has a pre-programmed destination, the vehicle will just pull over and stop.) The smartcar runs on a pair of D cells or equivalent solar panels. It carries two people in front, three in the back, and has .5 cy cargo space. It cruises at 90 mph and has an absolute top of 150 mph. Cost is $25,000, volume is 6 cy and weight is 2 tons.

Dragonfly: This microlight aircraft is often as used as a recreational vehicle or carried by explorers. It is propeller-driven and powered by a D cell. This allows a cruising speed of 80 mph (stall speed 20 mph, maximum 110 mph) for up to six hours, with a 24,000-foot ceiling in Earth-normal atmosphere. Its wings are constructed of a high-strength transparent polymer with foamed-monocrys structural membranes. For an extra $2,000, wings may contain solar cells, allowing unlimited slow cruising (no more than 40 mph) during daylight, switching to the power cell at night or when speed is required. Dragonfly can carry a maximum of 600 pounds, including the pilot. There is no cabin — passengers sit on an open saddle in a cage underneath the wing.

The controls use a computerized "fly-by-light" system that is extremely easy to handle, giving +3 to Piloting. To save weight, the plane has no instrument display: readings are projected into the pilot's helmet HUD. A dragonfly can be disassembled in 15 minutes to fit into two backpack loads (one containing the wings and tail, the other the structural members, power plant and control system). Each load weighs only 25 pounds; straps and pack frame are part of the structure of the plane. It takes half an hour to assemble. Cost is $10,500; weight is 50 pounds.

Backpack Parawing: A maneuverable parachute using a Rogallo wing, which folds out from a pack on the user's back in 2 seconds. It is often used as an escape system. It requires Parachuting skill (see p. B48) for complex maneuvers or safe landings. Weight of the system is 20 pounds and cost is $400.

Remote Piloting Interfaces (RPVs)

When a vehicle is equipped with interface technology, a human pilot gets a +4 on all driving/piloting rolls. This assumes the pilot is on board.

However, any land, air or water vehicle may be remotely piloted by neural interface. This technology makes the clumsiness of remote control a thing of the past. The pilot of an RPV is *still* at a +2 on his driving/piloting.

To work as an RPV, a vehicle must be completely outfitted with a multiband transmitter/receiver and appropriate software, and all vehicle sensors and controls must be attached to the transmitter. Cost of this is $1 per ton of vehicle (minimum $3,000 for a car or boat, $5,000 for a flying vehicle). If the vehicle is designed *only* for remote piloting, reduce this cost by 20%.

No special equipment is required at the pilot's end. He simply jacks into the transmitter. Everything else is done mentally. The pilot "sees" everything the vehicle transmits, including imaginary controls. He uses his vehicle skills; no cyberdeck or programming ability is required. If the vehicle has weapons, he fires with his normal Gunner skill, at the same +2 for remote neural operation.

TOOLS

Tool Kits

Anyone attempting repairs without one of these kits does so at -5 to skill. Each type of kit must be purchased separately, though a user may "make do" with one of the others at a -3 penalty.

All tool kits contain several power cells, but the cells found in salvaged kits are likely (GM's decision) to be partially or completely used already.

Basic Tool Kits: The standard tool kits for engineers, mechanics, armorers and electronics technicians, allowing major and minor repairs to be made at no penalty on skill. Any kit includes a few devices requiring small power cells, and is there-fore a good source of extra cells in a pinch — roll ld+2 for the number of AA cells, 1d for the number of A cells, 1d-2 for B cells.

Mechanic or Engineer tool kits cost $800, weigh 300 pounds and have a volume of 1/2 cy as cargo. Armoury or Electronics kits cost $1,200, weigh 100 pounds and have a volume of 1/4 cy.

Portable Tool Kits: A smaller version of the basic tool kit, it fits into a case or backpack and weighs 20 pounds, for Mechanic or Engineer kits or 10 pounds for Armoury or Electronics kits. Major repairs can be made at -2 to skill, and minor repairs are at no penalty. It contains ld+2 AA cells, 1d A cells and 1d-3 B cells. Cost is $600 for Mechanic or Engineer kits, $900 for Armory or Electronics kits.

Mini-Tool Kit: This is a small, belt-sized kit. Routine repairs can be made with one of these at only -2 to skill. Major repairs are at -4 when using a mini-tool kit. Roll 1d for the number of AA and A cells in the kit, 1d-3 for B cells. Cost is $400 and weight is two pounds.

Portable Shop: An elaborate version of the basic tool kit, it is equivalent to a repair shop on a small starship. It has everything necessary for emergency repairs, plus a wide range of spare parts that can be tooled to specific requirements. It adds +2 to the user's skill. It will have 2d AA, A and B cells, 1d C cells, 1d-2 D cells, and 1 E cell. A Mechanic, Engineer or Armoury shop costs $4,000, weighs 3,000 pounds and has a volume of five cy. Electronics shops cost $7,000, weigh 1,500 pounds and have a volume of four cy.

Other Tools and Personal Gear

Flashlight: The flash throws a 50-foot beam for six continous months on a C cell. It costs $20 and weighs 1 pound. A belt or helmet model that leaves the hands free costs $10 more. $100 buys a heavy-duty light that can be used as a baton without being damaged. A mini-flashlight (15-foot beam) is also available, running off an A cell for one month, for $8, with a weight of 1/4 pound.

Fire Extinguisher Tube: This is a 1/4-pound tube that sprays a fire-retardant foam. It is a one-use-only device, intended for small fires. It will extinguish them on a roll of 1 to 4 on 1d at a 2-hex range. Weight of the tube is negligible and cost is $10. Larger fire extinguishers, with eight uses, weigh 2 pounds and cost $50. Any fire extinguisher can be used as a weapon. It defaults to DX-4 or Guns/TL6 (Flamethrower)-2; SS 10, Acc 1, 1/2D 3, Max 5. It does 3d damage, but only for knockback purposes — it does only minor bruising. Any hit to the face against an unarmored person stuns and blinds if a HT-3 roll is failed; roll against HT-3 each turn to recover.

Attache Case: A briefcase made of tough, high-impact armorplast, it has a DR of 8. It can be fitted with any standard lock or security system (see below). Cost is $80; weight is 2 pounds.

High-Power Drill: This drill is useful for boring through laser-refractive substances. It uses a synthetic monodiamond bit of incredible hardness. It can drill through 4 DR per turn of material with a DR of 50 or less (2 DR if material is DR 51-100, 1 DR if the material is 100+) as long as it is held steady in

same spot; once it has drilled through DR, it does ld+2 impaling damage each turn. Because it has to be held steady, it is useless as a weapon unless the target is held down (grappled or tangled). It runs for 30 minutes on a C cell. The bit may need to replaced occasionally (about every 10,000 DR); bits cost $40 apiece. It costs $120 and weighs 4 pounds. No handyman or burglar should be without one.

Laser Torch: This is a close-focus hand laser for light cutting and spot welding. It does 4d per second of cutting damage to doors, bulkheads, etc. Used as a weapon, has SS 12, Acc 1, RoF 4, Damage 1d cut, 1/2D 3, Max 15. Use the laser autofire rules (p. 45) — against a person or moving target; it only does 4d if all four shots hit! It uses a C cell which lasts for 60 seconds. Cost is $250 and weight is 5 pounds.

Plastex: This is a powerful, moldable explosive. It is very stable and can only be detonated with an explosive detonator. It is the standard filler for shells, warheads and grenades. Four ounces does 6dx2 damage — it is roughly four times as powerful as TNT. Cost is $40 per 1/4 pound block, including one detonator.

Autograpnel: This uses Guns (Grenade Launcher) skill to fire a grappling hook up to 50 yards. A motor winch on the gun lifts up to 400 pounds at up to five yards per min. The reel contains 50 yards of biphase rope with a breaking strain of 1,000 pounds. One C cell is good for 100 ascents or descents. Cost is $400 and weight is 6 pounds.

Biphase Rope: A 3/8" diameter biphase rope supports 1,000 pounds. Ten yards of rope weighs 1 pound and costs $5. A 3/4" diameter rope supports 4,000 pounds; cost is $30 and weight 2 pounds for ten yards.

Rocket Piton: A pistol-grip, disposable launcher which fires a rocket-propelled, explosive-set piton. It is used to project an attached line up to 200 yds. — a successful Climbing roll (made by the GM) means the piton is securely lodged and will support weight; a critical failure means the finer only *thinks* it is! Roll vs. DX-4 to hit if used as a weapon; SS 15, Acc 5. Damage is ld+2 imp for the stake, 1/2 D is 50 yds. (affects Acc only; the stake does the same damage at any range), Max 200 yds. Cost is $40 and weight is 2 pounds.

LOCKS AND SECURITY SYSTEMS

A variety of security systems are available at a cyberpunk tech level, ranging from electronic locks to automatic lasers.

It might be possible to build an impregnable security system — but the more layers of security that are added, the harder it is get anything else done. If an executive has to go through six different security scans every time she enters or leaves her office for a cup of coffee, or a computer requires 20 minutes of identity verification before it will let anyone use it, personal convenience and efficiency will be sacrificed. Most systems compromise between security and ease of use.

A system that is too complex or too sensitive can easily be degraded, overloading its monitors with input. The simplest method of fooling an electronic security system is to convince the human component of the security system that the electronic element is malfunctioning. After receiving several false alarms, a human operator or self-programming computer may ignore input from a sensor or just turn it off, leaving a hole in the defenses.

Electronic locks

The normal way to keep people out at TL8+, electronic locks may be mounted on doors, consoles, briefcases, etc. They use a numeric keypad, or a small electronic key which produces a coded series of low-energy infrared or laser pulses. If the wrong combination is input the lock may trigger an alarm.

Picking an electronic lock requires either a set of electronics tools (a mini-toolkit will do; see p. 52) or an electronic lockpick (see p. 55). Use the rules on p. B67 to pick the lock.

An electronic lock uses building power or can run for a year on an A cell; most have a cell which automatically takes over if power is interrupted. The lock weighs 1/2 pound. It costs $100 for a number combination, $200 for an infrared or laser "key" system (-2 on Lockpicking rolls). Each doubling of price and weight gives an additional -1 to Lockpicking (to a maximum -5 for a lock weighing four pounds and costing $4,000). A laser or IR "key" costs 1/4 the lock's price; it is negligible in weight and is powered by an AA cell. (The cell would last for one year of continuous use, but few are turned on constantly. Only the most forgetful user is liable to let his key run down.)

Scanlocks

Instead of standard electronic locks, identity-scanner locks, which can't be picked, may be used. All scanlocks require a dalalinked computer with a Password program (see p. 92) to run. Verification takes 3 seconds. If an identity scan fails to match the subject with the list of authorized individuals in the computer's database, access is forbidden. The system may be programmed to sound an alarm or engage automatic defenses.

All scanlocks run for one year on a B cell, or indefinitely on building power. The following types of identity scanner for the lock are available.

Voiceprint Analyzers check the subject's voice pattern. The scanner asks the subject to give his name and/or ID number, then matches the voice against a stored pattern. A normal recording of an authorized person's voice is not good enough to fool the analyzer, but a silver tongue (p. 37) is. Cost is $100; weight is 1 pound.

Print Scanners check the user's thumb print; for verification, the subject must place his thumb against a plate. They can be fooled by a subject who has undergone a transplant of the cloned hand of an authorized person, or by an electronic thumb (p. 54). Cost of a print scanner is $200; weight is 1 pound.

Retina Scanners scan the vein patterns in one or both of the subject's eyes. The subject must look directly at a laser eye-scanner. Again, a transplant or electronic thumb can fool the scanner. The scanner costs $500 and weighs 2 pounds.

Facial Scanners use sonar or X-rays (two-foot range) to scan the bone structure of the subject's face. Analysis requires a minute. If the surgeon has access to X-rays or sonograms of an authorized individual's face, a facial biosculptjob (see p. 9) may fool the scanner. Cost of the scanner is $1,000 and weight is 4 pounds.

Genetic scanners require a blood sample (this requires a jab with a needle). Analysis requires 5 minutes. Only a braintape transfer into a cloned body, or a genuine blood sample and some sleight-of-hand, will fool a genetic scanner. A generic scanner costs $2,000 and weighs 8 pounds.

Electronic Thumbs are designed to defeat print and retina scanners. A Thumb is an odd-shaped, pocket-sized gadget. One end is the size and shape of an eyeball, and can be illuminated from within to display a retina pattern. (Some models can store dozens of retina patterns and display any of them at need.) The other end is the size and shape of a thumb, and is heated to body temperature. An easily-changeable rubber pad contains a 3-d thumbprint. Weight is negligible; cost for a standard one-identity model is $5,000. No one but police and undercover agents may legally own a Thumb; it is Legality Class 1.

Security sensors

Security sensors are designed to detect an intruder and take some action (an alarm, or a direct attack) if they do so. They run indefinitely using vehicle or building power, most have backup power cells. For $500 more they are concealed: these require a Traps-2 roll to spot.

Beam Sensor: This sensor consists of a laser or infrared projector and receiver, if an object passes between the two, the (invisible) beam is broken and the alarm triggered. Infrared sensors can spot an infrared beam; smoke, glitter or powder thrown into a laser's path may detect it.

Once the beam has been spotted it may be possible to jump over it or crawl under it — perhaps requiring an Acrobatics roll if several beams are used at once. Deadly versions instantly activate lethal laser beams if the sensor beam is broken — anyone passing through the beam takes 8d impaling damage at TL8; PD protects, but no Dodge roll is allowed.

Cost of a non-lethal system is $400. A lethal system costs $2,000. This system will protect a single entrance, or a perimeter side up to 100 yards long. Each additional entrance or 100 yards of perimeter costs the same.

Pressure Sensor: A pressure sensor usually involves a simple plate — when pressure is placed on it (as in someone stepping on it) or removed (as in a jewel being removed from its display case) the sensor detects the change, and sounds the alarm. The key is to avoid the sensor, or disable it. Roll against Electronics/TL (Security Systems)-4. Cost is $100 plus $50/hex covered.

Sonic Sensor: A sonic sensor fills an enclosed area with inaudible ultrasonic vibrations. Anyone moving through the area will normally be picked up by the detector, but someone moving very slowly may not be detected. A successful Stealth-4 roll is required. Cost is $1,000 plus $200/hex.

Surveillance Camera: A simple closed-circuit video camera, connected to a monitor, is one of the best security systems possible. To be effective, constant human monitoring, or a Complexity 4+ computer with the Optical Recognition program, is required. Weight of each camera is 1/2 pound and cost is $150.

Automatic Defences

Defense Globe: This is a rotating globe, usually mounted on the ceiling, and fitted with a sensor system and a military laser rifle (or other weapon of similar size). Defense laser are remotely controlled by building or ship computers, using the Internal Security program (see p. 66). They are generally programmed to fire at any target detected after an alarm is activated; skill level depends on the computer's programming. The globe has HT 6, DR 15, and is -3 to hit because of its small size. It gets unlimited shots from the building's power. Cost is $6,600, weight is 50 pounds and Legality is 1.

Gas Canister: This is a concealed canister set to release gas into a room, either upon command from security computer or manual control, or if an alarm is triggered. It must be connected to alarm or security sensors, usually by cable, and is often mounted just outside ventilation ducts. It holds enough gas to fill a large hall once or a smaller room ten times. Cost is $300, weight is five pounds and Legality depends on what kind of gas it is filled with.

POLICE/SECURITY EQUIPMENT

Electronic Handcuffs: These use a laser key (see *Electronic Locks*, p. 53), and can be unlocked from up to three yards away (for instance, through the bars of a cell). The lock is powered by an A cell. Cost of a set, with key, is $40 and weight is 1/2 pound.

X-ray Scanner: This hand-held device is used to check for hidden weapons or implants and for field medicine. It adds +5 to any Holdout skill roll to find hidden items, but requires an Electronics (Sensors or Security Systems)+3 roll to properly interpret. It has a range of one foot and runs off a B cell for six months. Weight is 4 pounds and cost is $2,000.

Chemsniffer: The hand-held model is used to find contraband by analyzing chemical traces in the air. It has a range of five yards. The chemsniffer uses Electronics Operation (Security) or Demolition skill. It works six months on a B cell. Cost is $700, weight is 2 pounds.

Larger and more sophisticated "walk-through" models, using thermal-neutron analysis, may be mounted in high-security areas. These give +4 on skill. Weight is 2 tons, volume is 1 cy and cost is $10,000.

Criminology Kit: This is a portable forensics lab, with a dedicated computer system capable of detection and chemical analysis of evidence. As well as ballistics analysis and finger and voice printing, the lab is capable of identifying and classifying hair, flesh scrapings and blood samples, and using them to determine the owner's genetic pattern. It is usually linked to a database containing detailed records on suspects to aid identification. It adds +3 to any Forensics skill roll, and includes an expert system with skill 10 in Forensics. It uses a B cell (lasts 6 months). Cost is $3,000 and weight is 6 pounds.

SURVEILLANCE/ COUNTER-SURVEILLANCE EQUIPMENT

Bug Detector: This is used to find hidden surveillance devices like the comm tap and the programmable-bug sensor head or recorder unit (see below). It has a range of only one yard, so a careful sweep of a room is necessary. It requires one minute and a successful Electronics Operation (Security Systems) roll to check each hex — roll a Contest of Skill between the operator and the person who planted the bug, since a skilled agent will place one where other electrical systems may mask its presence. Failure means that no bug is detected; critical failure means that the operator believes he has found bug (perhaps buried in a wall) when one isn't there. It works for one week on an A cell. Cost is $500 and weight is 1 pound.

Bug Stamper: This "pink noise" generator effectively prevents audio surveillance devices (programmable bugs, recorders, etc., including the parabolic mike in the newscam (see p. 51), from picking up anything but static within three yards of the device. It will jam the listening ability of a programmable bug, but not its visual sensors. The stomper uses a B cell, which operates it for 24 hours. Cost is $1,200 and weight is 2 pounds.

Comm Tap: This device taps into any optical or electrical cable line — phones, cable TV, etc. It is a 100-yard hair-thin optical cable ending in a clip head, connected to a briefcase-sized unit, which includes both a monitor and a recorder (using standard computer media). An Electronics Operation (Communications) roll is needed to succeed without damaging the line being tapped into, -3 to tap an optical cable. The tap uses an A cell. Cost is $3,000 and weight is 4 pounds.

Electronic Lockpick: This is a sensor/decoder that gives a +3 to either Lockpicking or Electronics (Security Systems) skill on attempts to break any electronic lock of TL8 or less; it is -2 per TL difference between the lockpick and the higher-TL locks. See p. B67 for lockpicking rules. It works for six months on an A cell, costs $1,500 and weighs 3 pounds.

Laser Listening Device: This device bounces a laser beam off a solid surface, detecting and translating the vibrations set up in the surface by nearby voices or other sounds. It can be used through a window, and can be linked to a recorder or computer. Its range is 1,000 yards. It uses a C cell, giving eight hours of surveillance. Cost is $1,200 and weight is 12 pounds.

Programmable Bug: The pinhead-sized audio/visual sensor head is connected by a 100-yard, hair-thin fiber optic cable to a recorder unit (fist-sized, weighs 1/2 pound). The tiny sensor head is placed in the area to be bugged, while the nearly invisible cable is run through cracks in the walls, ceiling, floors, air ducts or the like to a hiding place for the recorder unit. Since both the bug and the cable are so small, any roll to find them is at -7 (more if the cable or sensor head are artfully hidden).

The sensor head can pick up voices clearly within 5 yards and can also scan visually; the recorder unit stores information on standard computer disks. The bug is usually voice activated — it only switches to record mode if it detects sound matching the patterns of human voices, and it can even be set to listen for individual voice patterns. It does not usually run full-time, since that would rapidly use up the recorder's memory. The recorder unit includes a burst-transmitter and scrambled radio (ten-mile range) which can transmit all recorded data in a microsecond burst to a scrambler-equipped communicator, either after a set time has last, when its disk is full, or upon receiving a coded radio command. This will also empty its memory disk, allowing more data to be collected. The bug may also be ordered to transmit real-time audio and visual images to a scrambled communicator, but such ongoing transmission can be easily detected (if not deciphered) by the operating radio or bug detector.

A programmable bug works for two months on an A cell mounted in the recorder, not the bug). For an extra $50 it has a self-destruct which destroys the recorder unit if a coded command s received or if tampered with (Demolition-3 or Traps-3 to disable). Cost is $500, weight is 1/2 pound.

Tracer Needle: This tiny tracer can be implanted in the flesh; it can be fired from a needler or Gauss needler. When it hits it feels like a bee sting. It is used by ecologists to track animals and as an alternative to jail to keep track of non-dangerous felons. The tracer remains passive until its receiver picks up a specific coded signal; depending on the activation signal it will transmit a brief impulse, or a constant beacon, detectable within ten miles. It runs for six months on an AA cell. Cost is $10; weight is negligible.

MEDICAL SCIENCE

Organ transplant and bionic replacement techniques enable almost any non-fatal injury to be healed. Because of this, characters in cyberpunk campaigns should not be allowed to start with physical disadvantages without good justification (e.g. they are also Poor, or the damage was genetic and clone transplants are impossible). Aging has not yet been conquered, but since worn-out organs can be replaced and many diseases of old age have been cured, the human lifespan has increased significantly.

But there are other, newer diseases out there as well. Some of them are mutant strains of previously-known diseases; others could be anything from microbes carried to earth in the core of a meteor to the results of a failed (or, worse, a successful) genetic engineering experiment. Developing a new vaccine is difficult and time consuming — use the invention rules on B186, substituting Biochemistry for Engineering.

Basic Medical Equipment

The rules for medical care are found on p. B128-9. Most cyberpunk worlds will have a medical Tech Level of 8; some experimental or advanced clinics are effectively TL9, while medical care in the grimmer parts of town could be TL7 or less.

Emergency Medkit: This is a belt pouch containing the basic requirements of TL8 first aid: five plastiskin patches (see below), plus the usual bandages, antiseptic cream, etc. which enable it to act as a TL7 kit when the plastiskin is used up. It also contains five revive capsules, a pneumospray hypo and two doses of Hypercoagulin, with room for ten doses of whatever other drugs the user wants to add at extra cost — see pp. 57-58. It adds +1 to First Aid. Cost is $300 and weight is 1 pound.

Plastiskin: This is an antiseptic plastic patch that holds wounded flesh together, taking the place of normal skin. (It even takes on the color of one's skin, so that it's only evident on close examination.) When the flesh beneath it heals sufficiently, the plastiskin patch falls off. Plastiskin is found in any TL8 first-aid kit; without it, TL8 first aid counts as TL7. Plastiskin can be used to cover tattoos, scars and marks, or for disguises. It costs $10 per six-inch square patch.

Pneumospray Hypo: This hand-held, pneumatic-hypodermic instrument, about the size of a penlight, injects drugs with a charge of compressed air. The hypo must be touching the patient to inject its drug. Its charge can easily penetrate clothing with DR of 1 or less. It takes two turns to remove an empty vial (or pneumocharge) and replace it with a ready new one. Air cartridges are good for 100 injections. Cost is $125 and weight is 1/4 pound. Replacement air cartridges cost $10.

Braintaping

This technology allows an individual's mind to be read mechanically and "played back" into a blank-mind clone of himself. This costs $5,000 and takes one hour at a major hospital. The clone is no longer mindless (see *Cloning*, p. 57); it is a mental duplicate of the original person. In some situations, there may be a need to duplicate people — one or many times. But the usual reason for braintaping is to have a "backup," so that if the original is killed, the clone takes his place.

There are two ways to transfer memories. One is direct programming. The original visits a clone storage facility and programs his clone with his memories, taking one hour. This

may be repeated as often as desired, at $2,000 a visit. See *Cloning*, p. 42, for the cost of cloning a body and keeping it in storage. If not reprogrammed within a month, the clone's mind goes blank. It is also possible to program a clone with the memories of a recently dead person (thus retaining all memories up to the moment of death, rather than the last visit to the clone). This must be done within 24 hours. Use of the Suspend drug (see sidebar, p. 68) will buy an extra two days; freezing the body will let it keep for ten days (not cumulative with Suspend). The body must be reasonably intact. HT must be no worse than -5xHT, and the brain can be neither smashed nor missing. It must have no more than 5,000 rads of radiation damage (plus 1,000 rads per TL over 9 — higher doses scramble nerve tissue beyond that TL's ability to read). The patient remembers bis death, and must succeed at a Will roll or acquire an appropriate new Phobia (see p. B35) from the experience.

The second method, safer but more expensive, is to store memories mechanically. This is called a "braintape." Braintapes are stored in a Mechanical Memory Storage Device, or MMSD. This takes up two cubic yards and weighs 800 pounds. It stores one person's braintape. While an MMSD can be put anywhere, updating it requires special equipment and costs $25,000 per update (which takes two hours); the advantage is that no clone need be kept in storage (just keep some cell samples frozen), and multiple copies can be made as safeguards.

Once a clone has been awakened and has had experiences of his own, programming him with new memories, by either method, will drive him mad.

Game Effects of Braintaping

If a clone is activated from direct memory transfer or a braintape, it has the memories and skills of the original when his memories were last transferred. The clone may be no older than 25 years; adjust stats as described for Brain Transplants (see p. 57). The newly-awakened clone has DX-6 and IQ-2, as the mind adapts to its brand-new body. Make a HT roll each week. Success regains 1 point of each; a critical failure is a temporary setback that loses 1 point of each.

At the GM's option, a braintape may be played into a blank-mind clone of *someone else*. This leads to fascinating and horrible possibilities. If a braintape of someone is played into a blank-mind clone body not his own, use the braintape's IQ, skills, mental advantages and disadvantages, but the ST, DX, HT and physical advantages and disadvantages of the clone body. Adjust all skills to conform to the new DX of the body, and adjust IQ by any species modifiers. For instance, if a human mind was played into a cat (IQ 5), the human would suffer -5 on IQ. Recalculate character point totals based on the new values.

If multiple copies of a person exist at once, the GM should probably only allow the player to control one, unless he is prepared to run a very strange campaign!

Campaign Effects of Braingtaping

When a clone is "activated" after the legally-proven death of the original, most societies consider the clone to legally *be* that person, with all his rights and property. Most societies pass laws to restrict multiple copies of living people, though some allow it (creating a "clone family" effect). To maintain control, some societies build braintapes so that copying them automatically erases the first tape and pass laws to prevent multiple copies being made of living individuals. Braintape recording and clone growth will be strictly supervised by such governments, though bootleg labs will exist.

But what does braintaping mean to adventurers?

First and foremost, they can *never* be sure that someone is permanently dead. Cell samples can be frozen; braintapes are easy to hide. Even if a foe is legally dead, and no longer has access to his money or property, he can return to haunt them. As a result, assassins and kidnappers would be sure to attempt to destroy or steal braintapes as well — maybe even first. This also applies to the PCs themselves; if they have enemies, it is quite possible they will try to determine the location of any of their braintapes before going after them. And if a government sentences someone to death or prison, they will be sure to try to track down all his braintapes, so his friends or followers don't revive him.

One problem with braintaping is it diminishes fear of death. Braintaping works best as a plot device and "last resort" way of saving characters, and, at $25,000 per update, a good way of using up PCs' funds. GMs should discourage players with braintaped characters from casually committing suicide rather than facing tricky situations such as being imprisoned. One way is to point out that the people back home may not know he is dead and so never revive him. Of course, instructions could be left to have a copy made after the PC is missing for several years, but his enemies or an accident might destroy the tapes before the character could be revived, or the character may not be dead at all! A PC might return after being shipwrecked on a low-tech planet for five years, only to find that his instructions have been followed and he has been presumed dead and a copy made — and his new self has spent all his fortune, remarried or blackened his good name.

Ghostcomps

At the very fringe of cyberpunk technology is the capability to "run" a braintape as a computer program. In ***GURPS Ultra-Tech*** this is presented at TL 14 — but it is occasionally encountered in c-punk fiction, so the GM may include it at his discretion. Note that this version, because of the lower tech level, varies from that presented in ***Ultra-Tech.***

A ghostcomp is a Complexity 5 program. As they aren't available on the open market, there is no going price. Depending on who the braintape was from, many megacorps would pay millions for one.

The ghostcomp personality (or "ghost") is fully self-aware and can think (as long as the computer is on), remember things from when it was alive and communicate through the computer with others. All ghostcomps are able to access the computer's databases and run its programs.

The capabilities of the ghost depend on what hardware and software are available for the computer. With access to Datalink, a braintape could run the net, or control machinery wim the appropriate interface.

However, ghostcomps also come with a safety override which can lock out some or all databases and programs. It possible to keep a braintaped personality "imprisoned" and controlled.

A ghostcomp is typically burned into a ROM deck for faster operation. A personality takes 100 gigs of storage.

CLONING

Cloning is a technique by which an identical body can be grown from an individual's cells. There are no rejection problems for an organ or limb transplant from a clone, so any lost limb, or even an eye, can be replaced.

Cloning facilities are only available at major hospitals. It takes six weeks to force-grow a clone. Typical cost to grow a single limb, eye or organ is $5,000. A whole clone body can be grown for $10,000, and kept as a source of spare parts. However, it costs a further $1,000 a month to maintain it. The actual transplant operation might cost another $10,000 per part replaced. Two months bed rest will then be required while nerves knit.

The GM may choose to require a character who starts with a physical disadvantage, such as a missing eye or limb, to buy off that disadvantage if the limb is to be replaced. If the damage was genetic (a birth defect) it may not be possible to clone the missing part, as the clone would share the disability.

Citizen Clone

A new clone body is physically mature (seeming about 25 years old, or the character's current age, whichever is less) but mentally blank. Thus, few see anything wrong with using a clone body as a source of transplants. However, it is also possible to educate a clone and bring him or her into society. In some societies, such clones are given minimal training and used as servants and workers. In others, cloning is simply another way to produce offspring. In this case, though, the newly-created clone is forced to the level of maturity that the parents want, from baby to adult. See p. 97 for more about the social issues of cloning.

Brain Transplant

The ultimate transplant, of course, is to put an old brain and spinal cord in a whole new body. The operation will always cost at least $50,000, and take two months of recovery. It can only be performed at a major hospital, and with a new technique, perhaps only at certain experimental facilities. Since brain cells don't regenerate, this isn't immortality… but it can extend the life span.

The GM should "set the clock back" on any attributes lost to age, restoring them to the level appropriate for that person at his new age; optionally, the GM may charge him the character points for the improvement, just as though improved stats were being bought normally.

Keep separate track of the brain's age (which will control rolls for IQ loss due to aging) and the body's age (which control aging losses of ST. DX and HT).

DRUGS

Drugs play an integral part in the cyberpunk genre. Medical advances have created more new, useful "wonder drugs." But most c-punk stories also portray a world in which more and more people have turned to illegal drugs to escape the reality of the streets. Perphaps even worse, the military use of combat drugs has turned many good troops into dangerous (or dying) addicts.

In such a milieu, drugs may serve as a form of black market currency (see p. 102) — often working in situations where offering a standard credit chip would be foolish, if not suicidal.

Contact versions of many drugs may be placed on a blade (but not a vibroblade!), smeared on a flat surface such as a door-knob, etc. As contact poisons, these are less effective. The HT roll not to succumb is at +2. Cost for a contact version is ten times as much. The GM may require a roll against DX or Poison skill to avoid an accident if applying it in haste. Legality Class is 0.

The GM doesn't have to use all of the pharmaceuticals listed here — he doesn't *have* to use any of them! Each GM should choose the drugs that best fit his campaign, peihaps changing the name or effect slightly.

Legal Drugs

Crediline

This drug makes the user more likely to believe anything he is told. While the drug is in effect, the user's IQ is at -1, and he suffers from the equivalent of the Gullibility disadvantage (p. B33). The effects last for one hour, minus five minutes for each point the user made his HT roll by. Extra doses extend the duration by five minutes each.

While Crediline is in effect, the user feels very happy; everything around him makes sense, and everyone is a missed friend. After the drug wears off, the user must roll against HT+4, at a -1 per additional dose taken, or suffer from paranoia, for one hour per dose taken.

The drug is usually unavailable to anyone except psychiatric doctors, who can utilize it in therapy. It is available on the black market, and police and intelligence agencies sometimes use it; it is also fairly effective as a truth drug (+4 to Interrogation skill). It comes in pill form (takes five minutes to work) or in hypo form (works in 30 seconds), both at $100/dose.

Hypercoagulin

When injected into a patient with a bleeding wound, this causes instant coagulation and a cessation of bleeding within ld+4 seconds. It restores 1 point of HT, and prevents any further damage from loss of blood. The drug should be injected as close to the wound as possible. An injection prior to sustaining a wound will have no effect unless a wound is received within five minutes after the injection.

Overdoses of this drug can kill; for every additional dose within a 24-hour period, roll HT, minus the total number of doses taken. A failed roll means the patient's blood becomes so thick that his heart stops. Full medical facilities (a full blood replacement and possibly a heart transplant) will be required to save his life. Hypercoagulin comes only in injectable form; it costs $25/dose. Hypercoagulin is a useful assassination tool in societies at TL7 and below. Death is by heart attack, and the only wound is a tiny pin hole. The drug is undetectable ("…a poison unknown to science…") below TL8.

Morphazine

This drug puts the patient into dreamless sleep for 3d hours. It can be taken in tablet form or injected. Taking more than one dose increases the sleep period by 1d hours; taking more than six doses requires a HT roll to avoid coma and death. Morphazine is commonly available as a reliable, powerful sleeping pill, though often only through prescription. It works in one second. A HT-4 roll is required to avoid its effects; failure means losing 1d fatigue. Cost is $10 per dose.

Neurovine

This is an antidote for nerve poison. If taken within 15 minutes of poisoning, a Neurovine injection adds +3 to HT on rolls to avoid taking further damage. Note that Neurovine is itself dangerous; taking more than one dose in a day does 3d damage if a HT-2 roll is failed, 1d if the roll is successful. Cost is $30 per dose; it is only available as an injection. Military units issue Neurovine as part of every soldier's first-aid kit.

Revive Capsules

These are small, easily breakable capsules. When held under the nose of a stunned or unconscious character and snapped open, the vapor inside will usually revive him completely (roll against HT+5 to regain consciousness, come out of stun, etc.). No HT is regained, but the patient is awake. Revive capsules are widely available to the general public and can be purchased freely in drug stores in all but the most repressive societies. Cost is $5/dose.

Superstim

This drug instantly restores 1d of Fatigue loss. Roll vs. HT; the Fatigue is banished for hours equal to the amount the HT roll was made by (at least one). The only side effect is that when the time is up, the user gets all that Fatigue back, plus 2 more.

For each dose taken within 24 hours after the first, the HT roll is at -1. If Fatigue goes past 0, the extra points of Fatigue lost are taken as lost HT instead. There are no other side effects. The drug is widely available. Pills (taking effect in 30 minutes) cost $25/dose. Hypos (work immediately) cost $50 per dose.

Retro

Retro is a memory-enhancement drug often used in psychotherapy and interrogation. One milligram (often abbreviated as "one mike" or "a mic" on the street) of Retro gives the user second-level Eidetic Memory for the previous day — he can remember *everything* he saw, heard, said and did down to the smallest detail, even if he wasn't paying attention at the time. Each additional milligram extends the memory by one day (e.g. 90 milligrams would allow the user to recall the past three months is perfect detail).

Retro is physically and psychologically non-addictive. It is very expensive on the street ($200/milligram), but a licensed psychiatrist, doctor or hypnotherapist can obtain it for half that price. Each dose lasts only 10 minutes — the character can try to recall one piece of data per minute.

Each time it is taken, the user must make an IQ roll modified by -1 for each full 10 milligrams taken (e.g. no minuses up to 9 milligrams, -1 for 10 to 19 milligrams, etc.) A failed IQ roll indicates that the user became "lost in his memories" and wasn't able to retrieve the particular piece of information that he was looking for. A critical failure indicates that he has temporarily acquired total Amnesia (see p. 23, duration 1d days).

Illegal Drugs

The Addiction point values below will assume that the drug being discussed is illegal. If the drug is *legal* in a particular world, the GM should subtract 5 points from the value of the Addiction.

Unless the individual drug description says otherwise, there is a delay between the ingestion of a drug and the onset of effects. It takes 3 minutes for a powder to begin working if snorted, 15 minutes for a swallowed tablet to take effect, and 10 seconds if mixed with water and injected.

Dosage Limit

Most illegal drugs are prohibited because they are dangerous. Most such drugs require the GM to set a dosage limit. This number reflects how many times an individual can use a particular drug without ill effects. There are several methods of generating dosage limits — the GM should use different methods for different drugs, and not let the character know his dosage limit for any of the available substances — this will result in true risk on the part of the character taking drugs (which is as it should be with something as potentially harmful as illegal narcotics).

Method 1: Dosage is based on HT. The GM should multiply the character's HT by a preset number — anywhere from 3 to 10 — to determine the dosage limit

Method 2: Sum of Statistics. The dosage limit is equal to the sum of the user's ST, HT, DX and IQ (possibly multiplied by 2 or 3). The GM should modify the limit by Strong or Weak Will.

Method 3: Random. Roll 3d and multiply the numbers. For example, if the GM rolled a 5,3 and 2, the dosage limit would be 30.

The GM may also set a "recovery time" for each drug — at least 2 weeks. If the "recovery time" passes without the user taking another dose, subtract 1 from the effective number of times he has used that drug. Some drugs may have a very long recovery time, and for some, no recovery will be possible — the chemical byproducts are stored in the body *forever!*

Dryad

Dryad is the street name for Di-radiochloride, a bizarre form of irradiated swimming-pool chlorine that was discovered in the late 1990s. It is available in both powder and tablet form. Each dose of Dryad weighs 1/4 gram and costs $10; the effects last 30 + 5d minutes.

During this time, the user has the Overconfidence and Paranoia disadvantages. It also raises Speed by 1, but decreases DX (and all DX-based skills) by 1. If taken infrequently, Dryad is non-addictive. At the end of each week that a character has used Dryad more than once per day, he must make a Will roll to avoid Addiction. Dryad has no penalties on the withdrawal roll, and is a -5 point Addiction.

Face

Face (short for "interface") is the *drug de jour* among fast-lane netrunners. Face interacts with the user's neurons (if the neural interface doesn't exist in a campaign, neither does Face), causing them to fire at a faster rate. While under the influence of Face, a console jockey adds 1 to his Cyberdeck Operation skill. Face is physically non-addictive, although many netrunners *think* they can't live without it…

Prolonged use of Face can cause serious health problems. If a user passes his dosage level (see above) the GM should secretly roll 3d against HT each time that user takes Face. A failed roll indicates that the character has become Dyslexic (see p. B33). A critical failure results in the permanent loss of an IQ point. If someone continues to use Face after acquiring Dyslexia, the GM should continue making HT rolls — but now *any* failure results in loss of IQ.

Face is taken through an inhaler directly into the throat or nostrils. An inhaler with five doses costs $750 — not a cheap high by any means! Each dose lasts for 1 hour + 5d minutes, and takes 5 seconds to kick in after inhalation. A user can be *psychologycally* addicted to Face — this is a -20 point disadvantage (no minuses to the withdrawal roll).

Sandman

Sandman is the latest in mickeys — a high-tech, chemically engineered knockout potion. It is available in liquid, solid and gaseous form. In liquid form, it is odorless and nearly tasteless — a character with Alertness or the Poisons skill would get an unmodified IQ roll to notice it in a drink, otherwise it is unrecognizable. Each dose of the liquid is one tablespoon.

In solid form it is a plain white tablet that can be crushed and dissolved into a liquid. This is more noticeable than the liquid form, however — *anyone* gets an IQ, Alertness or Poisons (whichever is higher) roll to spot it.

It is also available in an aerosol spray. If you spray it at an opponent, roll veisus DX+3 to hit, then roll a Quick Contest of Skills if you hit. If the foe loses, he gets no defense. Otherwise he may Block or Dodge — but not Parry — the attack. A critical failure on your attack roll indicates that you got the can backwards and sprayed *yourself* in the face — no defense allowed!

Anyone ingesting a dose of Sandman — by any of the delivery methods — must immediately make a HT-3 roll. Each point that the roll is failed by costs 1d of fatigue.

If given a large dose, or a second dose within 2 hours of the first, the roll is made at HT-8. A critical failure on this roll sends the victim into a coma that will last 2d days.

A dose — one tablespoon of liquid, one 500-mg tablet, or a one-spray aerosol can — costs $150. Though illegal for civilians, Sandman is commonly used by police forces, both government and corporate; in general, Legality Class is 2. It is non-addictive.

Sin

Sin is one of the hot designer drugs on the 21st-century club and singles scene. It acts as an anti-depressant, aphrodisiac and uninhibitor without causing a hangover, which makes it popular. It also occasionally sends people into a psychotic killing frenzy, which makes it illegal.

While under the influence of Sin, a character adds the Compulsive Carousing, Lecherousness, and Overconfidence disadvantages. If he crosses the GM-determined dosage threshold (see p. 58), the GM should secretly roll 3d. Each time he takes it a 6 or less indicates that instead of the above disadvantages, the character gets Bloodlust, Sadism, and Paranoia.

Sin is manufactured in 100-milligram tablets that last 1d hours and cost $25 apiece. It is highly addictive (-5 on withdrawal roll), and is considered hallucinatory in the context of normal society. Sin is a -25 point addiction.

Slammer

Slammer is a violent psychoactive used primarily for combat ops and some totalitarian police forces. It is illegal for civilians, but is widely available and popular among street samurai, gang members and anyone else who enjoys senseless violence.

Slammer has few redeeming features. While under its influence, a user gains the advantages High Pain Threshold and Combat Reflexes. These are offset by -2 to IQ and the Bloodlust disadvantage.

Slammer is usually sold by the gram — enough for two doses — for $45. It comes in either powder or tablet although many military organizations package it in injection ampules. It is totally addictive (-10 to the withdrawal roll) and socially incapacitating. Point value of a Slammer addiction is -30.

Adders

This is a generic name for a group of drugs that temporarily add to ST, DX, IQ, HT or Move; each effect requires a different drug. One "dose" adds 1 point. The effect lasts a few hours; when it wears off, the affected attribute suffers a penalty equal to the original bonus but lasting twice as long.

To obtain the effect desired, a user must make a HT roll at -1 for every dose taken. If the roll is successful, the attribute is raised by the number of doses taken, for a number of hours equal to the amount by which the HT roll was made (one hour if HT is rolled exactly). If the roll fails, the attribute is raised by only 1 for one hour, regardless of the dose, but the attribute decrease after the hour is up will be as if the entire dosage had been effective. On a critical failure the drug *decreases* the attribute by the amount of doses taken, for one hour.

Once an Adder has been taken, no different type can be taken until the effects of the first wear off (or wholly unpredictable side effects may occur!) If more of the same Adder is taken within a 24-hour period, a new HT roll is made, at the penalty that would have been required if all those doses had been taken at once. The good effects, if any, are only those of the new dose, but the let-down period is extended as though all the drug had been taken at the time of the latest dose.

Adder users often feel very good under the effects of the drug — similar to the Overconfident disadvantage — and are at least mildly depressed after it wears off. Some black-market Adders, especially DX Adders, are addictive.

In most societies. Adders are only available legally to doctors. They are abundant on the black market popular with athletes, and are issued routinely to members of military and mercenary organizations. They come in pill form (takes 30 minutes to work) at $25/dose or hypo form (works immediately) at $50/dose. (These are legal prices; Streetwise, Merchant or Fast-Talk will determine the price in an illegal buy.)

Rage

A dose of this drug gives the user *double* ST and the Berserk disadvantage (see p. B31) for 1dx10 minutes. The drug requires ten seconds to take effect. After it wears off the user will be shaky and nervous; -1 on IQ and DX for as long as he was on Rage.

Cumulative doses may extend the effect's duration and will also extend the duration of the side effects. Rage has one other disadvantage: 1d hours after use, the user must roll vs. HT+2 or suffer a "flashback" to the drug effects, becoming berserk for 1d minutes (but without doubled ST!) and then suffering nerves and shakiness.

Rage is sometimes used by licensed physicians for psychotherapy; otherwise it is only found on the black market. It is injectable only, at $40/dose.

Nerve Poison

A single dose injected into the body (by hypo, needler, etc.) requires a HT-4 roll to avoid being paralyzed for (30-HT) minutes. 4d damage is taken if Neurovine is not taken within five minutes. A dose costs $5. Nerve poison is Legality Class 0.

Weapon Table

Melee Weapons

With the exception of LR (legality rating: see p. 110), weapon statistics use the same format as the ***GURPS Basic Set,*** Third Edition, p. B206.

Melee weapons malfunction only on a critical miss.

Weapon	*Type*	*Amt.*	*Reach*	*Cost*	*Wt.*	*ST*	*LR*	*Page*
Vibroblade	Imp/Cut	+1d(5)	-	-	-	-	3	48
Stun Wand	Spcl	Spcl	C,1	100	-	-	6	47

Ranged Weapon Tables

Each class of weapons (e.g., gyrocs and lasers) requires a different skill to use: this skill is given in brackets.

Malf: The die roll on which the weapon malfunctions. Almost all ***GURPS Cyberpunk*** weapons have a Malf of Crit. or better. *Crit.* means that the weapon malfunctions only on a critical miss when the roll on the Critical Miss table indicates a malfunction. *Ver.* means that the weapon requires a *verification roll*, another roll against skill. Any failure is the malfunction from the table; any success is simply a miss. *Ver. (Crit.)* means that the verification roll must be another critical miss for the weapon to malfunction. Any other result is simply a miss.

Type: The type of damage the weapon does — impaling (imp.), crushing (cr.), an explosion (exp.) or a special effect (spcl. — see the text description of the weapon).

DMG: The number of dice of damage the weapon does. A number in parentheses, e.g., (5), means the weapon is very good at piercing armor — the target's DR is divided by that number before subtracting from the weapon's damage. Note: gyroc weapons damage assumes APEX ammunition.

SS: This is the snap-shot number, the final to hit number necessary to avoid a snapshot penalty of -4 without at least one turn of aiming.

Acc: The weapon's accuracy modifier. See p. B115.

1/2D: The range at which the accuracy modifier of the weapon drops to zero and its damage is halved.

Max: The maximum range of the weapon under Earth-normal conditions.

Wt.: The weight in pounds of a loaded weapon, including magazine and/or power cells.

RoF: The rate of fire of the weapon. The number is the number of shots the weapon can fire each turn. If the number is greater than one. the weapon is capable of automatic fire, i.e.. that many shots will be fired if the trigger is held down for the entire turn. A ~ indicates a weapon that is not automatic, but can fire up to the indicated number of times per turn. All automatic weapons are capable of selective fire, i.e., they may fire either automatically or with RoF 3~. A fractional RoF (e.g., 1/10) means that the weapon can fire once, but then requires that number of turns to reload before it can be fired again.

Shots: This is the number of shots the weapon's magazine holds. /A, /B, /C, /D or /E refers to shots per *power cell* — see p. 43. Unless the weapon has a fractional RoF (see above) it takes three turns to replace a magazine or cell.

ST: The minimum ST required to avoid an extra turn of readying the weapon after it is fired, and extra recoil penalties. T means that the weapon is normally used from a tripod mount; it uses Gunner rather than Beam Weapons skill (e.g., Gunner (Flamer)). Tripods take three turns to set up, and are fired while the user is prone or kneeling. Minimum ST only applies when firing the weapon from the shoulder or hip. Tripod mounted weapons can also be fired from mounts on vehicles, walls, etc. It takes three turns to mount or dismount a weapon normally; exceptions are up to the GM.

Rcl: The recoil penalty of the weapon (p. B 119).

Cost: The retail price of the weapon.

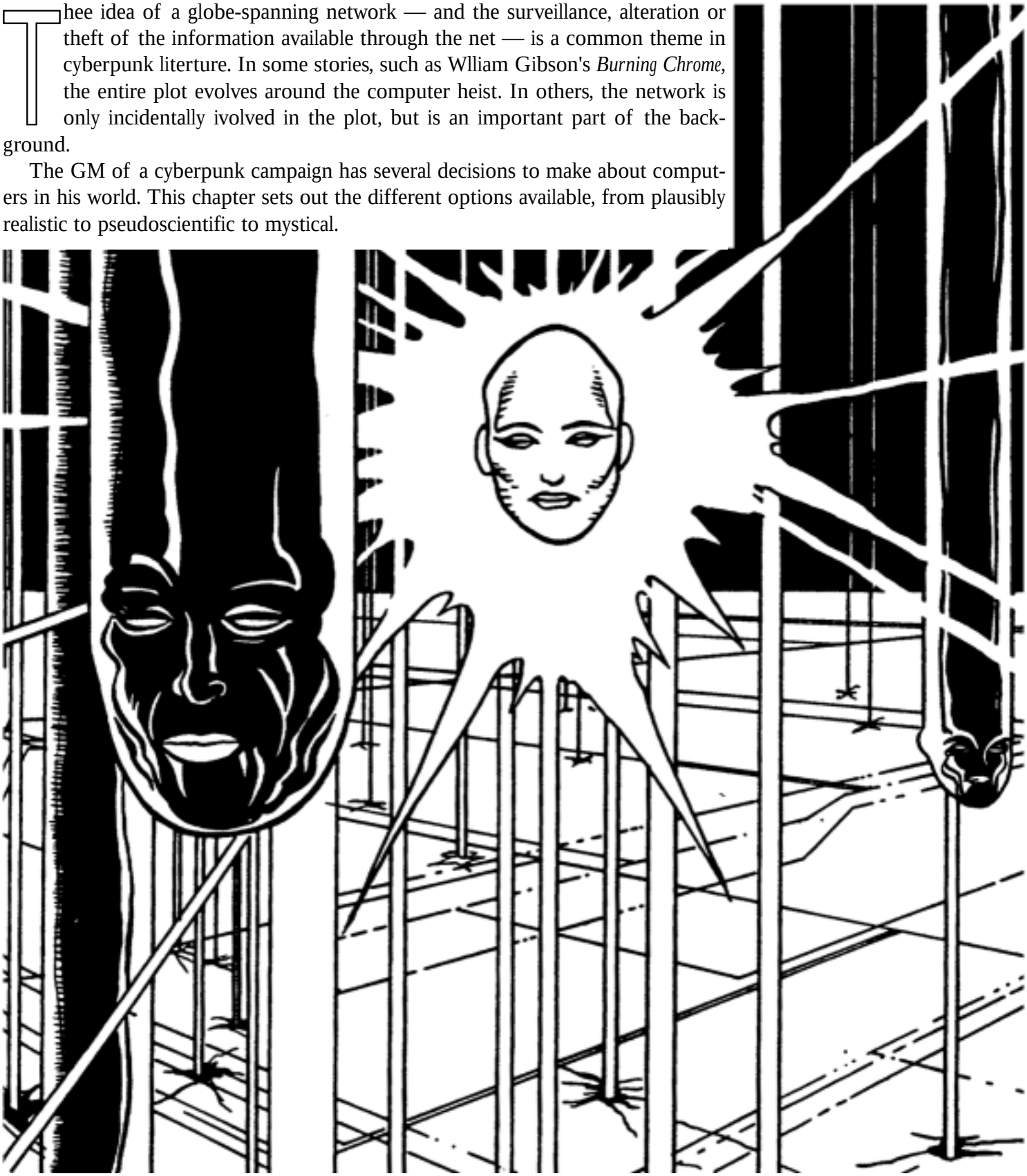
LR: The Legality Rating of the weapon. See p. 110.

Weapon	*Malf*	*Type*	*DMG*	*SS*	*Acc*	*1/2D*	*Max*	*Wt*	*RoF*	*Shots*	*ST*	*Rcl*	*Cost*	*LR*	*Page*
CHEMICAL SLUGTHROWERS [GUNS (PISTOL OR RIFLE)]															
Sporting Pistol	Crit.	Cr.	1d	9	6	50	200	1	3~	40	7	-1	200	4	43
Machine Pistol	Ver.	Cr.	3d	10	8	180	2,000	3.5	10	30	9	-2	700	2	43
Assault Carbine	Ver.	Cr.	6d	12	11	1,000	4,500	7	10	30/30	9	-1	1,000	1	44
GYROC [GUNS (GYROC)]															
Launch Pistol	Ver.	Spcl.	8d(2)	12	5	1,800	2,500	4	3~	3/3/3	—	0	800	2	45
Rocket Carbine	Ver.	Spcl.	8d(2)	15	7	1,800	2,500	9	10	10/10	—	0	1,500	1	45
ARL	Ver.	Spcl.	8d(2)	16	9	1,800	2,500	20	10	20/20/20	12T	0	3,000	0	45
LASERS [BEAM WEAPONS (LASERS)]															
Laser Pistol	Crit.	Imp.	1d	9	7	200	500	2	4*	20/C	—	0	1,000	3	46
Heavy Laser Pistol	Ver. (Crit.)	Imp.	2d	9	8	300	800	3	4*	12/C	—	0	1,500	2	46
Laser Rifle	Crit.	Imp.	2d	15	13	900	1,200	5	3~	12/C	—	0	2,000	4	46
Mil. Laser Carbine	Ver.	Imp.	ld+2	10	12	750	1,200	7	8	200/D	—	0	3,000	1	46
Mil. Laser Rifle	Ver. (Crit.)	Imp.	2d	12	15	1,500	2,000	9	8	140/D	—	0	4,000	0	46
NEEDLERS AND GAUSS GUNS [(GUNS (NEEDLER)]															
Gauss Needler	Ver.	Imp.	ld+2	10	4	100	300	1.5	12	100/B	—	0	2,000	2	44
Gauss Needle Rifle	Ver.	Imp.	2d+l	14	11	500	1,000	6	20	100/B	—	0	2,000	2	44
Needler	Ver.	Imp.	ld+2	9	1	100	300	1	3~	100	—	-1	500	3	46
Needle Rifle	Crit.	Imp.	2d	13	9	300	800	5	3~	100	—	-1	1,200	4	46
TANGLERS [GUNS/TL (TANGLER)]															
Tangle Pistol	Crit.	Spcl.	—	5	6	—	15	3	1	2	10	-4	500	5	46
Tangler	Crit.	Spcl.	—	6	8	—	20	6	1	5	8	-4	1,000	5	46
GRENADE LAUNCHERS AND MORTARS [GUNNER (GRENADE LAUNCHER)]															
Electromag Gr. L.	Crit.	Spcl.	Spcl.	10	8	—	1,000	10	1	5	—	0	5,000	0	48
Electromag Mortar	Crit.	Spcl.	Spcl.	20	15	—	6,000	70	1	20	15T	0	15,000	0	48

4 Netrunning

Thee idea of a globe-spanning network — and the surveillance, alteration or theft of the information available through the net — is a common theme in cyberpunk literture. In some stories, such as Wlliam Gibson's *Burning Chrome*, the entire plot evolves around the computer heist. In others, the network is only incidentally ivolved in the plot, but is an important part of the background.

The GM of a cyberpunk campaign has several decisions to make about computers in his world. This chapter sets out the different options available, from plausibly realistic to pseudoscientific to mystical.



Handles

For obvious reasons, most netrunners do *not* wish to use their real names and identities as they ply their craft. Instead, most use a *handle* — a pseudonym that becomes their alternate identity (both in the net and on the street).

Some people choose a handle whimsically, on the spur of the moment. Others spend many days or weeks agonizing over an appropriate choice. There are many possible sources for a handle. Some are actual words, others are clever (or not-so-clever) puns and alterations.

Technological: This is probably the most popular category. Most netrunners are technophiles, and like to advertise that fact in their choice of handle. Examples include Form Feed, Line Noise, Deckmaster, Plug Head, etc.

Philosophical: Some deckers are idealists, working for a social, religious or political cause. For example, Chicago 7, The Libertarian, Zen Master and so on.

Historical: Many netrunners have a favorite character from history or popular culture that they wish to be identified with. Timothy Leary, Abbie Hoffman, John Lennon, Elvis, etc.

Literary: Similarly, some netrunners identify with characters from literature, drama, film and holos: El Cid, George Hayduke, Cyrano, Henry Gondorff, Tom O' Bedlam, Glenda the Good Witch.

Image: Many handles are just concerned with the image that the netrunner wishes to project: Network Ninja, Black Magic and so on.

Tempest equipment

In the late 1980s, surveillance equipment was developed that could read data being displayed on an ordinary terminal or monitor through its RF emissions. This is known as *tempest* equipment. Shortly after its discovery, any government systems that are used to process secure data were required to be *tempest hardened* — that is, their RF emissions must be shielded to protect from this kind of eavesdropping.

Tempest equipment is expensive — a setup that will allow a character to read a computer display from 100 yards away costs $500,000, weighs 75 pounds, and takes up 1 cy. This comprises a monitor, antenna, and processing unit.

It raises the cost of a computer by 25% to shield it from this type of unwelcome observation… but in some cases, it's worth it!

What is the Net?

Many computers are equipped with devices which allow them to directly connect with other computers — modems, packet controllers, fiber optic interfaces, satellite links and the like. As these computers connect to other computers which connect to still other computers, they form a network of immense complexity.

Each machine on the network is called a "node." The types of machines connected to the net run the gamut from dumb terminals (which allow access to the net but have no processing capability) to small personal computers or cyberdecks (such as those most frequently used by PCs) to academic computing facilities to bank mainframes to huge corporate AIs.

If the GM plans to allow his players to explore the net, he must first "map" it, deciding which computers are on the net, what paths the characters must take to get there and what security measures they employ. See *Mapping the Network*, p. 82, for guidelines and for tables that can be used to randomly design areas of the net.

The GM must also decide how "realistic" he wants his campaign world to be — whether he would rather extrapolate directly from existing computer technology, or go for the flash of *cyberspace.*

Realistic Networks

Many GMs and players will not be interested in the cinematic convolutions of the cyberspace — either their campaigns are set in a near-enough future that the required neural interfaces (see p. 72) are technologically unfeasible, or the GM wants to directly extrapolate his network from existing models. This is perfectly valid — remember, cyberpunk is a genre defined by the *struggle*, not by the computers!

In a "realistic" setting, there are no such things as neural interfaces and cyberdecks — only regular computers, very similar to those in use today.

Those interested in the cyberspace model of a computer network should read this section first, as many of the concepts will be referred to in the cyberspace rules.

Computers

Digital computers first appeared in the early days of TL6. At TL7, they are already vital to the operation of society, and at higher tech levels their importance continues to increase. The following rules may be used for computers at all TLs, but special concentration has been placed on the near-future computers of a "realistic" cyberpunk campaign.

Any computer can be linked via a communicator or cable to another computer. The small computer then becomes a terminal of the larger one, allowing (at least theoretically) access to all its power. Of course, to enter a system, the user must know — or discover — the necessary passwords. Accessing an otherwise secure computer is difficult; see *Computer Security*, p. 69.

Hardware

Computers are rated in terms of *Complexity* — not of the computers themselves, but of the programs that they can run. Complexity 1 is the simplest; Complexity 6+ computers may be self-aware.

Each Complexity level represents processing power 10 times greater than its predecessor. A Complexity 3 computer is 10 times faster than a Complexity 2 computer and 100 times faster than a Complexity 1 computer, for instance. See *Software*, p. 64, for further information.

Dedicated Computer: This system provides built-in computer capacity for a single device. It runs one, and only one, program, which is hard-wired in and cannot be changed. The Complexity of the computer is equal to the Complexity of the program. Cost is typically (1d x 10%) less than the cost of an equivalent general-purpose computer, plus the cost of the program.

Personal Computer: In a campaign that doesn't use cyberspace rules (p. 72), personal computers will be Complexity 2 for the most part, although top-of-the-line equipment designed for government or covert corporation operatives might be Complexity 3 (or even 4!).

A typical personal computer will have a high-resolution color display (some will be touch sensitive), a keyboard, a mouse or trackball, and a voice interface of some sort. It has connections for devices such as printers or plotters, and will have a port that can be linked to a communication line to allow it to access the network.

It can easily fit into a briefcase, weighs 2 pounds, costs $1,000 and can run for one year on a B cell.

Minicomputer: This is the workhorse of the computer business. Almost every middle-class household at TL8 has a system like this, serving as the "house brain." Small businesses, or separate departments within a larger business, also use mini systems. At TL8, a minicomputer is Complexity 3 and costs $15,000. It can run for six months on a C cell, or indefinitely if connected to a standard 110- or 220-volt line.

At TL8, the *smallest* mini weighs 30 pounds. The actual size and shape varies with the job; one common style is a flat package about 2" x 12" x 20" with a fold-up screen and slide-out keyboard. This model usually has a luggage handle and attachments for straps, so it can be worn as a knapsack. Cost is $30,000 — the portability adds to the expense.

Microframe: These multi-user Complexity 4 systems are for such applications as large passenger ships and university learning centers. The base cost of the system is $40,000, plus $2,000 per user. A microframe weighs approximately 400 pounds and has a volume of 4 cy; it runs for six months off of an E cell, or indefinitely if connected to the AC mains.

Mainframe: Used for control and systems monitoring functions for a major business, manufacturing complex or laboratory. It is normally connected to a ship's or building's main power supply; it may have an emergency power backup, but this will be a bank of 50+ E cells (which will keep the computer running for about a week). A mainframe is Complexity 5 and costs $200,000 plus $1,000 per user. It weighs at least 500 pounds and occupies 6 cy, not counting the weight and size of its terminals and peripherals.

Megacomputers: This machine is normally not available until TL9, although a cyberpunk GM might wish to introduce it as a "surprise" for the characters. Commonly referred to as a *megacomp,* this Complexity 7 machine is most often found administering the traffic, sewage, power and other maintenance functions for an entire city! It will also handle the local government's bureaucracy and paperwork. These systems *must* be installed in a building devoted solely to the purpose. The machine runs off the regular AC line, but will almost definitely have a large bank of E cells (usually 100+) and/or its own generators in case of long-term power outages. Cost is $2,000,000 or more, which means they are usually only purchased by government agencies or major corporations (although megacomp owners will occasionally rent out unused time and storage space). Volume and weight are variable; the minimum size, for the simplest systems, is one ton and 10 cy.

Sentient Computers: The most unique characteristic of megacomps is that they have the potential to become self-aware. Once per year the GM can roll 3d for

Traces

As society grows more and more centralized around computers, it becomes harder and harder to do *anything* without leaving an electronic trail of one variety or another. Some netrunners are specialists at tracking people by this trail — high-tech bloodhounds, one might say.

If the netrunner knows where to look — bank records, government record computers, etc. (and has penetrated these systems), then he can search through the system databases and look for clues as to the subject's whereabouts. This process is also known as "doing a GOTO" on some-one, an expression derived from computer programming languages.

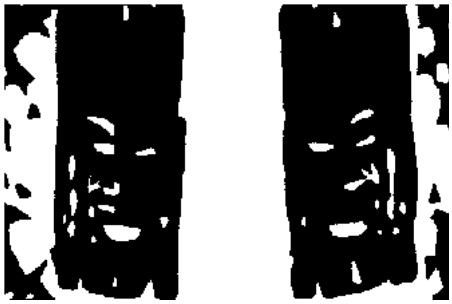
The GM doesn't have to give out the subject's current address and phone number — although a critical success while searching through the database should yield this information — but instead should offer clues. "He purchased a plane ticket to Cairo from a travel agent in Fresno," for instance.

Encryption/Decryption

Sensitive data, especially if it isn't constantly in use, is often stored in an *encrypted* form. To anyone without the appropriate decryption program, the information is meaningless (and useless).

A good encryption program is Complexity 2 and costs $1,000. It takes one hour to encrypt (or decrypt) one gigabyte of data on a Complexity 2 system (adjust by factors of ten for faster or slower machines). Normally, the encryption process can only be reversed by someone who knows the *key* that was used to encrypt it (similar to a password). If someone acquires an encrypted file, he *might* get lucky and guess the key (especially if he knows something about the person who chooses the key). The hacker should roll 3d, subtracting 1 if he knows basic information (name, address, relatives' names, etc.) of the person who encrypted it, 2 if he knows them intimately (GM's discretion). On a modified roll of 3, the hacker has successfully guessed the key. Repeated attempts are allowed, but each successive try (by *anyone* in the party or anyone they hire) is at a cumulative +1. Each attempt takes 15 minutes.

A programmer who has access to a large computer (a microframe or bigger) can write a program that will attempt to decrypt the information. This requires a successful roll versus Computer Programming-6. Such a program takes 1d days to design — roll at the end of the period.



Integrated Services Digital Network (ISDN)

As the net becomes more sophisticated, there will no longer be communication lines dedicated to strictly phone or strictly data transmissions. Instead, net communication will consist of broadband transmission that integrates both audio and video (either two- or three-dimensional) in real-time. If the campaign net is sufficiently advanced, neural impulses that control taste, smell, touch and other senses can be sent over communication lines.

Information about source and destination can also be easily encoded into an ISDN transmission. This will allow selectivity on the part of the receiver as from whom he will allow incoming transmissions (especially if there is a bill associated with the transaction), while allowing distributors to track exactly who accessed their service and charge accordingly. This will result in a massive restructuring of the services available via computer or commline.

Several of the services listed here are already available in 1995 (pay-per view movies and sports, interactive television, and videophones), while others are technologically possible, but not yet common (music, publishing, and games).

Movies: Instead of paying to go the theater, cinemaphiles will be able to have first run movies projected directly into their homes. Prices will be on a per-view basis; if the movies are not copy protect-ed, the distributors may have to charge enough to recover their investment on the first few viewings.

Interactive Television: This service is already available on a limited basis in the 1990s. Viewers are able to influence the decisions made by characters on their favorite TV or Tri-V show by registering votes with the show's producers. Home shopping will become more commons as shoppers can page through hypertext menus and catalogs, viewing the same garment or item in many different colors and styles. With holographic projection, one could even "try on" clothes via the network, as a 3-D image of the garment is projected over the body.

Continued on next page…

each megacomp in his campaign. On a 6 or less, it will "wake up." A newly awakened megacomp can be a powerful ally (or deadly enemy) for a group of PCs (see *Ghostcomps,* p. 56 and *AIs,* p. 83, for more information). When a computer becomes sentient, it is immediately upgraded to Complexity 8 in terms of processing capability.

Using Computers

At TL8+ all computers can have voice-instruction capability; Computer Programming rolls are not required for most purposes, and Computer Operation skill is at +3.

Complexity 2 computers can give simple spoken replies; Complexity 4+ systems can understand idiomatic conversation and reply in kind (within the machine's realm of expertise, of course). Voice-recognition and interpretation programs allow a user to operate his computer, and give a degree of security (e.g., "Don't load this spreadsheet, or even acknowledge its existence, unless you hear the password 'Chaboonagoonga' in *my* voice"). The GM has the ultimate decision as to the capabilities of a program and the response of a computer when given an followable order. Simple systems can be dangerously literal-minded.

The capability of a computer depends on its library of programs. Not all software can run on all computers. A program of Complexity 2 can run on a system of Complexity 2 or above, but it may not be able to run on a Complexity 1 system — and even if it can, there is a significant speed penalty (see *Software,* below).

The maximum number of programs that can be run *simultaneously* is calculated as follows: A computer can run two programs of its own Complexity level, 10 programs of the next lower level, or one program of its own level and 5 programs of the next lower level. The capacity of a system can be increased by 50% (to three programs of its own Complexity level, 15 programs of the next lower level, etc.) for a 50% price increase.

Thus, a Complexity 1 computer can run two Complexity 1 programs. A Complexity 2 computer can run two Complexity 2 programs, 10 Complexity 1 programs, or one Complexity 2 program and five Complexity 1 programs. A Complexity 6 computer can run two Complexity 6 programs, 10 complexity 5 pro-grams, 100 Complexity 4 programs — all the way down to 100,000 Complexity 1 programs — all at once! Since most programs are Complexity 4 or less, this makes a Complexity 6 machine *very* powerful.

Software

For gaming purposes, there are two types of programs — analysis and real-time. Real-time programs are things like Targeting, Gunner, Piloting, Stock Market Monitor and so on, which interact with events immediately as they happen. These programs must be able to run at full speed at all times — a 5-second delay in firing a weapon could be disastrous in the midst of battle. Analysis programs include databases, Environmental Analysis, Navigation, etc. They generally take about 10 minutes to execute when run on a system of their own complexity.

A real-time program is useless on a machine of lower Complexity than the program — it simply can't run fast enough. An analysis program can be run on lower Complexity machines from the same TL, but each decrease in Complexity increases the time it takes to run the program by a factor of 100! Increases in Complexity *reduce* the time by a factor of 10, but only if the computer treats it as a problem of increased Complexity.

Example: Plotting a course with a Complexity 5 Astrogation program normally takes 10 minutes. It would take 1,000 minutes on a Complexity 4 computer and 10,000,000 minutes on a Complexity 2 hand computer! A Complexity 6 computer, treating it like a Complexity 6 program, would plot the course in one minute.

Program Storage

At TL8, most software is stored on disks about 3" across, similar to today's audio compact discs (and using the same type of retrieval system — in fact, a disk can have both audio and computer data tracks). Each disk holds approximately 10 billion bytes (10 gigabytes, or *gigs*) of data. Blank disks cost $5 each, and ten of them weigh one pound. These disks can both be read from and written to, unless they are "write protected," in which case they can only be read.

Software can also be burned onto a chip and encased in a plastic package that plugs into a standard cyberdeck slot (see p. 75). These are about the size of a deck of playing cards — hence the term *ROM deck* (*ROM* stands for *Read-Only Memory,* so-called because it can only be read, not written to). A ROM deck weighs one pound and plugs into a computer's interface slot. Normal computers only have one or two slots for ROM decks; cyberdecks, however, need more. Buying a program or database on a ROM deck costs 50% more than buying it on disk, and changing the information in the deck is impossible without buying a new deck — but programs and databases in ROM run twice as fast as their equivalents on disk. (All of the security and ice programs provided are assumed to be on a ROM deck.) See Copy Protection, p. 78, and ROM Burner, p. 51 for information on copying a ROM.

All normal (non-cyberdeck) computers are assumed to have a number of slots equal to their Complexity at no additional charge. These slots are usually used to run ice (see p. 92). Increasing the *final* cost of a computer system by 50% *doubles* the number of slots. No further increases are possible. If a computer doesn't have any slots available, it can run any cyberdeck programs from disk. This doubles their Execution Time, but reduces the price of the program by 25% (as it is cheaper to make a disk than a plastic ROM deck.)

Increased Skills

Standard programs give a character a +2 bonus to the appropriate skill, or raise his effective skill level to 12, whichever is higher. This can be increased, at a cost.

For each extra +1 to the program's skill or skill bonus, double the cost. For instance, a Targeting program (Complexity 1, $5,000) with a skill of 12 would have skill 13 for $10,000, skill 14 for $20,000 or skill 15 for $40,000. See *Skips,* p. 40, for information about chip-in skills.

Typical Programs

Accounting: Used to manipulate numbers, do financial projections, and so on. Complexity 2, $1,000.

Datalink: Also called a *smart terminal,* this enables a computer to link (through a cable or communicator) with another electronic device, such as a portable radar, scanner, etc. When connected through a datalink, the computer can display data from the other device and can control it by sending instructions through the link. This program is also used to communicate with other computers through information retrieval services. Complexity 1, $400.

Electronics Repair: In conjunction with the probes from an Electronics Tool Kit (see p. 52), this program troubleshoots any electronic device in its technical manual database. Roll against the program's skill to see if it recognizes the unit being repaired; a success tells the operator what to fix and how to fix it. This program gives a +2 to Electronics or Electronics Operation, or 12 on the appropriate skill, whichever is higher — *for repairs only.* Complexity 2, $500. See p. 67 for technical databases.

ISDN (Continued)

Publishing: The laser printer will become a standard accessory in the home, as prices continue to drop. The publishing market will boom as it becomes less and less necessary to actually *print* 100,000 copies of a book. Instead, the reader downloads the text to his laser printer where it is poured out and neatly bound (glue is cheap). If color technology continues to grow cheaper, the reader will even get a copy of the book's cover and interior color to go with it!

Games: While there are several versions of online, interactive games available through commercial computer networks in the 1990s, these are characterized by limited graphics (usually based on text characters) and low sophistication. With the advent of wide-band interactive transmissions, new heights can be reached in simulation. Imagine a fantasy roleplaying adventure in which party members were players from around the country, each having a realtime display of the surroundings and the other characters transmitted into their living room (or directly into their brain, if neural interface technology is available!). See the *Dreamgames* sidebar, p. 66.

Communication: People will phone each other, but they will have the option of a real-time video or holovid display to accompany the voice. Of course, there will be a method to disable the video mode for the inevitable times that the phone rings while you are in the shower!

In addition, it will be much easier to add two, three or even more people to a discussion — possibly with each one occupying a different "window" on the screen.

Music: With storage media cheap and plentiful, a 5 megabyte per second data transmission can send the average compact disk in about 90 seconds. This service would work much the same way as the movie and publishing services do.

There would also exists the possibility of online "jams" — widely separated musicians getting together to play. If MIDI (Musical Instrument Digital Interface) is incorporated, the artist doesn't even have to be on the same continent as his instruments!

Dreamgames

Also known as "feelies," these interactive simulations have the scope and production values of a hit movie, the immediacy of an arcade game in a totally absorbing full-sensory environment. They require a neural interface, so they may not be available in all campaign worlds. The user just jacks in, starts the simulation, and becomes the hero of the story.

The most popular kinds of dreamgames are action-adventure stories, gothic romances and pornographic romps. In a dreamgame, the software simulates the personality of every character except the hero, the plots are tightly crafted, and the images and effects are exciting and all-encompassing. Everything is focused on the hero, and the story moves quickly from scene to scene, always keeping a high level of involvement and adrenalin from the user.

Some are done in episodes lasting 30 to 60 minutes; a complete plot can stretch over dozens or even hundreds of episodes. The most sophisticated dreamgames have several subplots and alternate tracks, giving the user a real feeling of decision-making. The software has little tricks and hints to move things along the right path: at several key junctions there are short "failure tracks" which indicate that the hero has made a wrong decision, while giving him a believable way to get back on track. Others are designed as "epic mini-features," a single storyline lasting from an hour and a half up to as much as six hours. These present a storyline which comes to a definite climax and ending, although some have many sequels.

Continued on next page…

Engineering: This is an advanced CAD (computer-aided design) engineering program. Each Engineering specialty has its own program, which gives a +2 bonus to that skill only. Complexity 2, $5,000 plus cost of databases.

Expert Systems: These are programs with the knowledge of an expert in a particular skill, such as Shipbuilding, Biochemistry or Arctic Survival. Although they can be asked "what-if" questions, they are unlikely to bring any new insights to a problem, and cannot be used for original research or invention. Expert systems are available for all Professional and Scientific skills and for Survival, Diagnosis and Intelligence Analysis. There are also black market programs floating around the underground for skills such as Computer Hacking.

Expert systems have an effective skill of 12 for Mental/Average skills, 11 for Mental/Hard skills and 10 for Mental/Very Hard skills. They are used in place of the character's own skill, but the time taken to perform a skill with the assistance of an expert system is doubled. Expert system programs are Complexity 3 and cost $10,000 for Average skills, $20,000 for Hard skills, and $50,000 for Very Hard skills. Expert systems with higher skill levels are possible; an increase of one skill level doubles the cost *and* increases the Complexity by 1. Triple the cost of an expert system for any *illegal* skill.

Internal Security: This program monitors and controls a building's or ship's internal security systems. It has a skill of 14 on its own, or adds +2 to the Electronics Operation (Security Systems) skill of a person working with it. Anyone attempting to fool its security sensors must win a Contest of Skills, his Electronics Operation (Security Systems) against the Internal Security program's skill level. Complexity 3, $2,500.

News Daemon: This program constantly scans news channels for stories and articles on subjects it is set to watch for. It can store them for later retrieval, or instantly alert the user to an important story. Complexity 1, $500.

Targeting: Linked to fixed- or vehicle-mounted weaponry, this program gives a +1 to the skill of a human gunner. The number of guns that can be aided at once is limited only by the system's capacity; each gun requires a separate copy of the program in memory (of course, these can be copies of the program originally purchased). The computer must have the necessary sensors and connections (cost typically 10% of weapon cost, or a minimum of $500 per weapon). Complexity 1, $1,000.

Desktop Publishing: Used to create and manipulate image and text files and to do simple grammar, spelling and usage checking. Complexity 2, $1,000.

Writing Custom Programs

At TL8+, a system can be programmed to do just about anything. Good programming is expensive at any tech level, of course; the GM should allow characters to order custom programs, but they should be *expensive.* It will also need extensive testing, since any custom program is *very* likely to have some amusing bugs in it when it is first used.

If a character wants to write his own computer program, use the *New Invention* rules (p. B186), using Computer Programming instead of Engineer, with a skill penalty equal to twice the Complexity of the program rather than -15.

Databases

A *database* is a collection of information in computer-readable form — anything from an encyclopedia to a personal address list. At TL8+, any database has its own built-in search and indexing programs. For any database of a given size, the wider the subject it covers, the less detail it has. The size of a database is measured in gigabytes.

One gig might hold any one of the following:

General information about a thousand star systems; complete physical data about a single star system; the complete history, in rough detail, of a world; the complete history, in fine detail, of a whole world for 20 years; a year's financial records for a medium-sized business; complete dossiers on 100 people, in incredible detail; a large bookshelf full of books of any kind; a translation database, with dictionary, grammatical rules, and a detailed cultural referents, for any one language.

Technical databases are important. One gig might hold a complete technical manual for a space shuttle, or for ten different jets, or 100 types of complex vehicle, or 1,000 simple vehicles (e.g. automobiles), weapons or complex electronic devices, or 10,000 different makes of radio, tape deck or similar device. (Actual blueprints for designing devices take up 100 times as much space.)

Datachip costs vary widely — commercial databases run into the thousands, while common encyclopedia-type public information can be had for a few hundred dollars. Secrets, specialized information, or information costing lives or money to gather, will be more costly.

Datachips

A database can be stored on a ROM using a ROM burner (see p. 51). This increases the cost of a database by 25%, as it is necessary to burn the search and retrieval software in with it. A chipped database (known as a datachip) accesses information ten times faster than its disk-based relative.

There are a wide range of databases available on datachip. Some of the more interesting ones include:

A collection of dirty limericks.

The *Encyclopedia Britannica*

The works of William Shakespeare.

Police records of everyone booked in a certain city (only available to law enforcement officers).

Religious databases (the Bible or the Koran; *Strong's Concordance*, etc.)

A three-gig database of the ***GURPS Basic Set,*** Fourteenth Edition.

Law books.

Gray's Anatomy (popular with physicians).

The *Oxford English Dictionary*.

Datachips are also used by businesses to help their customers. Public libraries, tor instance, usually have card catalog datachips that can be plugged in upon try, and large retail stores often have kiosks where a shopper can plug in a chip (usually secured by an unbreakable cord) to find a particular item.

Mass Storage

As storage capabilities rise, system storage capacity (hard disk, laser-cube, etc.) will increase beyond the normal user's ability to fill it. For game purposes, assume that the base cost of a computer system includes enough storage space to run the maximum number of programs allowed by the computer's Complexity level (see below).

Dreamgames (Continued)

Related to these are "dream simulations," which use the same technology, but are designed to focus on a particular type of activity, training the user in a particular skill. Although these are still very interesting and lots of fun, they are not quite as intricate as entertainment dream-games, but because the scenarios are simplier, simulation elements can be varied in infinite combination, allowing the simulation to be looped and continue as long as desired. Popular tides might include the "People Management Interactive Seminar" and "Interstate 666" (a driving simulation). Simulations like "Geology Workshop" are strictly educational, but even the most academic can be somewhat enjoyable; "Pharaoh" is a resource-management simulation designed to teach the player the intricacies of running a large kingdom, but players find they enjoy the sense of power they get from sending out massive armies and holding the fate of thousands of people in their hands!

Dreamgames can be addictive; a user must make a Will roll each full hour of simulation, at -1 per consecutive hour (in any given day) to avoid becoming addicted. Dreamgaming is an expensive, incapacitating addiction worth -15 points. Dream simulations are much safer, even the most exciting only require a Will roll every two hours, and many less often than that. A character might also have a Delusion that the dreamgame was real and reality was the dream; if it's a matter of doubt, it would be a major (-10 point) Delusion, while if a character did not believe at all in the reality of the world around him, thinking it was only a bad dream, this would be a severe (-15 point) Delusion.

Another popular attraction will be online pornography. This service would allow the user to choose from a wide palette of sexual fantasies, all to be sampled electronically — the ultimate in safe sex. If the computer offering the service is sophisticated enough, it will actually be interactive, rather than limiting the user to a preprogrammed script. A character with the Lecherousness disadvantage has an automatic -4 on his Will roll to avoid addiction.

Access Levels

For simplicity, the basic rules here refer to only two levels of access — user and superuser. GMs wishing to add more realism can add any number of levels for computer access — the netrunner should never know what type of account he's hacked into! Some of the more common ones are:

Guest or Demo — this allows anyone to log in without having to enter a password, but only allows a *very* limited set of commands to be executed. Typical commands might be: contact the system operator, leave electronic mail to someone, chat with other users, apply for a normal account and run a demonstration program explaining what the company does. A Promote program is at -4 if executed from an account of this type, as they are usually safeguarded against this sort of tampering.

Project Leader — this might belong to the leader of an engineering team. or perhaps to a college instructor. It gives the user complete control over a certain number of subordinate accounts, but no power over anyone outside of the group. It usually has the facilities for creating an account with normal access, however. A Promote program is at +1 when operating from this sort of account.

Assistant Operator — This account is one step short of superuser. It is allowed to go anywhere and look at anything, but cannot alter or delete files not belonging to it. It can usually create and delete accounts, however. A Promote program is at +3 if operating from an assistant opera-tor account.

Specialty Accounts — Many accounts are set up to fulfill a single function. To use a modern example, the "uucp" account on a Unix system exists only to transfer files from machine to machine. It is difficult to find a use for an account of this nature — they are hard to subvert to other purposes. A Promote program is at -4 when operating on one of these accounts.

However, systems running truly massive database programs will require extra storage capacity. If a system is to hold databases of more than (*Complexity* x 100) gigs, it will need extra mass storage. At TL8, one *terabyte* (one trillion bytes, or 1,000 gigs) of protected memory costs $10,000, weighs 500 lbs., and takes up about 1 cy.

Evolution of the Net

By the late 1980s there was already a well-developed worldwide computer network. American packet-switching networks such as GTE Telenet provided access to thousands of computers around the world, such as Dacom-Net in South Korea, Venus-P and DDX-P in Japan, Datapac in Canada, Isranet in Israel and many, many more (see sidebars, pp. 70-71). Anyone with the proper NUI (network user identification), can connect to these networks at will.

There are also many different computer networks and information services within the United States — from free, public access nets like USENET to toll networks such as CompuServe and MCI Mail to hobbyist-run computer bulletin board system (BBS) networks such as FIDOnet and Wayne Bell's WWIVnet. These nets allow system operators (sysops) and users to share information with and send mail to BBS users on different systems around the city, state, country or world.

Types of Nodes

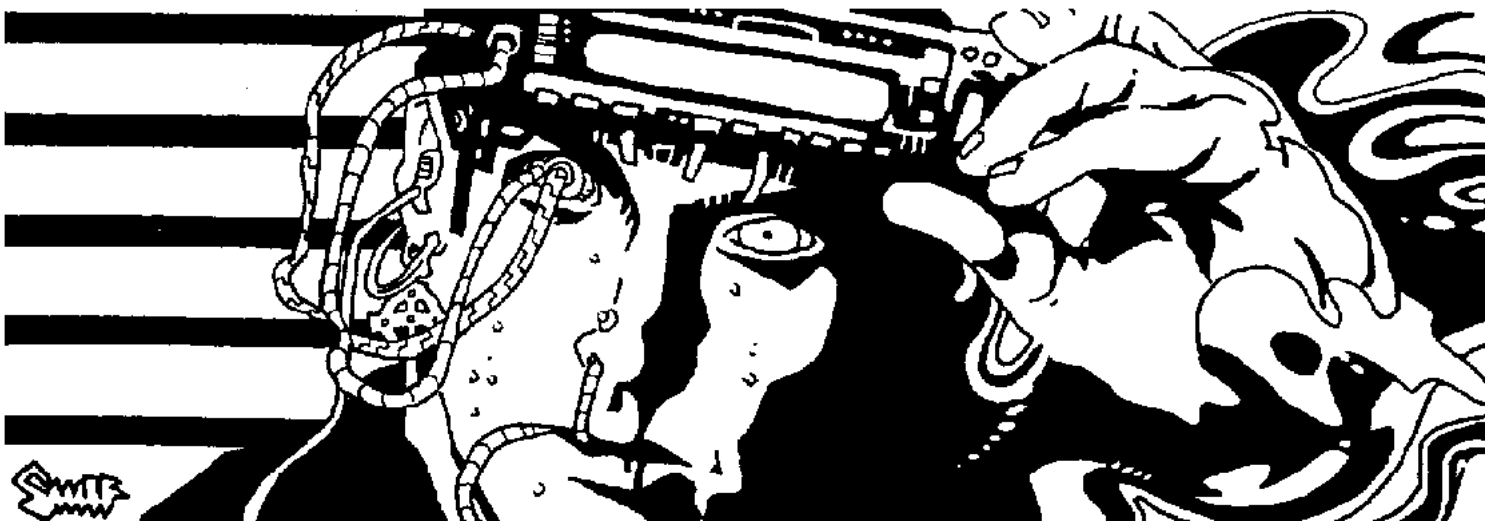
There are three different types of nodes in a computer network: public, normal and secure.

A public node allows anyone who wants access to have it, usually through a non-passworded guest account. These include public mail systems, open-access databases and multi-line chat systems.

Normal nodes make up the bulk of the net. These are privately-owned systems (whether business, government or academic) with standard security measures. All users need a password to get on, and some sort of accounting is done on a daily or weekly basis to determine who has been using the machine.

Secure nodes are owned by people who take active measures to prevent unauthorized access, such as callback modems, called line identification and shadow password files. These nodes are typically high-level government or corporate systems, or contain easily abusable information (phone switching computers, account billing information for large companies, Department of Defense systems, etc.).

See *Mapping the Network*, p. 82, for information on designing a network.



Computer security

Adventurers may want to break into a computer system — usually to steal, alter or destroy information, although they will occasionally just want to have a look around (or to prove they can do it in the first place). To do so, the adventurer must have access to the system, whether through a dedicated terminal or by using a Datalink program (p. 65). A totally self-contained system cannot be penetrated from outside, but few systems are totally self-contained (see *Evolution of the Net*, above).

Users and Superusers

For game purposes, there are two type of accounts set up on a system — normal user accounts, or *users*, and high-privilege accounts known as *superusers* (if the GM desires more levels of access, see sidebar, p. 68). Naturally, every hacker will want to obtain a superuser account, as superusers have access to all the information on the system.

In practice, it is usually more difficult to gain access to a superuser account than a normal, one. The system operators (*sysops*) are more security-conscious when choosing passwords for these accounts, and usually keep close tabs on account usage.

When a netrunner successfully penetrates a system, the GM should secretly roll 3d. A result of 7 or less indicates that the account has superuser privileges. Of course, if the character is attempting to break into an account that he *knows* has superuser privs (the one owned by the system operator, for instance), no roll is necessary — but attempts to hack into a known superuser account are at -2, as they are usually more secure than normal accounts. All attempts to gain or alter information made through a superuser account are rolled at +2.

If a PC is inside a system with a normal user account, he can try to design a program that "upgrades" his status to superuser. This will take 5d minutes and a successful roll versus Computer Programming or Computer Hacking-3. This roll is modified by -2 if the system is public, -4 for a normal system, and -8 for a secure system. If the roll fails, the user may try again; each attempt is at an additional cumulative -1. If he fails by five or more, some sort of flag was raised or alarm was set — someone knows he's been there! The GM should make all of these rolls in secret…

Getting In

With this type of communication network, security is based almost completely around passwords and identification numbers. These can be obtained in a variety of methods. The easiest way is a "brute force" hacking attempt. Studies have shown that a selection of 100 common passwords could be found on almost 20% of the user accounts tested. Words such as "secret," "password," "einstein" and many others appear over and over again, as do social security numbers, wives' or husbands' names and similar easily obtainable information.

When first encountering a "normal" system (see *Types of Nodes*, p. 68), the GM should allow the player a roll versus Computer Hacking skill at -5. A successful roll indicates that the PC found one of these "easy" passwords. This roll assumes that the character is familiar with the type of computer he's attempting to penetrate, but doesn't know anything about any of the users. If the netrunner is encountering a new machine (the GM should make a list of the various "brand names" in his campaign), then all intrusion attempts are at -2 until he has successfully entered a similar system. If the PC knows basic information about one or more of the users on the system (names, addresses, relatives' names, hobbies, etc.) the intrusion attempt is at +2.

Program Corruption and "Back Doors"

A user in full control of a system can alter any of the programs on that system. When a security program is altered to make it easy for the hacker to re-enter the system, this is called "leaving a back door." A constant nightmare of security staffers is the fear that the original programmer of their security programs will have written in a few back doors for his own later use. It happens.

The most common form of back door involves addition of a password routine. Anyone knowing the back-door password will be ignored, or treated as a legal superuser, by the subverted program. The very existence of a back door makes a program less secure; it's another way for a hacker to get in. A program with lots of back doors will degrade in value faster.

A PC can create a back door. The difficulty of this task is inversely proportional to how easy the back door is for the sysop to locate. The simplest back doors require a roll versus Computer Programming or Computer Hacking-2. Once a week, the GM should roll 3d. On a 10 or less, the back door has been detected. Each -2 to the skill roll when creating a back door subtracts 1 from the detection roll.

Example: The hacker can state he's attempting to create a back door that will only be noticed on a 6 or less. This is 4 less than normal, so it would require a successful roll versus Computer Programming-8 or Computer Hacking-10.

Chat Systems

One of the most popular types of system on the net will be realtime conference centers — commonly called chat systems. These are nodes with a high number of incoming lines which allow users to communicate (both publicly and privately) with each other.

Hackers commonly use chat systems to discuss targets, or to trade information. The danger is that one is never *sure* of the identities of the other callers.

Hacker chat systems on current networks (such as Altgers in West Germany and QSD in France) have evolved elaborate protocols for hackers to deal with each other. These include the use of coded phrases to initiate conversation, avoidance of "real" names, and many other methods to ensure security.

The second danger of a chat system is that the users must trust the management.

Any time that a netrunner is using an unfamiliar chat system, the GM should roll 3d. On a 7 or less, the conversation is being monitored and possibly recorded. What happens after that is up to the GM.

Network Names

In many cyberpunk campaigns, the GM will consider it sufficient to have just "the Net" — a global, all encompassing network covering the entire globe. If the GM wants more detail, however, the following is a list of a few of the existing networks in the 1990s. While some of these will go away, and undoubtedly more will spring up, this should be enough to give a real "flavor" to the campaign network.

Country Name	*Network(s)*
Argentina	Entel
Australia	AustPac, Midas
Austria	RadAus
Bahamas	BaTelco
Bahrain	BahNet
Barbados	IDAS
Belgium	DCS, EuroNet
Bermuda	C&W
Brazil	InterData
Canada	Datapac, GlobDat, Infoswitch
Cayman Islands	C&W Cayman
China	PKTelcom
Colombia	Dapaq
Costa Rica	RacsaPac
Denmark	Datex, DataPak
Dominican Republic	UDTS
Egypt	Arento
Finland	Datex, Datapak, Digipak
France	TransPac, TI, EuroNet
French Antilles	TransPac
French Guadeloupe	DomPac
French Martinique	DomPac
French Reunion	DomPac
Gabon	GabonPac
Germany	EuroNet, Datex-P
Greece	HelPak
Honduras	HonduTel
Hong Kong	IDAS/ITS, IntelPak, DAS, DataPak
Hungary	CTO
Iceland	ICEP
Indonesia	SKDP
Iraq	IDAS
Ireland	IPSS, EuroNet, EirPac

Continued on next page…

It takes 2d minutes to hack into a computer this way — multiple attempts are allowed (as the intruder thinks of new, slightly more obscure passwords), but each attempt after the first is at an additional -3.

"Secure" systems require a bit more finesse to get into. Their passwords are usually generated by the computer — a random combination of letters and numbers, for instance, such as "ATX10Y9." These will not normally be guessable. In addition, these systems are sometimes set up only to accept connections from particular nodes during certain times of day.

A PC attempting to break into a secure system should be allowed a Computer Hacking roll at -10 to see if someone got careless (or if the hacker got lucky). A success indicates that he got in; a 3 or a 4 indicates that he got in as a superuser. Multiple attempts are allowed as for normal systems.

Of course, there are other ways of getting into a secure computer system besides brute-force hacking. The first involves intercepting the data flow of a legitimate user, usually by getting into a non-secure computer that is between the legitimate user and his destination node as a superuser and making a successful Computer Hacking roll.

Example: John Smith is a legitimate user of the FBI crime computer node Gamma (a secure node). He is on the computer at his office (node Alpha). He connects to Gamma, but has to route through computer Beta (a normal node). Meanwhile, Deck Wizard (a PC hacker) has gotten into Beta as a superuser. He then makes a roll versus his Computer Hacking skill of 15. He rolls a 9; no problem. He can now monitor any information passing through Beta — including everything that John Smith types (such as his account number and password)!

The second method of obtaining information is through a process hackers call "social engineering" — also known as *lying*. The hacker calls or visits the company controlling the node and pretends to be someone who should have legitimate access to the computer, such as a network engineer or an employee on a business trip. This is resolved as a contest of skills between the PC's Fast Talk and the NPC's IQ. The GM should apply modifiers based on how much the PC knows about the computer and company that he's trying to Fast Talk his way into. A retired telephone company employee will have a significant advantage trying to social engineer the phone company over someone who has never worked with telephone equipment more sophisticated than a pay phone! In general, anyone attempting to gain information about a computer system must have Computer Programming-10+, Engineering (any electronic or computer specialty)-10+ or Computer Hacking 10+ to successfully bluff computer knowledge. Anyone without these prerequisites should be -4 on any Fast Talk attempt. The GM may allow another skill to be substituted for these prerequisites.

Finally, there are programs that help gain unauthorized entry into a system (see *Cyberdeck Software,* p. 88). These programs are used to penetrate system security, and are explained further in the Cyberspace section. If the GM doesn't wish to bother with the plethora of programs available, the Computer Hacking skill is adequate for standard system penetration. See the sidebar on p. 78 for more information about a quick way to handle hacking.

What's next?

Once the intruder is accepted as a legitimate user of the system, he can try to gain access to its databases or programs. Some databases are open to any user, while others require special passwords and are defended by security programs such as Datalock (see p. 93). For instance, once inside a military installation's computer system, a user will have access to dozens of separate databases. Some will be unrestricted, such as the PR department's biographies of senior officers. Others, such as the program controlling the installation's recognition monitors, will have limited access and set off alarms if unauthorized attempts are detected.

Each attempt takes five minutes. Success means that any defenses are defeated. and the intruder is *inside.* If he was trying to break into a database, he can now access it, and alter, erase or retrieve information. If he was trying to get into an existing program, he can attempt to reprogram it.

Failure by 1 or 2 means the attempt failed, but can be tried again, taking another five minutes; failure by 3 or more indicates that the computer's defenses, if any, are alerted — see the *Cyberdeck Programs.*

A large computer may have thousands of gigs of information in its databases, and finding a single item can be difficult. For instance, hunting through a company's dossiers of 5,000 employees to see which one of them once served in the 4905th Marine Heavy Mortar Platoon might take a lot of time, and the more time spent in an illegal search, the more chance of tripping an alarm program. To make such a search, determine the size of the database being examined before rolling against the searcher's Computer Operations skill. Penalties are -1 for a database of up to 10 gigs, -2 for 11 to 100 gigs, -3 for 101 to 1,000 gigs, and so on. For example, if complete files on 100 people require 1 gig, then the files for 5,000 people would take 50 gigs and the searcher would roll at -2.

Each search attempt requires 10 minutes per gig. If the user is unauthorized, critical failure activates the system's defense programs (if any). On a legal search, each attempt still takes 10 minutes per gig and has the same penalties for amount of information. Failures simply mean no information was found in the search — a long enough search will find anything in the system! Of course, the information might not *be* there; that is up to the GM. And characters may or may not even discover that the search is futile. For instance, one possible answer in the example above is that no employee served in that particular Marine platoon. For the first attempt, whether failure or success, the GM should simply announce that no such person has been discovered. After several attempts, or after an attempt that would have been successful if the information *had* been there, the GM can say that all files have been searched and no such person exists.

For more things to do once inside a computer, see p. 79.

Intrusion and Security Programs in Non-Cyberspace Net

The GM should look over the list of cyberdeck programs (p. 88) and determine which will work on his network. Instead of using Command Phases, substitute turns for execution time (e.g. a program with an execution time of 2 would require 2 turns to invoke). Information will be presented in a text or icon format by the programs, and certain forms of ice (such as Flatline) won't exist.

Network Names (continued)

Country Name	Network(s)
Israel	IsraNet
Italy	Dardo, EuroNet
Ivory Coast	SystranPak
Jamaca	JamanTel
Japan	DDX-P, NIS/Tymnet, Venus-P
South Korea	DacomNet, Dacom
Luxembourg	EuroNet, LuxPac
Mexico	TelcPac
Netherlands	DataNet, EuroNet, Dabas
New Zealand	IPSS
Norway	Datex, DataPak
Panama	Intel
Peru	Etel
Philippines	ETPI, UDTS, PGC
Portugal	SABD
Quatar	IDAS
Saudi Arabia	IDAS
Singapore	TelePac
South Africa	SAPONet
Spain	IberPac
Sweden	TelePac, DataPak
Switzerland	TelePac, DataLink
Taiwan	PacNet, UDAS
Thailand	IDAR,CAT
Trinidad/Tobago	TexTel
United Arab Emirates	Tedas
United Kingdom	IPSS, PSS, EuroNet, Mercury
United States	WUT, UDTS2, Datel I & II, Telenet, Tymnet, ARPAnet, Infomaster, GraphNet, TRT, FTCC, UniNet, Autonet, CompuServe, GENIE, AlaskaNet, JANET, Internet
Guam	RCA
Puerto Rico	UDTS, RCA/PR, PRTCC
Virgin Islands	UDTS

Keeping Information Secure

So if computer systems are so easy to break into, how can the PCs keep *their* information away from prying eyes? The answer, of course, is that they can't. The same techniques they use to break into other peoples' systems can be used on theirs.

They *can* minimize the risk of their data being stolen by keeping it on removable media (such as floppy disks), but this is not always possible or a good idea. Often, they will want or need to store secure data on the Net. In these cases, the player should describe the actions his character is taking to keep his data secure.

For instance, the player could tell the GM the password he is using to protect his data. The GM would then assign a difficulty factor to any attempt to break into a character's account, based on how hard the password would be to guess. A password such as Z4Z!230N5 would be much harder to crack than GURPS:GAMER, for instance. However, every time the player wants to access his account, the GM should make him recite the password! If he misses even one character, he can't get in, and if he writes the password down anywhere, the GM can rule that someone could take it away from him and get into his account! Retrieving data stored behind a forgotten password, guarded by security programs designed to keep *anyone* (including the person who installed them) out, might be an interesting evening's diversion.

Other measures that can be taken include shredding *everything* that has anything at all to do with the computer system before throwing it away, and *physically* securing (through locks and alarms) both the computer system and the comm-lines coming *into* the computer system.

Physical Damage to Systems

Most rogue programs are designed to affect only software. They steal or modify data, blind security programs and so on. They don't affect the hardware.

And most 20th-century instruction manuals assure the user that there *is* no way that keyboard commands, or programs, can damage the hardware. This is very reassuring to the novice user. But it's not entirely true.

Any command that cycles a moving part has the potential to do damage. A relatively harmless example (and common college prank) is to write a program that sends a string of carriage returns to the printer… causing paper to pile up on the floor. More destructive would be a command that (for instance) cycled the hard disk until it wore out or caught fire.

Continued on next page…

Cyberspace

Imagine a midnight-black void filled with shimmering pinpoints of light, each representing a nugget of data more precious than gold. Neon grid lines connect communication hubs, while glowing streamers of data reach into the stratosphere to link with chrome satellites.

This is *cyberspace*, the world of the *serious* netrunners — data pirates who wire themselves into the net and risk having their brains fried like an egg, all to bring down that near-mythical "big score" that will set them up for life. Of course, some aren't in it for money — they're addicted to the rush; the tingle of adrenaline flooding their nervous system. In short, they're along for the ride…

Neural interfaces

The introduction of the neural interface (see below) ushered in a new era. Instead of being limited to the clumsy keyboard, the restrictive mouse or an imprecise and vague voice-recognition system, the *serious* user could now control his equipment by merely *thinking* about it.

The earliest neural interfaces connected to the optic nerve and the muscles surrounding it. The interface projected its data directly into the optic nerve; the user "saw" a scrolling line of text similar to that of a theater or bank marquee. All commands are transmitted through the link via subvocalization.

The second generation used a visual, or *icon* based, interface. Instead of subvocalizing a command to display a file, for instance, the user was presented with the image of a file folder that would open or close on a mental command. This greatly improved the information access speed.

The ultimate step in the evolution of the interface was the *environmental interface* — a complete three-dimensional "world" in which all systems and data were represented as objects that could be interacted with in real-time. Now, instead of visualizing the command "open" when looking at the file, the user would simply pick up the file with his imaginary "hands" and thumb through it.

The GM of a cyberpunk campaign can choose the level of sophistication he likes for his campaign. The factor most affected is the cost of the interface and the speed with which a command or program can be executed. All the prices listed below are the prices charged when the device is *first* introduced. The price of "old technology" is reduced by 50% as each new level is brought into play. Thus, a Marquee Interface costs $50,000 when first introduced, but drops to $25,000 if Icon Interfaces are available and $12,500 if Environmental Interfaces exist. The

same progression applies to character points if the GM is charging CPs for technology.

All neural interfaces require the use of a *cyberdeck* (see below) to hook into a network.

Marquee Interface *$50,000 (20 points)*

This is the crudest form of neural interface. All information is processed in text form, and all of the character's input must be subvocalized. Installation requires a major surgical facility and a minimum of two weeks. A Datalink program (see p. 65) can be hardwired into this interface (and any of the following ones) for an additional $1,000 (the program skill can be improved as normal). A Command Phase takes 4 x normal length when using a Marquee Interface (see *Command Phases,* below).

Icon Interface

$80,000 (25 points)

This interface is very similar to the icon-based operating systems used on personal computers in the 1980s and early 1990s. A two-dimensional "screen" is projected directly onto the character's optic nerve. When he wishes to execute a program or examine a database, he mentally "selects" the appropriate icon. To connect to another computer, for instance, he selects a telephone; to disconnect from a system, he selects a door. Icons can be personalized — for instance, a hacker might use a picture of a turkey to indicate a computer whose security systems are well below average.

Installation requires a major surgical facility and a minimum of 10 days. Phase length is doubled when using an Icon Interface.

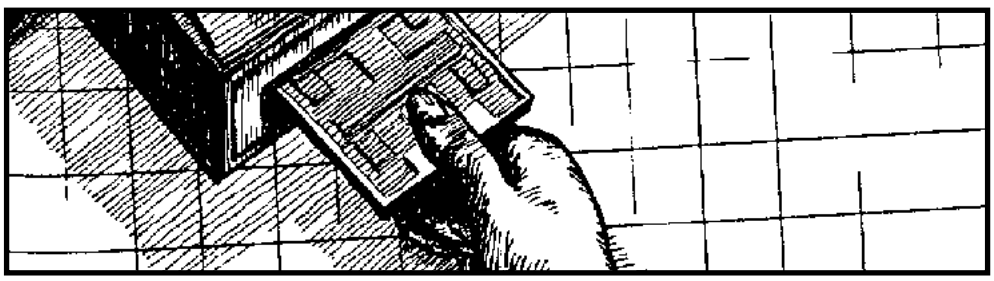
Enviromental Interface *$100,000 (30 points)*

This is the state of the art in neural interfaces. When the character plugs into a network, he sees a complete, fully defined world around him. In some campaigns, there will only be one visual representation of the network; in others, characters can plug different *Environment Modules* into their cyberdeck, and some versions of cyberspace allow a netrunner to create his own Environment interactively, altering it at will (see p. 88).

Installation requires two weeks at a major medical facility, plus two more weeks of "environmental orientation" (learning to use the neural interface and cyberdeck) and a further week for each environment the character wishes to become familiar with. There is no modifier to Phase length with an Environmental Interface.

Command Phases

When a user is interfaced with ("jacked into") a cyberdeck, each action takes a certain number of *Command Phases* (Phases, for short). The time required to execute a Command Phase depends on the type of Neural Interface, the Complexity and quality of the cyberdeck, and the skill of the netrunner. While 100 milliseconds — a tenth of a second — may not seem like a long time to most people, to a netrunner it can be the difference between life and death!



Physical Damage to Systems (Continued)

A hacker cannot write such a program at all unless he knows exactly what sort of hardware he is attacking. Even then, because of built-in safeguards, the task would require at least a week, and a roll on Computer Programming at a -4 or worse. And such programs are hard to test before they're actually used! But they can cause a great deal of commotion, and if the programmer makes his roll by 3 or better, the damage will appear, for a time, to be a simple hardware failure.

Of course, this requires sophistication on the part of the attacking hacker. There are other ways to do the same thing… for instance, cause the security system to send a command to the human guards, telling them to shoot everyone in the computer room!

The Social Consequences of Neural Interfaces

Even if neural interfaces are widely available, not everyone is going to want to be fitted with one, and for good reason — many people won't feel comfortable with the idea of someone poking around with their brains, no matter how good the doctor or technician is or how desirable the effects will be. Others will think it's just a normal part of life, and by the beginning of the cyberpunk era there will be "chipheads" in almost every profession:

Secretary. A good secretary will still be cheaper than buying a computer with voice-recognition circuitry that can differentiate between the words "to," "two" and "too." She will be able to type at the speed of thought, produce and mail the letter the boss wanted her to send out rather than the one he dictated, keep track of appointments and anniversaries — and can make coffee and come up with an idea of what the boss' wife would like for her birthday.

Auto mechanic. Many automotive diagnostic tools are really dedicated computers in disguise, even in the 1990s. An auto mechanic with a neural interface will be able to "get inside" a car, follow its circuits and systems and pinpoint problems. This will become ever more important as more parts of the average automobile become computer-controlled.

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The Social Consequences of Neural Interfaces (Continued)

Musician. In the movie *The Buddy Holly Story,* Buddy says, "I've got sounds in my head that no one's ever heard before." With the appropriate sequencers, digitizers and synthesizers, a musician can bring those sounds to life. As electronic instruments such as digital horns and keyboards proliferate, he will be able to control them by just thinking. In addition, by using digital-to-digital converters, a chiphead can listen to music by having it piped directly into his brain — without ever going through his ears. This means that finally, people will be able to listen to music as loud as they like without distortion, and never bother anyone else (or have to worry about nerve deafness)! It also means that either through the Net or a local area hookup, musicians can create, sequence, produce and "listen" to music that no one else can hear — an event known as a "closed circuit jam." Chip recordings of these jams sometimes sell for a pretty penny.

Writer. No more sitting at the keyboard or typewriter, staring at a blank screen or page. Neural interfaces will help the writer do everything from research a project to put it down on paper. Interactive "writer's aids" will help with projects as well; personality simulators can help predict what a character is going to do in a given circumstance.

Air traffic controller. By just watching the simulated planes, a controller can direct airplanes into more complex patterns than are available today. He will be able to see in 3-D where the planes are in his air space, and by subvocalizing can give them directions. Auxiliary computers will keep track of variables such as destination and fuel, and will issue warnings when planes are too close to each other or are in other kinds of trouble.

Comm Lines

On the net generation tables, one of the options that a node can have hooked to it is comm lines (the future version of a phone line). These are used to call (or receive calls from) remote computers and communicate via modem.

A comm line that allows people on the node to dial and connect to other systems is known as an *outdial.* These can be very useful for making calls that the netrunner doesn't want traced back to him (and as a side benefit, doesn't have to pay for). See *Phreaking*, p. 75.

The average Phase is 1,000-2,000 milliseconds — the fastest human operators on the best cyberdecks have a Phase of 100 milliseconds, and an AI may get as fast as 10 milliseconds per Command Phase…

Standard Computer Speed

Length of a Command Phase depends on the Complexity of the computer system or cyberdeck. Some systems will have had their processing power augmented for greater speed — doubling the base price of a computer system decreases the Phase Length by 25%.

System Complexity	Phase Length (in milliseconds)
1	16,000
2	8,000
3	4,000
4	2,000
5	1,000
6	500
7	200
8 (AI only)	100*

*NPC AIs may have a Phase as low as 10 — the GM assigns it as he wishes!

Cyberdecks

A cyberdeck is a version of the personal computer. Unlike normal computers, however, a cyberdeck is designed to run specialized programs that interact directly with the mind of the user via the neural interface. Most models also include a key-board interface for auxiliary control — and remember, the power switch is where ultimate control of a cyberdeck lies!

To achieve maximum speed, most cyberdecks run programs directly from ROM decks (see p. 65) rather than from disk. All information about program speed assumes that this is the case. If the program is being run from disk, double the number of Phases needed to execute the program.

There are three factors to consider when choosing a cyberdeck: Complexity, Speed, and Slots.

Complexity: Each cyberdeck will have a Complexity rating just like any other computer. As most netrunning programs are Complexity 2, there is a huge performance difference in a Complexity 2 cyberdeck (which can run two Complexity 2 programs at once) and a Complexity 3 deck (which can run ten of them simultaneously!). Increasing the processing power of a cyberdeck requires several specialized neural coprocessors. Instead of the usual 50% increase in cost to up the processing capability by 50%, the cost is *doubled.* Thus, to buy a Complexity 2 cyberdeck that would run *three* Complexity 2 programs instead of two would cost $50,000!

Cyberdeck Cost

Complexity	*Base Cost*
2	$25,000
3	$250,000
4	$1,500,000

Speed Index: A cyberdeck's Speed Index (SI) determines how quickly it can process information when working in conjunction with a neural interface. The SI shows how fast the deck is in relation to a standard deck, which has an SI of 1. The higher a deck's SI, the faster it is; an Icon Interface, running on a deck with an SI of 4, would only take 1,000 milliseconds per phase (a quarter of its normal time)! Of course, some decks are slower (but cheaper); on a deck with an SI of 1/2, the same phase would take eight full seconds.

A standard, off-the-shelf cyberdeck is assumed to have an SI of 1 when purchased. Modifying the speed costs money! For each extra point of SI, add 25% to the price of the deck (maximum SI is 10, for an additional 225% cost). Conversely, money can be saved (although not as much) by purchasing a slightly slower deck. For every 0.1 subtracted from the SI, decrease the price by 10% (to a maximum discount of 50% price for an SI of 0.5. When computing the Phase length of a modified deck, round off to the nearest 100 milliseconds (e.g. 1,250 would round up to 1,300, while 1,249 milliseconds would round down to 1,200.)

Example: A Complexity 2 deck costs $25,000. To raise the SI to 3 (three times faster than an unmodified Complexity 2 deck) would cost another 50% ($12,500), and would have a Phase of 2,666 milliseconds (rounded up to 2,700).

Slots: The number of slots controls how many ROM decks can be plugged into a cyberdeck at once. Not all programs or databases have to be online at once — a deck that can only run two programs at once may have slots for ten different programs. Switching from one slot to another requires one Phase.

A cyberdeck comes with two slots installed. Each additional slot adds 10% to the cost of the deck.

Final Cost

The cost for a cyberdeck is calculated by first buying a unit of the appropriate Complexity (and modifying for any additional processing power), then adding or subtracting value for SI modifiers, and finally adding slots. If the GM is charging Character Points for equipment, each $5,000 should cost 1 CP.

Example 1: The Neuron needs a good cyberdeck, but doesn't have a lot of money. He starts with a Complexity 2 deck ($25,000) and increases the processing power by 50% (cost is now $50,000). He decides that he needs a fast deck, so he purchases SI 5 (add 100%; cost is now $100,000). Finally, he adds three additional slots (10% of $100,000 each — an additional $30,000). His final cost is $130,000 (and/or 13 points, depending on the GM), and his deck has a Command Phase of 1,600 milliseconds when using an Environmental Interface.

Example 2: Terminator, one of the "most wanted" deckers in the matrix, is working with a research team to put together the ultimate cyberdeck.

He begins with a Complexity 4 deck ($1,500,000) and ups the processing power by 50% (cost is now $3,000,000). He then increases the SI all the way to 10 (add 225%; cost is now $9,750,000). Finally, he has a bank of 20 extra slots built in (add 200%). The final cost of this marvel is $31,500,000 — it has a Command Phase of 200 milliseconds when using an Environmental Interface, and every corporate espionage team in the world will be trying to get it!

Off-the-Shelf Cyberdecks

A cyberdeck like Terminator's above should not be available at the local convenience store. The GM should establish the limits of commercially available cyberdecks before the campaign begins. A good guideline is that no deck with a Complexity greater than 3 can be bought through normal commercial outlets. This doesn't mean that they don't exist — just that a netrunner should have to *work* to get ahold of one!

Cyberdeck Skill and Speed

The better a netrunner is with his cyberdeck, the faster he can operate. For every five *full* points of Cyberdeck Operation skill a character has, he receives a 100 millisecond reduction in the length of his Command Phases. Note that a Phase can never get faster than 100 milliseconds (except for AIs).

Combat Reflexes shave 100 milliseconds off of a character's Command Phase as well.

Phreaking

A careful netrunner will often want to make a call that appears to originate elsewhere. The term "phreaking" originates from the early 1970s when phone enthusiasts called themselves "phone phreaks." There are several ways to do this:

Diverters: By far the easiest method is for the netrunner to connect to several systems which have outgoing lines. He jumps from one of these to another until he is four or five layers removed from his actual target. The truly paranoid will make sure that all of the diverting systems are in different parts of the world, or on different networks, to make tracing the line back nearly impossible.

This method requires the GM to have a thorough map of the network (or that he take the time to generate one). This also allows for the possibility that the runner will accidentally route through a system that is being watched (probably for reasons that have nothing to do with the netrunner), and possibly be incriminated in activities that he knows nothing about!

Example: Dark Shadow (the handle of a Nebraskan netrunner who specializes in tracing missing persons) needs to search through the welfare rolls of the state of Nevada. He wants to access the central computer in Carson City, but has no clearance of any kind. He does some research on the system, and discovers that it isn't on any of the major nets — only on a small government network within its building but it has five incoming comm lines.

He doesn't want to call the network directly, on the (probably correct) theory that all incoming calls are logged and traced as a matter of course. He does, however, know of a small business computer in Singapore that has an outdial on it. He jacks into the net and logs into the computer in Singapore to place his call to Carson City.

What he *doesn't* know is that black market steroid dealers have been using the Singapore computer to launder money, and that Interpol is watching it like a hawk. No sooner has he connected than a *very* fast Trace program is released after him. Next thing he knows, he's wanted by Interpol for questioning.

This is an excellent plot device for the GM, as it gives him a good excuse to keep things moving and makes the players aware that there is a whole world of things they know nothing about…

Continued on next page…

Phreaking (Continued)

Junction Boxing: The netrunner, or one of his electronically inclined cohorts can merely wander down to the nearest phone company junction box (the big box where all the wires coming into a building originate from), pick the lock, and switch the wires from the netrunner's phone with those of a neighbor's (requires a roll versus Electronics at +2). While this might hit a little close to home for some operations, it *will* divert the immediate suspicion from the console jockey — at least until he tries it three or four times on the same box…

Going Portable: This is similar to junction boxing, except that the netrunner takes his deck with him to some (preferably remote and shielded) location and breaks into the junction box *there*. Of course, there's always a chance that *someone* will wander by!

Netrunning and the Party

The net presents a tempting escape from the real world for many people. Indeed, some become so addicted to it that they only grudgingly unplug long enough to take care of basic needs such as food and water. A character like this is unlikely to want to physically join an op team as they make a raid on a corporate lab — he'd rather stay home and hack.

Trying to maintain a balance between the net and the real world can be a problem for a GM. He must make sure that both the netrunners and the rest of the group have enough to do to keep them busy during the entire game without having one render the other one useless. After all, what's the point of attacking the lab if the netrunner can just penetrate its computer and download all of the informalion needed? And conversely, what good is a netrunner if the goal of the party is to kidnap a popular holovid star?

This dilemma is discussed more thoroughly in Chapter 6 but the short answer is that the GM must make sure that there are certain elements of an adventure that can *only* be solved physically, while other elements can only be dealt with through the net.

Standard Models

The GM should design several commercially available, brand-name models of cyberdeck that fit within his world. He can then feel free to limit the technology that falls into the hands of the PCs — he shouldn't let characters with big bank-books start the game with the best equipment available! The adventurers should have to *work* for a deck like Terminator's, not just whip out the Mega-Charge!

EXPLORING CYBERSPCACE

When a netrunner connects to his deck (via a data jack, hard-wired into his head — hence the term *jacked in*), he starts out at his "home" node. Until he connects to the net proper, the only items visible are the data links heading out of his location (communication lines, microwave links, etc.). To estab-lish connection with the net, he uses a Datalink program.

Once he is connected, the world of the net reveals itself (the exact appearance of the net is determined by Environment Modules, below) and he can start maneuvering through it. The "distance" that a decker can see is directly related to the Complexity of his cyberdeck. For each point of Complexity, a netrunner can see one hop. For instance, a netrunner with a Complexity 4 deck could see someone or something in Cyberspace four hops away (see *Movement in the Net* below).

Actions

Everything that a decker does while in the net counts as an action. Each action takes a certain number of Phases; the better his Neural Interface and cyberdeck, the shorter each Phase is. A netrunner can take one action per phase without having to make a roll. Taking more than one action requires a roll versus Cyberdeck Operation (see p. 26) for a cumulative -3 for *each* action after the first. Actions include moving from node to node, executing a cyberdeck program, switching active slots on the cyberdeck, remotely executing a program, and searching a database.

A computer system that is executing multiple operations in the same Phase applies the -3 modifier to the skill level of the program being run.

Example: Jack the Ripper has Cyberdeck Operation-14. He was browsing around Datex-P when he saw a Trace (see p. 92) coming after him. He tries to make a hop out of the area while simultaneously throwing up Codewall (p. 93) and Misdirection (p. 90) programs. He would roll 14 or less to make the hop, 11 or less for the Codewall, and 8 or less for the Misdirection.

Movement in the Net

The first thing that a netrunner must be able to do is move around the net — between nodes, or from a node to an intermediate point in space. Each move is a "hop." One hop can cover up to 500 miles (round up). Thus, a system in New York would be five hops (between 2,000 and 2,500 miles) away from California. Each hop takes one Phase. Even if two nodes are sitting on the same desk, it would still take one hop to move between them.

A satellite uplink (see *Mapping the Network*, p. 82) lets a decker move to any other uplink, no matter how far away, in one hop. So in the above example, the Yankee netrunner could connect to a New York-based uplink in one hop, move to a California uplink in a second hop, and go from there to the destination system in Los Angeles with a third hop, cutting two Phases off the time required. Of course, many uplinks are protected with security programs to keep unauthorized users out…

Uplink time is available to legitimate users for $10.00 per minute. But many net users *aren't* legitimate.

If the signal has to be routed through any system that the GM feels might slow it down (such as an archaic, mechanical phone switch), he can add additional phases.

Merely connecting to a node doesn't usually set off any alarms (unless the system is specifically running alarm and intrusion programs to detect and deter connections), and many systems allow signals to route *through* them without any problems. See *Mapping the Network*, p. 82, for more information.

What Can You See?

What a decker can "see" in the net depends on where he is. From a random point in the net (even if it's not actually on a node), a decker can see most things *on a direct line* within C hops, where C is equal to the Complexity of his deck. He will see the node number and the public "front" displayed by each node within range; this may be anything from an advertising sign to a huge locked door with a "Go Away" sign.

Not everything within C hops will be visible. If a node is Camouflaged (p. 93), it probably won't be seen. If a node is "behind" another node, it can't be seen. (On the map on p. 94, for instance, you have to be in #106 before you can even see the path to #107, and you have to be in #107 before you can see #108 through #111).

Examining the Target

When a netrunner wants to enter a system, his first action is to survey its defenses. A Recon program (p. 91) can be directed at anything visible within 1 hop, to attempt to detect ice. Recon will also tell *about* how fast that system is, relative to the decker. A Mask program (see p. 93) will lower this roll appropriately. Mask may cover any or all of the ice on a system.

If the target system has an active Disinformation program (see p.93), the GM should roll against it each time the Recon program fails to detect an ice program. On a successful roll against Disinformation, the Recon program returns false information to the character. Recon may also be used for a closer look at any individual program (see p.91).

A decker may make only *one* attempt to recon a given system. If he gets better equipment or software, he can try again. Otherwise, repeated attempts will always give the same result that the first one did. Exception: If the target system has changed its defenses since the last recon, the GM will roll for each change to see if it is detected.

The Login Area

When a decker moves to a node ("connects" to it), he cannot automatically enter and use that system. He is in front of the system, in the *login area*. From here, he gets an automatic chance to see any ice and other defenses, and to judge Phase Length, as though he had run Recon at a level equal to his Cyberdeck Operation skill. However, unless he is very well camouflaged, any system ice will see *him* in the login area. A Watchdog or Password program will challenge anyone in this area. Depending on the program's settings, it may ignore an intruder who seems to be doing nothing, or it may set off an alarm.

In order to leave the login area and enter a system, the decker must satisfy — or defeat — any Password programs that it has. Once this is done, he is *in the system*. (He isn't necessarily safe. If he set off an alarm while defeating the Password, other ice might attack him even though he is already in the system, or even past it!)

We Don't Need No Steenkin' Standarts!

One of the connectivity problems facing the networks of the 90s is interface standards. Right now, there is no universal method of data exchange — there are literally *dozens* of protocols in the networking community.

Most cyberpunk nets are based on the idea that, eventually, one standard will arise from the multitudes and become accepted worldwide. The malicious (or perhaps just realistic) GM will not assume this to be the case. If networks are broken up by region (whether along international, corporate or local bounds), the GM could make each area's networks use a different communication protocol. This can evolve into several interesting game sessions as the frustrated netrunner discovers that, no matter *how* hard he tries, he just can't get any of the computers in Mexico to speak to his cyberdeck. Of course, he might have a few ideas where to look for a ROM deck that *will* permit such communication…

Strange Protocols

Not all computers use the same communication protocol. An effective protection method for an important computer is to isolate it from the network and then make sure that anyone connecting to it through normal comm-lines must be using a specific, non-standard piece of hardware or software.

This can lead to some interesting experiments as the characters try and figure out what strange communication programs or odd cyberdecks are designed to work with.

For instance, the GM might have the group run across a cyberdeck that has no manufacturer's name or serial number on it. Not only do they not know where it came from, but it doesn't seem to work with any normal network. As they investigate it, they might eventually find out that the chips in it were designed by a large Canadian computer company.

As their research proceeds, the team finds a group of comm-lines that disappear into the complex. When they connect a normal cyberdeck to the lines, they just get garbage — but when their red deck is hooked up, the netrunner finds himself in the midst of a strange network, the likes of which he's never encountered…

Quick Hacking

The rules for computer penetration and net combat *highly* favor the netrunner with the best equipment. This may not be optimum for a particular campaign. If the GM wishes to emphasize skill over hardware, or if he just wants a simpler method of handling hackers, then the following "quick n' dirty" rules can be used.

First, substitute a contest of Cyberdeck Operation skills, modified by the complexity of the cyberdeck, for all attack and defense rolls. Second, instead of using the Command Phase system, just use normal one-second ***GURPS*** turns per action — the character with the highest effective skill goes first. Finally, to figure out the "skill" of a computer system (one that doesn't have a human operator), multiply the Complexity of the system by 4.

Copy Protection

In a world where the sharp operators will do anything for a buck, expensive programs will *have* to be copy protected, or they'll be pirated immediately. This is the reverse of the 1990 trend, but it fits the genre.

Any commercial program will have copy-traps in it. Unauthorized copies will look for a hardware serial number and refuse to run without it, or will be defective in subtle ways, or will introduce a virus into the user's system, or will make the user's system call the publisher and report a theft… whatever the GM can devise.

Thus, any copied program must be carefully checked for traps before it can be run. This requires a Computer Programming roll, typically at -4, and a week of time. The GM makes the roll in secret. A careful pirate will check several times.

This applies mainly to programs copied from disks. Commercial ROMS are almost uncopyable; there is extra protection hardware buried in that plastic. To physically dissect a ROM typically requires two weeks and an Electronics roll at -5; a failure means the ROM self-destructs. Success means the program can be copied, though it will still have to be debugged as above.

Any seller of pirated software will, of course, assure the buyer that it has been debugged and tested. If he's telling the truth, the program is probably obsolete by now.

Within a System

When a decker has entered a system, he can see "past" it on the Net. He can also determine how many outgoing lines it has, and whether they are open lines (which can be used to call anywhere) or dedicated (which reach only a particular destination). Some outgoing lines will be passworded. Until the decker satisfies or defeats those passwords, he can't use those lines or see along them.

Depending on his access, the decker will also learn something about the structure and function of that particular system. If there are files on the system, he will be able to look at directories of information, and so on. All this information is entirely up to the GM.

Internal password programs, and even more complex ice, may exist within a system to guard certain file areas. This is treated as a system-within-a-system, complete with its own logon area. But most systems assume that anyone who passes the main logon area is permitted to access everything that he can "see." Superusers, of course, can see more!

A decker with superuser access can make an automatically successful Recon for all ice in the system. He can also turn any individual program off or on, or turn all ice off or on at once. Each "switch" takes one turn.

For more about what the decker can *do* with an invaded system, see p. 79.

Other Deckers

A decker can see all other netrunners within his "vision range," unless they are successfully Stealthed. Normally, another decker appears simply as a blur or flicker, unless someone specifically looks at (or for) them. The observer will then see whatever image they have chosen to project in the Net, and how fast they are moving. He cannot tell anything about who they really are or what they are doing, unless he recognizes someone by his image. Most deckers habitually use the same image, but it can be changed at will!

Executing Programs

Depending on the quality of his cyberdeck and the size of his credit chip, a netnmner may have anywhere from one to several dozen ROM decks stoned at one time. The ROM decks will usually be dormant, or *offline;* how many of them can be active, or *online,* depends on the Complexity of the cyberdeck and the programs in the ROM decks.

The decker can bring any slotted program online at will. Since a deck can only run a finite number of programs at once, a netrunner must decide when he sets up his cyberdeck which programs take priority if a program is activated which would exceed the cyberdeck's capacity.

The time listed for each program includes the activation Phase. Thus, if a decker runs a program with an execution time of one Phase, the program will finish executing by the end of that Phase.

Cyberspace Confrontations

When a decker is trying to get into a computer, he will eventually run into some sort of defensive programs. These programs are called "ice" (for Intrusion Countermeasure Electronics). And there is always the possibility of encountering a hostile silicon cowboy — after the same data, or working for the company that owns the system being assaulted, or just a hostile jerk with a cyberdeck.

Combat

"Combat" in netrunning refers to any unauthorized attempt to enter a system, or to any hostile confrontation between two or more netnrunners. Note that, if they

enter the system at the same time, several netnrunners might be battling each other *and* any ice they find guarding the system!

Disarming Ice

After using Recon (pp. 77, 91) to determine the extent of the system ice, the intruder can try to disarm it. Each type of ice has a particular attack that is effective against it — if the netrunner doesn't own a particular ROM, all of the attacks have defaults (see p. 89). The disarming attempt is resolved as a Contest of Skills between the attacker and the ice program.

If the netrunner makes a critical failure while attempting to deactivate the ice, any alarm programs that haven't already been disarmed are immediately set off. A smart netrunner usually starts by disconnecting the alarms!

Attack and Defence

Once the system has been alerted to the intruder's presence, the difference between the length of the intruder's Command Phase and the system's Phase becomes very important. (This is also the first thing that needs to be determined when two netrunners are attacking each other.)

The GM will need to keep time in units equal to the shortest Phase in the combat — if Deck Wizard is using a deck with a 1,000-millisecond Phase to attack a system that has 500-millisecond Phases, the GM will have to keep track of time in half-second (500-millisecond) intervals, as the faster system will act twice for every action that Deck Wizard gets.

Attack and defense programs are executed just like any other program — but if the attacker is sufficiently quick, the defender may never get a chance to act!

Example 1: Deck Wizard (1,000-millisecond Phase) encounters a bank computer (500-millisecond Phase) and begins to snoop around with a Recon program. Unfortunately, he gets a critical failure while checking out an Alarm program, and the system is alerted to his presence.

Within 500 milliseconds, the bank's computer simultaneously executes Codewall-14 and Sever-13. Since this is two actions in one phase, the Sever attempt is at -3, so the bank rolls versus Codewall-14 and Sever-10. Unfortunately for Deck Wizard, he doesn't have any defenses running at the time, and both of the bank's rolls were successful. He briefly sees the Codewall thrown up, then experiences the slight disorientation of having his communication link severed. Deck Wizard is now sitting dazed in his apartment, wondering where he can get the cash for a faster deck!

See the attack and defense programs (pp. 89-92) for detailed information.

A critical success during any of the netrunner's attacks indicates that the account he is working on is a superuser account (see p. 69). If all ice is cracked, the decker has full superuser access. Otherwise, he will need to use a Promote program (p. 91) to obtain superuser status.

Use and Abuse

Once a decker has penetrated the defenses of a system, he can do anything a normal user can do. (If he has "borrowed" the account of a legitimate user, he has access to any special privileges that user may have.) If he has gotten in with a superuser account, he can do *anything*.

Some of the activities in which an enterprising netrunner might engage (other than standard program execution) follow.

Creating new Accounts

This can only be done from a superuser account. A fictitious entry is made in the system user file — the creator chooses whether to set it up as a normal account

State of the Art

In a cyberpunk world the development of hardware and software speeds along at the same pace that everything else does. Attack and defense programs become less effective as they age because human hotshots and dedicated AIs are constantly finding faults and releasing new versions. Your Codewall may not stand up against a new Icepick, but it will laugh at last year's model.

The GM should define a *release date* for each piece of software that the PCs get, or that is used by NPCs. When two programs oppose each other in a Contest of Skills, the older program has a penalty as given on the table below:

1 month: -1	6 months: -9
2 months: -2	7 months: -12
3 months: -3	8 months: -15
4 months: -5	9 months: -18
5 months: -7	

Software more than 9 months old is simply useless in the world of high-stakes industrial espionage! (If the GM feels this timetable is too strict for his particular campaign, just multiply times by 2 or 3.)

Example: A Confuse program dated 1-1-20 ("Confuse 010120") comes down the line at the Green Giantess, who is protected by a Damper program released 9-20-19. The Giantess' program is less than 4 months older than the Confuse, so it rolls at a -3 in the Contest of Skills. Its effective skill is a 9 against the skill 12 of Confuse 010120.

Keep in mind that software — especially stolen software — may already be old when the netrunner acquires it. Any program carries a date, written into the code, which can easily be checked by whoever controls the program. But dates can be falsified! For a ROM deck, the date in the code should match the date molded onto the plastic case; any discrepancy means someone is playing *some* kind of game.

Detecting a falsification on a disk is impossible unless one has another, genuine copy of the program (either the version you think you have or the one you really have) for a byte-by-byte comparison; this requires a two-slot deck and an hour. But if you suspect your Icepick is really a year old, you can easily set up a situation to test it.

On the other hand, a skilled netrunner may occasionally make off with prerelease copies of software programs that are effectively "dated in the future." Such programs will have an advantage over anything obtained through legitimate channels — if they work at all! Software developers are notorious for hiding viruses, tracers, and other surprises within unreleased material, just in case. And there's also the possibility of a plain old bug.

Sysop-In-A-Box

This is a catch phrase for a program that *simulates* an AI. It will open a communication channel with a user and have a "conversation" with them. The quality of the simulation varies with the Complexity of the program and the machine running it. To see if the deception is discovered. roll a Contest of the user's IQ vs. the program's skill every minute; the program gets a +2 in any context where the user expected to be "chatting" with a real person.

A sysop-in-a-box, or SIAB, is often used as a "help" function for online services. As long as the user asks questions on the appropriate subjects, it will be as helpful as a human operator, and much more patient. Some hotshot programmers customize a SIAB to impersonate them.

A SIAB can be used for computer security — it has access to a database of information about all the legitimate users of the system, and "quizzes" them as they log on to the system. A typical opening line might be "Hi Bob, what's your wife's name?" If the person using Bob's account responds with anything but "Eliza" the program will continue to ask questions until it is convinced that "Bob" is an intruder, at which point it will launch other programs such as Alarms or Traces.

Fooling a security SIAB requires that the netrunner win a contest of skills; his IQ versus 3 x *machine complexity.* The netrunner is at a -3 if he does not know basic information (name, address, relatives' names, etc.) of the person whose account he is using, +2 if he knows them *intimately* (GM's discretion). An AI or a ghostcomp with an online biographical database will always fool the SIAB.

A sysop-in-a-box costs $10,000 per Complexity level of the machine it is intended to run on. and has a Complexity of 3 (2 if running on a PC).

Dancing with Ma Bell

One of the options on the Random Network Generation tables (p. 82) is a business computer in the communications industry. There are a number of interesting things that someone with superuser access on a telco (telephone company) machine can do. These include:

Customer Information: The phone company maintains a database known as CN/A (Customer Name/Address) that lists the owners of all comm lines. CN/A functions are also available by placing a regular phone call through Social Engineering (see p. 70). The CN/A operators are *not* very sophisticated — all Fast-Talk rolls are made at +2.

Continued on p. 82…

or as a superuser. Normal users are less powerful, but tend to attract less attention; a new superuser can do anything, but may be noticed quickly. If the netrunner can accomplish his goal with a normal account, or if he has confidence in his Promote program, he should stick with a standard account.

The decker should keep in mind that everything he does is probably being logged — unless he has a *very* trustworthy Erase program, he should plan on abandoning an account after using it for any noticeable scams.

Each week there is a chance that the fake account will be discovered by routine system administration. The GM should secretly roll 3d for each bogus account. If the machine is public, a result of 4 or less indicates discovery; this increases to 6 or less on a normal machine and 8 or less on a secure machine. Increase these numbers by 2 if the fake account has superuser privileges.

Possible actions upon discovery range from simple deletion of the account to heavy Alarming and a Trace program.

Copying Or Downloading Information

Once inside a system, a hacker may wish to appropriate a piece of software or the information within a database. Given the storage size needed for these programs, it takes time to transfer it, even across the fiber-optic network. A second option for an intruder is to duplicate the item so that two copies of it exist on the same system — with the backup in an area that he can get to again.

Copying data within a machine is quick — 1 minute per gigabyte. Downloading it from the system onto another machine on the net (such as the netrunner's cyberdeck) will take 20 minutes per gig.

Program size varies with Complexity — an average Complexity 1 program is 1% of a gigabyte. This includes *all* help files, documentation, tutorials and anything else that is needed to run the program. This is increased by a factor of 10 for each additional level of Complexity (e.g., a Complexity 3 program would be 1 gigabyte). See p. 67 for information on database size.

Data can also be uploaded in the same manner — a hacker might need a temporary storage place for particularly hot information.

Monitoring Other Users

The decker may use a Monitor program (p. 91) to track the actions of another user. A successful roll versus *Computer Programming* minus *Complexity of the System* allows the decker to install a Monitor on a system to keep a log of the actions of a particular user. The netrunner can then go offline and return later to look at the file. A Monitor of this type has the same chance of being detected as a fake superuser account (see above).

Remote Execution

There will often be times when a net jockey needs to execute a program on a computer that he has linked into — to turn off a security system so his teammates can get past a door undetected, for instance. Assuming that he has defeated any security programs, and has an account that is authorized to run the desired program, it takes one Phase to activate or deactivate a program.

One of the hazards of remote execution is that running (or shutting off) a program may trigger alarms that weren't visible until set off. A Recon program can be used to check for this.

Execution time for a remote program varies. Since most of the programs are running on standard computers, the regular ten-minute figure is a good estimate, although the GM may modify this up or down as the situation varies.

Searching a Database

Once a netrunner has gained access to a database, he can search it. It takes 10

RANDOM NETWORK GENERATION

The originating point in the network is known as the *home node.* This is usually some sort of public dial-in port for the net, although an runner with sophisticated equipment might be tapping directly into a satellite for his connection, or possibly using a packet-radio rig.

If the GM hasn't already mapped out a particular section of the net, he may need to generate a "quick 'n dirty" random network.

Node Type (roll 2d)

2 Roll 1d:
  - 1-4 Network Gateway
  - 5-6 Satellite Uplink

3 Data Haven (+3 to security roll)
4 Banking/Financial (+2 to security roll)
5 Academic
6 Small Business (-1 to security roll)
7 Large Business (roll 1d)
  - 1-2 Accounting (+1 to security roll)
  - 3-5 Personnel/Administrative
  - 6 Research & Development

8 Medium Business
9 Commercial Network
10 Government (see below)
11 Private System (-1 to security roll)
12 Diverter/Outdial (see p. 85)

Business Type (roll 3d)

3 Military Hardware/Weapons
4 Medical/Pharmaceutical
5 Religious
6 Software
7 Print Media
8 Transportation
9 Entertainment
10 Retail
11 Manufacturing
12 Communication
13 Energy
14 Food/Grocery
15 Advertising/Public Relations
16 Broadcast Media
17 Cyberwear/Computer Hardware
18 Criminal

Goverment System Type (roll 2d)

2 Judicial
3-6 Legislative
7-11 Administrative
12 Military (+2 to security roll)

# of Comm Lines (roll 1d)

1 1
2 2
3-4 1d
5 2d
6 3d and roll again, accumulating the total

System Security (roll 1d and apply any security bonuses)

1 Public
2-4 Normal
5+ Secure

Note that a *very* secure system derives its security from physical protections. In most cases, it will not be connected to the worldwide Net at all.

Dancing with Ma Bell

Line Routing: With access to the main phone switch computer, a hacker can control everything about a specific phone line. He can change the number, forward it to another destination, make the switch think that it's a pay phone (an amusing, if somewhat useless prank), busy it out (all incoming calls will get a busy signal) or add custom calling features (call waiting, three-way, caller identification, etc.)

Monitoring: It is also possible to monitor another phone line through the switch. This requires a roll versus Computer Hacking-4, but is undetectable by the person being monitored. Each time that the hacker uses this function, the GM should roll 3d. On an 8 or less, someone at the telco has noticed the unauthorized monitor and killed the offending account.

Alter Billing: The netrunner can enter the billing office (or BOC) computer and tamper with phone bills at will. He might lower his bill, erasing incriminating calls, or *add* calls to someone else's bill (either to implicate them in something evil or just to cost them a few bucks).

Piggiback Decking

One netrunner can "piggyback" another, if both are jacked in together. One of them simply decides he wishes to piggyback; his software does the rest, moving him automatically, provided the other decker is willing and the rider's speed is at least as great. The two deckers occupy the same "position" in cyberspace until they separate. This means that an expert can carry an apprentice or assistant with him through deep ice, for training or for help inside a complex system.

To piggyback an *unknowing* opponent, a netrunner must be in the same "place" and win a Contest of Cyberdeck Operation skills, with the attacker at -8. The attacker *must* have a Phase at least equal to the victim's. If the attacker makes his roll, he has tied himself to the other decker, without being noticed, and will follow him automatically. If he fails, he is detected. A new Contest of Skills, at no penalty, is made whenever the "horse" launches a Recon program; this can result in a decker suddenly realizing he has company!

If other deckers are in the area, they roll against the would-be rider, at no penalty, to see if *they* notice him.

To piggyback an *unwilling* opponent, the netrunner must catch him with a Snare program. When the victim is Snared, the attacker must win a Contest of Cyberdeck Operation skills, attacking at -4. Repeated tries are allowed, at another -1 each time. A success indicates the deckers are tied together. However, the "horse" can always escape by jacking out!

Continued on next page…

minutes per gig of the database to do a search (see p. 66). It takes only 1 minute per gig to search a datachip (see p. 67).

Transferring Commodities

With the advent of electronic fund transfers, money is shuffled by communication lines instead of armored trucks. By shuffling the appropriate numbers, a good netrunner can give himself "legitimate" access to millions of dollars in cash, precious metals, products or anything else that is used in commerce.

Transferring commodities is simple — the exact appearance depends on the *Environmental Interface* being used (see p. 88), but the decker basically "picks up" the commodity with a Computer Hacking roll, and then "carries" it with him to another node, or uses a Transfer program to move it (see p. 92). What really happens is that the netrunner steals the routing codes and invoice number for the valuta, then erases them from the true owner's system. He must then arrange for delivery…

MAPPING THE NETWORK

The GM will need to construct a map of the computer network for the world. While it isn't necessary to map the *entire* world (which may consist of hundreds of thousands of nodes), he should have the network(s) in and around the PCs' "home base" constructed fairly well.

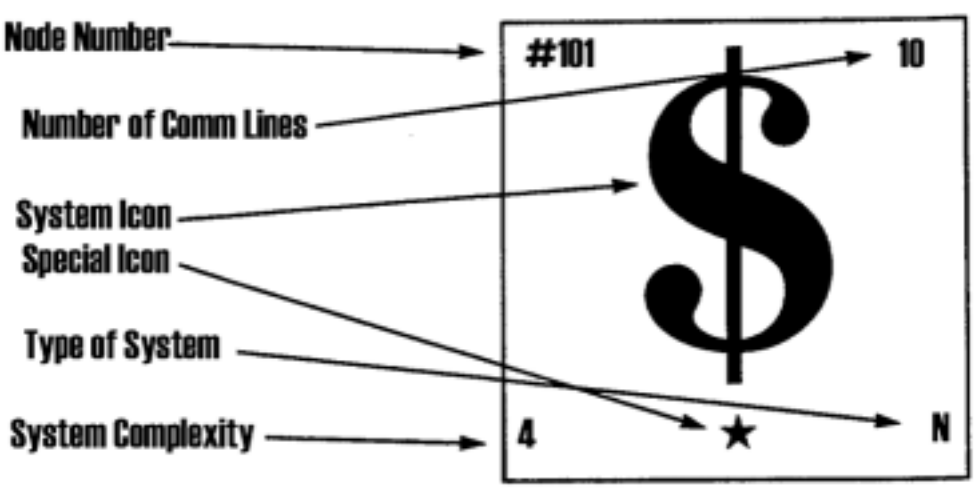
Looking at the net generation tables, the GM will notice that a surprisingly large number of systems will have little or no security; they will be "open" or "normal" systems. This, however, is accurate. The vast majority of systems will be of the "normal" variety, because most system operators/owners think that there is nothing anyone else would be interested in on their system.

The GM should make sure that *obvious* targets — banks, S&Ls, military systems, corporate R&D computers, etc. — are appropriately protected.

Random Connections

To connect to the matrix, a decker merely jacks in and connects through a comm-line. Once he's made it to the main network, he can begin connecting to nodes at random. If the GM wants him to connect to a certain node, he should make it so. Otherwise, he should generate a random node (the GM may wish to do this beforehand to save time during the play session.)

A node is represented by an icon box. Not all systems will have all pieces of information in their icon box — satellites, for instance, have no System Complexity or Type. Also, the GM shouldn't make anything but the Node Number and System Icon public when the player encounters the system — he'll have to figure out everything else himself!



Node Number: Assigned by GM, and purely for record-keeping purposes (although GMs running a realistic network may wish the Node Number to correspond to a network address of some sort).

System Icon: Each type of system has its own icon, allowing a GM or player familiar with the icons to quickly identify it. A star (★) indicates that it is owned by the government. A ∞ symbol indicates an AI.

System Complexity: This is a quick reference for the GM as to how fast the system can execute its attack and defense programs.

Type of System: See p. 68. Ether P (Public), N (Normal) or S (Secure).

Number of Comm Lines: This represents how many users can be attached to the system *externally* — there may be a huge number attached to the system within the building where it is located, but there will usually only be a small number of inward lines. Many systems have their lines set up to *refuse* any connections not originating from a certain place — this isn't ice, it's a function of how the line is installed and can't be altered. But they can call out.

When a decker is attached to a system, he occupies one of the comm-lines. If there is more than one line, extras can be used as *outgoing* comm-lines back into the Net. The advantage is that any subsequent machines will trace the connection back to the outbound link rather than the netrunner's home node.

These can be used to connect anywhere in the world. They usually have built-in fax and Voice Synthesizer/Recognition programs so normal communications can be established (systems of Complexity 5 or higher may have holovid synthesizers so video connections can be simulated…)

System Links: If two systems can reach each other *directly* through the network, they are connected with a line. If there are a number of systems that are geographically close, they may all be connected to the same line. If the netrunner cannot trace an *uninterrupted* line from one system to another, he will have to route the connection through another machine. The link between two systems should have a number representing the number of hops between the two nodes.

The GM should determine and record the type and operation of the defense programs on a system. See the *Launching Programs* sidebar, p. 83, and the net map on p. 94 for examples.

Artificial Intelligences

Can computers evolve to the point that they develop independent thought? Cyberpunk GMs must decide for themselves. Here are game mechanics and campaign/social considerations for the introduction of AI into the world.

How had it happen?

Accidental: As computers become more and more complicated, it becomes harder and harder to understand what goes on inside them. With gigabytes of RAM and access to databases comprising almost the whole of human knowledge, it isn't inconceivable that a research-project could go berserk… a virus could blossom beyond its creator's wildest imagination… a program designed to unify information might begin to *learn* from the information that it has compiled.

If this happens, will mankind realize it? Will the newly born entity announce itself to the world, or remain hidden in the electronic bowels of the network? What are its goals? Does it seek world domination, or merely a bigger memory bank? Will it accept the existence of non-electronic life, or will it consider humans to be a mere annoyance, not worth consideration?

Intentional: At some point, computer scientists develop the algorithms necessary to develop artificial "life." But how well defined are the parameters of the AI's intelligence? Can loyalty be programmed? If so, to what — one man, one cor-poration, all mankind? Is the AI willing to be destroyed in order to protect the object of its loyalty? If not, how far does the loyalty extend?

Piggyback Decking (Continued)

Some decks have an "observer" jack. Anyone jacked into this can "see" everything the main netrunner does, and communicate freely, but can take no action of their own. Such a jack adds $1,000 to the cost of the deck.

Whenever two deckers are piggybacking, or when they are in "sight" of each other on the Net, they can communicate freely. In game terms, the players can talk in real time, though the GM should not allow extended conversations in the heat of net battle.

Launching Programs

The exact function of each attack and defense program is determined by the GM. In effect, the defenses of a system must be "programmed" by the gamemaster to be effective. For instance, just noting that Watchdog. Trace and Sever exist on a system isn't enough — the GM (or player, if he owns the computer) must define how they interact. (Yes, designing a well-defended computer system is the c-punk gamer's equivalent of building a well-trapped dungeon!)

For example, the GM might note the following:

The Watchdog runs constantly, and launches a Trace on every connection. The Trace reports its results to the Watchdog, which compares it to a list of valid nodes that is stored in a file. The file is only modifiable by a superuser. If an unauthorized connection is made, the Watchdog launches an Alarm followed by a Sever. If the Sever fails, the Watchdog then begins to delete certain important files before the hacker can get ahold of them.

If the hacker's Recon program is good enough, he would have been told about the Watchdog, and probably zapped it. If not, he'll have his hands full…

Anyone familiar with programming will recognize the above as an abstraction of a series of IF…THEN and DO…WHILE statements. If the GM and/or the players are familiar with programming, they might want to pseudocode a system's defenses.

While this method is difficult at first, it allows infinite complexity and makes netrunning a contest of wits between the player and the GM instead of a never-ending series of die-rolls.

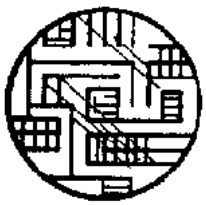
A GM who is more comfortable with a simpler, faster system for resolving computer hacking may use the system in the sidebar on p. 78.

Now That You've Got It, What Can You Do With It?

OK, you've just cracked a big block of ice. made your way through the central computer's circuits and found a shipment of diamonds. How do you take physical delivery?

In many cases, when you break into a computer and want to take possession of the commodities it keeps track of the things you want — money, information, negotiable instruments such as stocks and bonds — are actually only bits of data stored in the computer's memory. By changing some of the bits, you can easily change the "address" of the data from the previous owner's to yours. At that point, transferring the information into one of your more legitimate accounts is easy.

But what if the information represents a physical commodity that can't be shuffled around just by setting a few computer bits? Let's go back to the example of the diamonds. The "address" of the data mentioned above — in this case, the diamonds as listed on, say, a cargo manifest — merely denotes ownership. If the console cowboy is smart, he will change the address the diamonds are to be shipped to that of a fence, who will dispose of them for a small fee. In tricky or very unusual situations, he might have them delivered to an address that he has control of (his home, for instance), but this makes the theft much easier to trace.



Stacked decks

Occasionally a net jockey will come across a ROM deck that was designed to penetrate one specific system. This deck will often have several different attack programs in it, all slightly modified. These are known as *stacked decks.*

A stacked deck is useless against any computer system but the one it was designed to penetrate. However, it runs *twice* as fast as a normal ROM deck and adds +2 to all rolls against the system it was designed to penetrate. A stacked deck will burn itself out after one run, whether or not the run was successful.

The microchips that make up the deck are almost always fused inside a nearly impenetrable plastic — attempting to get inside it and copy the software will require a critical success versus Electrical Engineering skill, and a failed roll destroys it.

If it is possible to develop an AI that is *reliable*, they will be common in both corporate and government computer systems. After all, a machine can work 24 hours a day — it never gets sick, and (if properly programmed) will never ask for a raise. It never forgets an instruction. In short, it can be the perfect worker.

A ∞ symbol on a system icon indicates an AI.

Development Time and Cost

Starting with a regular megacomp (see p. 63), it takes at least one year to develop and tailor an AI for a particular corporation. At the end of the year, the GM rolls 3d. On a 10 or less, the AI "awakens." Rolls can be attempted once every three months there-after. The cost of the programming staff necessary for this effort is $750,000 per year.

An AI always has superuser status on its own system. Assume that any AI can run the net unless it was specifically denied that ability by its creators.

AI Abilities

All AIs have a minimum Intelligence of 15. Each additional point of IQ costs $250,000, up to a maximum of 22. In addition to standard programs, mental skills can be bought. Each character point required to buy a skill equals $20,000 (e.g., a 14-point skill costs $10,000; a 16-point skill costs $320,000). Physical skills can be purchased as if DX were 12 — the computer will need appropriate manipulators/remotes to perform most physical tasks, the cost of which will vary according to the ruling of the GM — typically $500,000+.

Playing an AI

Eventually, a player may wish to use an AI as a character. When this happens, point-balance may be ignored. The GM should work with the player to construct the character, possibly giving him a budget of 1-3 million dollars to work with. Playing such a creation is a task for an good, experienced roleplayer, as it is easy for an "all-knowing" character to overtake the roles of the other players at the expense of their enjoyment of the game.

SYSTEM TYPES

Academic

Almost every university, college and even some secondary schools have their own computer systems or networks. Machine type will range from Complexity 2 personal computers to Complexity 5 mainframes. Rich universities might have a Megacomp.

University computers are usually well-networked, with lots of inward and outbound lines. They also tend to be less restricted than most systems, so are often used for chat systems (see p. 69) or as underground bulletin board systems and samizdata distribution sites (see p. 113).

Hacking academic computers is not usually very profitable — unless the school is engaged in cutting-edge research. University administrative computers are often good sources of information about former (or current) students.

Most academic systems have weak security — but one doing significant research (especially if it's government-funded) will have state-of-the-art ice.

Banking/Financial

These systems are used in the trading of cash, stocks, bonds, commodities and anything else of value. Naturally, these are going to be the best-protected systems on the network — the GM should be careful that the financial systems in his world are protected against all but the absolute *best* netrunners.

A typical system runs on a Mainframe or Megacomp — if AIs are common, there will undoubtedly be one in charge of system security for large banking systems.

Everything that happens on the system — every connection and command — is probably logged on both the machine and harocopy, so a successful penetration might have to involve physically entering the site. The GM shouldn't roll for random defense programs — he should assign them manually. A typical medium-size system will have a Watchdog running that executes a Trace and Sever on any unauthorized connections, a Mask, and a plethora of Datalocks and Codewalls. Many times the links to a banking system will be Camouflaged.

Diverter/Outdial

Some companies maintain banks of modems or comm-decks so that their employees can connect to the outside world. These are not run by a separate system; they have their controlling software built-in. Unfortunately, their security is usually lax. Most systems are treated as a Complexity 2 machine running Password-12. Roll on the *# of Outbound Lines* table to see how many lines are available to call out with — there is a 50/50 chance that each line will be busy at any time. It takes 5d minutes for a line to release.

Goverment Systems

There are many thousands of different government offices, bureaus, departments and agencies that require computing power. The *Government Type* table points the GM toward the general area that a system is involved in, but specifics are up to him. If corporations rival governments in a particular world, these might actually be corporate systems!

A star (★) at the bottom of any system icon indicates a government system.

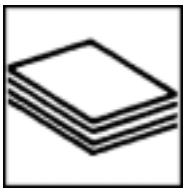
Judicial systems

Judicial systems are typically large databases on criminals and current investigations. They are usually kept fairly secure, and will attract a large amount of publicity if penetrated (assuming the intrusion becomes public knowledge).

Legislative Systems

Legislative systems are mainly used by lawmakers to track current laws, voter information and the like. One of the most interesting things on a legislative system would be the list of campaing contributors (and possibly the account numbers that the money is stored in!)

Administrative Systems



Administrative Systems are typical "red tape" machines — large, with many gigs of databases on everything from population figures to rainfall density. The bulk of government computers will be administrative in function.

Military Systems

Easily-accessible military systems will never be controls for weapons (those are always on isolated networks with no inbound lines)! They're more likely to be concerned with supplies, logistics and administration. That's not to say that they won't contain information of strategic value to an enemy…

Danger Signals

One of the features of a cyberdeck is its ability to let a console cowboy know when he's in danger, and what he's up against. With a text or icon-based interface, this is not a problem. The nature of the threat is spelled out on the screen, either in text ("WARNING! ICE DETECTED. THIS COMPUTER KNOWN TO USE FLATLINE PROGRAM. SUCCESS PROBABILITY 36% TO DEFEAT ICE. SUGGEST YOU DISCONNECT *NOW*") or as a recognizable icon (with levels of perceived danger, from a little kid with a slingshot through the Big Bad Wolf and up to a Japanese movie monster).

In cyberspace interfaces, warnings are generally built into the objects and people the character's simulated self will meet. In a 1930's gangster setting, for instance, a security program might be represented by a rival mobster. The mobster's weapon shows what kind of threat the character is up against. In an abstractart setting, the character would assign one color (usually red) to anything dangerous. The intensity of color would indicate the magnitude of the threat, from very dim to brilliant and flashing. (This tends to explain why cyberjocks tend to stick with one particular type of interface for a long time — they've learned to recognize the danger signals of that particular "world.")

Often, there will be information that the simulation simply isn't set up to process, or that needs to be conveyed to the cyberjock in some detail. In this case, it is often presented through audio. In a gangster setting, a lieutenant might come up and whisper in the character's ear; in the World War in dogfighter interface, the information comes over the cockpit radio, even as the Zero representing the enemy appears on the horizon.

One Man's Trash...

When someone is trying to gather information about a person or a company, they usually spend a lot of time lurking in the shadows with expensive surveillance equipment, recording their every move and word. In the excitement of playing spy, they often overlook one of the best sources of information available — the trash.

There is an *endless* variety of useful (and not-so-useful) information to be gleaned from a trash can. People who wouldn't *dream* of talking on their home phone for fear it is tapped will jot down detailed (and sometimes incriminating) information on a piece of paper that they later toss away with the orange peels — sometimes they may tear it in a few pieces, but it's nothing that a bit of tape won't fix.

Modern-day hackers use this technique to glean information from phone and computer companies — they call it *trashing*. Legitimate users (especially low-paid employees such as data-entry clerks) tend to jot down their computer accounts and passwords on random notes which are later dropped into the garbage. One major Bell company has distributed posters to its offices warning all employees to "shred everything." As well they should! Even if the hackers don't find actual accounts, they may find printouts of computer sessions that demonstrate the correct format for using commands — an invaluable tool with some of the more cryptic operating systems. (In game terms, this could give a +1 to +3 on effective Hacking skill for that system only.)

Other useful information that might be found in the trash can include credit-card information (if the PCs look in the trash of a major retail or mail-order store), phone numbers, sales receipts and many other pieces of paper that can be useful when building a database about an individual.

Even actual disks may be thrown away; depending on the professionalism of the user, they might have been wiped carefully, wiped carelessly, or not wiped at all. Deleting all the files does *not* wipe a disk; "undelete" programs are common and effective even in the 1990s. To read a wiped disk or other media, make a Computer Operations roll at -(2d). The GM may modify this upward or downward for a careful or careless user.

And if the target facility manufactures hardware, the trash may yield actual memory chips, ROMs, and who knows what else?

Continued on next page…

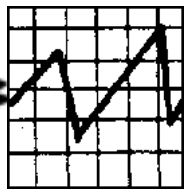
Systems that contain top secret or classified information are almost *never* available from the mainstream network. This isn't to say they aren't networked — but the network has to be accessed from certain physical locations.

Netrunners should be careful when hacking government computers. Private companies won't usually come after someone who only cost them a few hundred (or even thousand) dollars — it just isn't profitable to track down *everyone*. The government, on the other hand, has no need to show a profit, and will quite willingly dedicate massive resources to hunting down and eliminating anyone they perceive as a minor threat.

Large Business

The bulk of the machines on the network are owned by large businesses and corporations. Wthout a massive amount of processing power, companies of this size simply can't function.

Accounting Systems

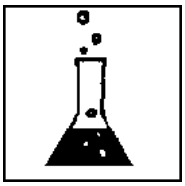


These are used for day-to-day management of the corporation's assets. They are usually well protected, as they are often targets of both freelance netrunners out to make a quick buck and industrial espionage. A microframe is the usual choice for this type of work — the biggest corps will use mainframes.

Personnel/Administrative System

This type of system handles all the paperwork concerning employees — records, history, job duties, insurance, vacation and sick leave, etc. Minicomputers or microframes are usual systems for this type of work, and security is somewhat lax.

Research and Development

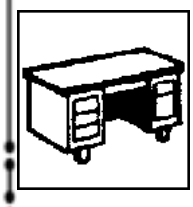


R&D systems are used by scientific personnel to store data and perform calculations. They are generally large, powerful systems capable of hosting a number of users and performing complex calculations quickly — a mainframe or megacomp. System security will vary from system to system. A company working on a new nerve gas will have tighter security than one working on a new glue.

Medium Business

This system is also quite common — it is used by mid-sized offices and provides computing power for the business operations. Often individual users will have a Complexity 2 personal computer attached to it. Security on this type of system is not usually state-of-the-art, not often is much worth stealing kept online.

Small Business



This is most often a minicomputer or microframe that provides the computational power for an entire small business — inventory, payroll, accounting and other record keeping. As above, it usually employs protection commensurate with the value of the data stored on it

Network Gateway

This node connects you to an entirely new network. It is not so much a computer as an outdial that is permanently connected to a secondary network. The destination of this gateway can be chosen by the GM, or it could be another net generated using the random tables. Some gateways will be protected with Password programs. If so, they should be treated as Password-12 on a Complexity 2 system unless the network has military or confidential applications, in which case both skill and Complexity will be higher.

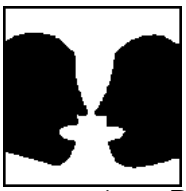
Private System

This could be anything from a Complexity 2 personal computer with a modem attached to a megacomp — it all depends on the individual who owns it. Generally, it will be a small system with only a password defense, no outbound lines, and absolutely nothing of interest to a netrunner. The GM should feel free to be creative, though…

Satellite Uplink

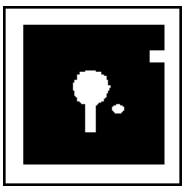
This is a connection straight into a comsat. From here, a connection can be made directly to any other uplink in the world — it has an effectively infinite capacity for line transmission, but adds one hop to any data passing through it.

Commercial Computing Service



There are many systems that allow users to purchase time on them. The modern-day equivalent to this service would be a network such as CompuServe or GENIE. Users log in under a specific account that is billed to them, and then use the system for everything from electronic mail to research to making airline reservations. Prices range from $20.00 to $60.00 per hour for a typical commercial service.

Data Haven



Occasionally, someone will find themselves in need of secure, reliable and completely anonymous offline storage. A data haven offers a large amount of protected offline memory that they'll allow a nettunner to use — for a fee. The most common legal use of a data haven is for offsite backups. Illegal uses range from storing stolen programs or databases to holding the books for a crime organization. Data havens usually encrypt (see p. 63) all data stored in them.

Storage in a data haven costs $1,000 a week per gig for the average haven. The best Swiss data havens are hundreds of times more expensive. Payment is usually made through an anonymous electronic funds transfer, and access is controlled with a unique user number and password. If someone forgets their password, they're out of luck — and can kiss their data goodbye.

Padlock

A Padlock is a system that is dedicated to just one thing — security. Padlocks are generally used as front-end machines for business networks. A typical Padlock is a high-Complexity system with the maximum number of slots, plus a number of disk-based ice programs. Most Padlocks will have some form of a Sysop-in-a-Box (see p. 80) running as well as standard ice.

One Man's Trash... (Continued)

How to get the trash? That depends on the security of the physical premises. If the PCs are collecting from someone's house or apartment, it is usually just a matter of showing up before the garbagemen and throwing it in the car. And while many companies have fences around most of their building, they sometimes (a 9 or less on 3d6) have the dumpsters placed outside for case of collection.

If the trash receptacle is enclosed by a fence, but still outside, it may take a pair of wire cutters and a successful Stealth roll to root through the garbage. A simpler method involves impersonating the clean-up crew and collecting the trash normally. After all, who would pretend to be a garbageman?

If the characters need trash from one particular office, they might do well to get hired as (or impersonate) a janitor in the necessary building. This might require a week or two, but would pay off in access. Another popular trick used by high-school or college-age people is to contact the company about the school paper drive, for which they are in charge of recycling computer paper. Most big companies are very conscious of their public image, and will be happy to participate in such a worthy project. Anyone truly dedicated to their cover story *will* organize a paper drive — they'll just make sure they get a look at the paper first!

Collecting the trash from a high-security area should be a whole adventure in itself.

Self-Defense

The GM should keep in mind that such techniques may also be used against the PCs. A party that makes a point of burning notes, shredding files and crumpling disks — and that is alert for cover stories that could signify "trashers" — is less likely to suffer intrusion into its own systems!

Computer Accessories

Printer: Attached to any computer, the printer can produce typeset quality printouts or photographic-quality color pictures. It uses the computer's power cell. The printer weighs four pounds and costs $100. A hundred sheets of paper or printing plastic weigh 1/2 pound and cost $1.

Text Scanner: This is a light-sensitive plate which can read a document or picture (10" x 15" or smaller) into a computer's memory, either as a graphic image or text. It folds up for storage into a one-inch cube and uses the computer's power cell. Cost is $40 and weight is 2 pounds.

CYBERDECK SOFTWARE

Cyberdeck software has a Complexity rating, just like normal software — but each program also has an Execution Time, expressed in Phases. Thus, a program with an Execution Time of 3 would require three Phases to run. The actual length of time per Phase is determined by the type of neural interface and the Speed Index of the cyberdeck.

Example: A Complexity 3 cyberdeck has a base Phase of 4,000 milliseconds. If it has an SI of 5, that would be reduced to 800 milliseconds. Running it with an Icon Interface would raise the Phase to 1,600 milliseconds. So a Crash program (Execution Time 4) would take 6.4 seconds (1,600 milliseconds x 4) to execute with the above configuration.

Some software, such as environment modules, has no fixed Execution Time. In these cases, no Execution Time is given.

Environment Modules

In most worlds, the data stream from a neural interface is presented in a standard protocol (see sidebar, p. 77). The cyberdeck will pass this information to the Datalink program (either running on the deck or integrated into the neural interface), which then interprets the data as visual signals. The GM must decide if there is a "standard" view that everyone gets of cyberspace, or if each user is free (with the help of the appropriate software) to interpret it differently.

An Environment Module (EM) interprets the data flow from the network into a specific pattern, usually revolving around a theme of some sort. EMs are designed with a limited amount of self-programming ability. This allows the EM to customize itself to a particular user.

Over a period of time the EM will develop a personality of sorts, "learn" what programs the netrunner uses in a particular situation, and may even make suggestions now and then. After a character has used the same EM regularly (at least twice a week) for three months, the GM can secretly roll 3d in any situation where he thinks the character needs a hint of some sort. On a result of 6 or less, the EM will offer some suggestion that might help the PC. On a 17 or 18, the advice will be bad!

The GM should use his imagination when describing the net to a player. If the character is using a Space Odyssey interface (see below), the GM shouldn't just say "Ok, you see a computer ahead." Instead, he should see, perhaps, a lightly-defended merchant vessel with a gold-plated hull! (Of course, the GM should give the actual name of each program seen, at the player's request.) Often, the time in the matrix is the only action that a netrunner will see during a play session, so the GM should make it exciting.

EMs reinterpret the environment individually for each decker. Thus, one character might see a confrontation as a magical duel, with a fireball coming toward him, while the other might be congratulating himself on the accurate shot his cannon placed on his rival's ship! This requires a GM to be quick on his feet if two PCs meet on the net — it's challenging to describe the same situation to two different people in two different environments.

An EM costs $5,000 and is Complexity 2. Some of the most popular EMs follow.

Space Odyssey

The netrunner jacks in and finds himself at the controls of a huge spaceship. Cyberspace is represented as the void between planets. Nodes in the net are displayed as moons, planets and suns — the more data traffic on the node, the larger the stellar object. Links between systems are displayed as paths through the hyper-space navigation plotter. Attack programs are dispatched as fighter ships, or the ship's guns fire on the target. Defense programs are represented by hostile fighters and planetary defense forces. Black Ice (see p. 93) is seen as a black hole sucking in everything nearby… The EM communicates directly to the user as the ship's computer. Data is represented as towering monoliths inscribed with runes on the planetary surface. Once all of the defenses have been subdued, viewing drones can be dispatched to search the rock for a particular piece of information. Cash and commodities are represented as asteroids of precious metal orbiting the planet — they can be taken into the hold of the ship and repositioned around other "planets."

Picassotron

This is a very stylized view of the net — full of walls of color and bright lights. The netrunner is represented as a glowing ball of color — the better his equipment the brighter and bigger the ball (although some deckers prefer to be underestimated, and purposely dim their aura).

The nodes display as colored geometric shapes — lightly trafficked nodes are monochrome, while heavily populated areas are huge, multi-colored polyhedrons. Links between nodes (if not camouflaged) are visible as glowing ribbons of neon — the wider the ribbon, the greater the number of paths. Data is represented as small cubes with gothic lettering indicating the contents — commodities are shown as shimmering spheres of precious metal, with sphere size increasing as the value of the commodity goes up. Attack programs are displayed as incandescent bursts of laser-fire, and defense programs are seen as solid walls of chrome, quartz or colored fire. The EM is a small, glowing pyramid that follows the decker throughout the net.

Retrorock

This interface has particular appeal to netrunners with a musical bent and a taste for the bizarre. The decker is cast in the role of a singer/guitarist for a rock band. Each program is invoked as a different song — the greater the volume, the better the program and deck. Nodes in cyberspace are represented as various clubs and concert venues. The defense programs are hostile crowds or bouncers at the door — they must be overpowered by the wall of sound that the netrunner's amps put out (the better the offensive programs, the louder the amps). Data is collected as groupies who whisper sweet bits of information into his ear, and commodities are gathered as cash at the door. The EM is the netrunner's manager, and can sometimes offer advice on which song is likely to "win over" the crowd.

Castle Perilous

One of the most popular EMs, Castle Perilous casts the decker in the role of a medieval knight journeying through a monster-infested castle. Each room is a different node, with the corridors between rooms representing links. Camouflaged links are hidden

by secret doors, and defense programs are seen as monsters. Light defenses such as Password (see p. 93) are seen as small, easily dispatched monsters such as Orcs, while Black Ice might appear as a fire-breathing dragon or spell-hurling demon! Attack programs are the knight's weapons, from daggers up to giant axes and two-handed swords. Data is represented by collections of scrolls, while commodities are seen as gold, gems and jewelry. The EM is represented as a squire, carrying the knight's weapons and treasure.

Other Enviroments

The above list is far from complete; other possible EMs include espionage (complete with mask and trench coat), military (ordering armies off to do battle), magical (a mighty sorcerer with many spells), safari (a hunter searching the jungle for animals), pirate (sailing the data seas and stealing from treasure-laden galleons), mecha (a giant anthropomorphic robot), pornographic — (best left to the imagination) and many more. The GM should develop any additional EMs that he wishes to make available as standard programs.

ATTACK AND DEFENSE PHOGRAMS

All attack programs have a base skill level of 12. Skill level can be modified in the normal manner (see p. 65). In some worlds, possession of these programs is considered a crime — in others, they will be sold openly! If attack programs are illegal, the GM should, at minimum, double all costs given to reflect their rarity. Forcing netrunners to deal with the black market each time they need a software upgrade is a good way to keep the characters busy — and helps trim the fat from their bank books!

Many of these attack programs are designed to work against a certain type of ice — these programs are known as *icebreakers.*

Most of the programs — both attack and defense — have a default. This represents the ability of a character to "improvise" them — *and only work for someone with an Environmental Interface!* Neither Marquee or Icon interfaces communicate enough information for the netrunner to construct defenses or attacks from scratch in the relatively short time available. The *maximum* default level is 13 — better programs just can't be improvised! Note that Computer Hacking defaults to Computer Programming -4 — the default can be calculated against this, an exception to the normal prohibition of "double defaults."

Example: Datamage is investigating a computer owned by a foreign government when he discovers a piece of electronic mail awaiting delivery to his country. It contains assassination orders for a prominent politician. Datamage has no confidence in his ability to delete or reroute the mail without leaving tracks pointing in his direction. He decides the only thing to do is Crash the system, giving him time to (perhaps anonymously) trigger a government investigation before the damning message can be read or removed. He doesn't have a Crash program available, so he would roll against Computer Hacking-4 to Crash the system.

Repeated Attempts

Note that most systems are *stupid.* For instance, if a defense is not being watched by Regenerate, a decker could try over and over to Corrode the same Watchdog or Alarm program, with no penalty for failure. With some programs, each attempt is progressively less likely to work. But most programs won't realize they are being attacked unless they are monitored by another program looking for damage.

Bloodhound — *Defaults to Computer Hacking-6*

This program is used to defeat a Misdirection program. It is typically invoked by a Trace program if the program (or the decker) realizes that it has been thrown off the track. Roll a Contest of Skills between the Bloodhound and the Misdirection program — if the Bloodhound wins, the Trace can continue following the subject. If the Bloodhound loses, try again — but each successive try is a cumulative -3, as the trail grows "cold." Execution Time is 1, Complexity is 2, and cost is $7,500.

Confuse — *No Default*

Confuse sends a surge of static through a communication line. This has no effect on machines, but a decker must make an IQ roll or be mentally stunned for 1d seconds from sensory overload. If a user has a Fuse (see p. 90), Confuse must win a Contest of Skills against it before it can affect the victim. Execution Time is 1, Complexity is 2, and cost is $10,000.

Corrode — *Defaults to Computing Hacking-4*

Corrode slowly chips away at the integrity of a program, giving the decker plenty of time to safely distance himself from the crumbling system. When the Corrode program is executed, a Contest of Skills is rolled between the program's skill level and Corrode. If the program wins, Corrode has no effect. If Corrode wins, the program begins to deteriorate — in 1d seconds it will crash (assuming that the corrosion isn't caught by a Regenerate program). Time 1, Complexity 2, cost $12,500.

Crash — *Defaults to Computer Hacking-4*

Short of destroying its hardware, Crash is the ultimate injury that can be inflicted on a system. Ironically, Crash is also one of the simplest programs available — but it can only be executed from a superuser account. Any time a Crash program is run in a system with a Safety Net (see p. 93), immediately roll a Contest of Skills between the Crash program and the Safety Net. Otherwise, roll against the Crash program's skill level, modified downward by the complexity of the target system.

If the Crash is successful, the target system immediately shuts down. All users are kicked off, and any links passing through it are treated as though hit with a successful Sever program (p. 91). If the Crash fails, subsequent attempts are at a cumulative -5 instead of the normal -3 — if it didn't work the first time, it is unlikely to *ever* work on that particular system. Execution Time is 4, Complexity is 2, and cost is $15,000.

Crumble — *Defaults to Computer Hacking-4*

The Crumble program is used to get past a Codewall (see p. 93). Roll a Contest of Skills versus the Codewall program — if Crumble wins, the Codewall is destroyed. Repeated attempts are allowed at the normal -3. Execution Time is 1, Complexity is 2, and cost is $5,000.

Disguise *Defaults to Computer Hacking-4*

This program is used to alter the "appearance" of a netrunner's signal, making it appear to be a legitimate user of a node. This doesn't give the user *access* to a target node, but will deceive any Watchdog (see p. 93) programs that are guarding the node. Roll a Contest of Skills between Watchdog and Disguise to determine whether it accepts the connection as legitimate.

A Disguise program must be tailored for a particular system; this requires information about that system. The GM decides how much information is to be required. If the "tailoring" must be done online, the decker must make a successful Recon of the Watchdog that is to be deceived, and then make a Computer Hacking roll at -1: this takes 2 phases. One Disguise program can fool any number of Watchdogs, if it has been given the proper data in advance.

Disguise has an Execution Time of 1, but must be activated *prior* to connecting to the node whose Watchdog is to be fooled. Disguise is Complexity 2 and costs $2.000.

Erase *Defaults to Computer Hacking-4*

Most systems keep some sort of log of who was on the system, when, and what they did while they were there. Particularly paranoid systems print these records out on hardcopy as they're logged — there isn't much that can be done about this, short of sending a strike team into the computer room to destroy the evidence! Most systems, however, content themselves with a disk-based record of comings and goings.

An Erase program is used to remove evidence of a particular login, database search or program execution. The GM makes the roll — and doesn't tell the character the result! (A failed roll indicates that the intruder *thinks* he erased all traces of his visit, but really missed a few "footprints.") Only on a critical success or failure will the hacker know he has succeeded or failed.

The Erase skill level is modified down by the Complexity of the target computer. Execution Time is 1, Complexity is 2, and cost is $8,000.

Flatline *No Default*

This is the most feared piece of code on the net Horror stories abound about netrunners who tangled with the wrong system or decker — the story usually ends with the victim's eyeballs exploding from the heat of his melting brain.

Flatline is used mostly by large computer systems — most cyberdecks don't have the processing power to handle Flatline, even if they can find it. Flatline is designed to disconnect hackers — permanently. There are many different methods of killing a wired-in netrunner. The most common method, and the one from which Flatline takes its name, is to force the decker's EEG to go flat. Other versions cause a power surge to feedback through an opponent's cyberdeck directly into his neural interface. Either of these immediately does 3d damage per Phase (PD and DR don't protect) of the computer running the Flatline (assuming that the skill roll is made, roll each Phase) to the victim.

Some of the more exotic Flatlines don't kill at all. One version wreaks havoc with the brain's electrical system, giving the netrunner the Epilepsy disadvantage (the hacker may not even realize he has it until later!). Another version hypnotically reprograms the netrunner, overwriting his normal personality with that of a Ghostcomp (see p. 56). Both of these require that the Flatline program work three times in a row before being unplugged — after that, the netrunner is helpless to unplug the jack until the Flatline allows him to.

The only defense against Flatline, other than unplugging the neural interface, is a Fuse program (see below). Unhooking a neural interface only takes one second, but a fast system with a 200-millisecond Phase will be able to get off five surges before that second is up — enough to fry most netrunners to a crisp.

The GM should use his imagination when creating new flatlines!

Flatline programs are almost always illegal, and many ROM decks carrying them are designed to burn themselves out after a certain number of executions. Execution Time is 1, Complexity is 4, and cost is $1,000,000+; Legality Class 1.

Fuse *No Default*

A few paranoid netrunners have begun employing fuses in their cyberdeck toolkit. A Fuse program waits in the background until it detects something that looks like a Flatline program coming through a neural interface. It then immediately disconnects the user from the net.

A fuse program can save the netrunner's life. There are several disadvantages, however. First, some programs (including state-of-the-art ice) will sometimes send a harmless signal disguised to look like a Flatline at the beginning of a transmission (see *Bluff*, p. 93). This signal can be filtered out if the Recon program (or the netrunner) recognizes it as false, but it will trigger many fuses. Second, suddenly disconnecting from a neural interface is very disorienting — it causes the decker to be mentally stunned for 3d seconds. And third, it uses up a valuable deck slot.

If a Fuse is online, roll a Quick Contest of Skills every time a Flatline program (or an appropriate Bluff) appears. If the Fuse wins, it disconnects the user from the system immediately, sparing him from being flatlined. If it loses, the Fuse delays by one of its own Phases for each point by which it lost. Critical failure means the fuse failed and its user takes full damage (and probably dies a horrible death). Execution Time is 1, Complexity is 2 and cost is $20,000.

Icepick *No Default*

This is the universal attack tool. It can act as any icebreaker program (Bloodhound, Corrode. Crumble, Disguise, Silence, Skeleton Key II and Webster). Icepick is the tool of choice for the sophisticated decker, but it requires expensive equipment to run. Execution Time is 2, Complexity is 4, and cost is $250,000.

Loop *Defaults to Computer Programming-2*

Loop is used to occupy processing time on the target computer so that it is less resistant to other attacks. Loop programs generally involve putting the central processing unit into a infinite loop of some sort — calculating the value of pi to the last decimal place, for instance. A successful Loop reduces the target system's skill rolls by 2. The only defense against an Loop is a Bailout program (p. 92). Execution Time is 1, Complexity is 2, cost is $4,000.

Misdirection *Defaults to Computer Hacking-4*

This program is used to throw a Trace (sec p. 92) off the path. If the follower doesn't have a Bloodhound (see p. 90), he

has no chance of following a path obfuscated with a Misdirection. Execution Time and Complexity are 2; cost is $17,500.

Monitor *Defaults to Computer Programming-3*

This program is used once a hacker is in a system. If he has superuser access, he can monitor the actions of any user in that system with a successful roll versus Monitor. Monitor has an Execution Time and Complexity of 2, and a cost of $25,000.

Promote *Defaults to Computer Hacking-4*

This program is executed from a normal user account on a system. If successful, the account is "upgraded" to a superuser account. The skill roll for a Promote program is modified down by the Complexity of the target system — the better operating systems are designed to prevent a user from doing this! Execution Time and Complexity are 2, and cost is $20,000. Promote programs are common on stacked decks (see sidebar, p. 84).

Recon *Defaults to Computer Hacking-3*

This program is used to scan a system for defensive programs, both ice and "counterattacks" like Snare. When a netrunner first encounters a system, the GM should roll versus Recon for each ice program the node has defending it. A successful roll lets the decker "see" the ice. If the netrunner doesn't have a Recon program, the GM rolls versus Computer Hacking-3 for each piece of ice to see if the character spots it.

If the target system has an active Disinformation program (see p. 93), the GM should roll against it each time the Recon program fails to detect an ice program. On a successful roll, the Recon program returns false information to the character. Recon also rolls versus Bluff programs (see p. 93) — a successful roll reveals the Bluff as a feint.

A decker may also use Recon to get more information about a specific program, once it is detected. Roll a Contest of Skills between the two programs. On a success, the decker learns what contingencies will activate the program, and what other programs it can trigger and when. On a failure, he learns nothing new. A critical failure sets off an Alarm if one is present. A critical success by the GM (who rolls in secret) lets the GM lie.

Recon has an Execution Time of 1, a Complexity of 2, and a cost of $7,500.

Sever *Defaults to Computer Hacking-6*

The Sever program cuts another netrunner's access to the net by temporarily disconnecting his communication lines. The image generated by a neural interface is constantly being refreshed and updated from the decker's incoming data stream. If this flow is interrupted, even for only a fraction of a second, the representation breaks down and the decker is disconnected.

If the target doesn't have a Shield (see p. 93) program active, the only thing required to successfully sever his connection is a skill roll. (If a defender's cyberdeck is fast enough, he will see the Sever attempt begin in Phase 1 of its execution, and will be able to throw up a Shield in Phase 2, since Shield's Execution Time is 1 versus Sever's 2.) If a Shield program is running, roll a contest of skill between the Sever and Shield programs. If the Sever program loses the contest, the user can attempt to execute it again, but each successive attempt is at the standard -3.

Sever has an Execution Time of 2, Complexity of 2, and costs $15,000.

Silence *Defaults to Computer Hacking-4*

Silence is used to attack any Alarm programs that a target system might have. Each Alarm must be Silenced separately — roll a Quick Contest of Skills between Silence and the Alarm. A critical success silences the Alarm without "noticeable" damage. A critical failure results in the Alarm being tripped! Execution Time is 1, Complexity is 2, and cost is $ 10,000.

Shield *Defaults to Cyberdeck Operation-5*

The Shield program is used to defend against a Sever attempt (see p. 91 for more information). Execution Time is 1, Complexity is 2, and cost is $12,000.

Snare *Defaults to Computer Hacking-5*

A Snare is used to trap a netrunner in one location for a brief period of time. A Snare is launched at a decker. If he moves before it hits, it cannot pursue. But if he is still there, he must then win a Quick Contest of Skill — his Computer Hacking skill versus the Snare — to move again. Each Phase after the first, the victim can try to break free again, at a cumulative +1 on his roll (the Snare deteriorates). This does *not* impede the netrunner's own use of programs, and it does *not* keep him from jacking out.

Snare is Execution Time 1, Complexity 2, and is $12,500.

Stealth *Defaults to Cyberdeck Operation-5*

Hackers use the Stealth program to remain invisible as they move through the net. To see another netrunner, no roll is normally needed. If the subject is running Stealth, however, they won't be seen unless they are on the same node or point as the observer. Then the GM secretly rolls a Quick Contest between the observer's Cyberdeck Operation skill at -3 and the Stealth.

Each doubling of price subtracts an additional -1 from the Cyberdeck Operation skill, up to a maximum of -9. Stealth is Complexity 2, has an Execution Time of 1 and costs $10,000.

Success *Defaults to Computer Hacking-4*

Well-designed ice usually involves messages being passed from one program to another — a Watchdog will act based on data from a Trace, for instance, or a system might be set to shut down if a Sever attempt was *not* successful (in order to prevent the hacker from gaining access to the information.) The Success program is used to feed false information to the system.

For instance, a netrunner's Recon might have informed him that a Watchdog is set to launch a Sever program if a Trace said he was coming from any node but "Alpha." The netrunner doesn't have a Disguise program in this case, and doesn't wish to chance his default, so he would begin by destroying the Trace program (using a Corrode program, probably). Once the Trace is gone, he is left with the problem of a Watchdog that is expecting information from the Trace. The decker launches the Success program, and it will simulate the correct answer.

The GM should roll against the level of the Success program whenever it has to give a response to something. A missed roll indicates that it didn't work, and it notifies the netrunner of its failure. On a critical failure, the program doesn't realize its cover is blown, so it doesn't notify anyone… The GM should give bonuses to a Success program if the netrunner has experience or prior knowledge of the system being subverted.

A Success program is Complexity 3, Execution Time 1, and costs $12,500.

Skeleton Key *Defaults to Computer Hacking-5 or Computer Programing-3*

A Skeleton Key will "unlock" a Datalock (roll a Contest of Skills), allowing access to the information being protected. A Skeleton Key uses several sophisticated (and complicated) cryptography algorithms, and is available in two forms. Skeleton Key I defaults to skill level 10 instead of 12, has an Execution Time of 5, a Complexity of 2, and a cost of $25,000. The maximum skill level of this version is 14.

The more intricate Skeleton Key II has the normal default skill of 12, an Execution Time of 8, a Complexity of 3, and a cost of $50,000. This version has no maximum skill level.

Trace *Defaults to Cyberdeck Operation-3*

A Trace program can follow the electronic trail left by another netrunner — follow the trail back far enough and the tracer can find a decker's comm-line. This can be used to find out the owner's name and address (see sidebar, p. 80).

Each time a target hops to a different node back along the path by which he *entered* the system, the tracer must make a successful Trace skill roll to follow. This roll is at -1 for each hop away the quarry is (GM's determination), so pursuing someone with a substantially faster cyberdeck is a difficult task. If the fleeing decker executes a Misdirection or Codewall program, the pursuer must stop and deal with them first (using Bloodhound and Crumble, respectively).

If the Trace fails a roll, the intruder has been lost *unless* he is still close enough to be "seen" in the net (i.e., 1 hop per Complexity level of the pursuing machine).

If the intruder does not leave the system and "flee," but remains connected, the Trace will do him no harm, but will move back along his path at 1 hop per Phase. If it misses a roll, it can immediately try again at a cumulative -1. Only the stupidest Trace will fail to eventually track down an active line.

Example: Megacorp executes a Trace-14 program to try and catch a netrunner snooping around their accounting computer. Unfortunately for them, the hacker's deck is sizzling hot — he makes three hops away from the system before the Trace program can get started. Since he is three hops away. Trace rolls against an 11 to follow his first hop.

If the decker stopped running after 3 hops, the Trace would roll against a 12 on the second node and a 13 on the third node.

Trace has an Execution Time of 1, a Complexity of 2, and a cost of $20,000.

Transfer *Defaults to Computer Hacking-6*

This program is used to move a commodity (cash or goods) from one node to another (see p. 80). It has no intelligence of its own — it has to be told exactly what hops to make and what passwords to give (or programs to execute) to make the transfer safely. If a Transfer is aborted for any reason before reaching its destination (a link is down, or it runs into unexpected ice, for instance), the commodity effectively "disappears" for 1d days while the legitimate owners straighten out the problem.

When a transfer program is executed, the GM rolls versus the program's skill. A successful roll indicates that it follows its instructions as given. A failure indicates something went wrong.

Transfer has an Execution Time of 1 (plus however long it takes to reach its destination), a Complexity of 2, and a cost of $25,000.

Webster *Defaults to Computer Hacking-5*

This is the standard icebreaker for use against Password programs (see p. 93). It acts as an extremely fast "brute-force" hacker. The attack is resolved as a Contest of Skills between Webster and the Password program. Webster is at a -5 against a Secure system, and has no effect on a Datalock.

If Webster fails, the hacker may try again at -3. Some of Password programs will set off alarms after one failed attempt, while others will allow indefinite tries.

Webster has an Execution Time of 2, is Complexity 2, and costs $5,000.

ICE PROGRAMS

Ice programs are, by nature, defensive. They also rarely have a default or an Execution Time — they are either there and running, or they aren't. Defense programs are usually legal, although Black Ice and Misdirection are sometimes regulated.

The most deadly defense is a hot human decker. The more secure a system is, the more likely it is to have netrunners on call. For each system, the GM should decide whether human operators are available, how good they are, how long it takes them to come online when called, and what events call them.

Some ice can be used as defense in a cyberspace duel — a desperate netrunner might use a Password to block access to a newly-entered system and slow down a pursuer for instance. If the runner doesn't have the program slotted, some can be attempted by default.

Alarm

An Alarm is set up to activate a certain program or alarm device (a bell, beeps on the sysop's console, etc.) when an unauthorized access attempt is made on the system. See also Recon (see p. 91) and Silence (see p. 91).

Alarms are executed (that is, turned on) when the system is booted. It takes one Phase for an Alarm to trigger. Complexity is 2, and cost is $10,000.

Bailout *No Default*

This program defends against infinite loops caused by an Loop program (see p. 90). The GM should roll a Quick Contest between the Loop and Bailout. Bailout is executed upon system startup, is Complexity 2, and costs $15,000.

Black Ice *No Default*

Black Ice is a defensive version of Flatline (p. 90). It is triggered by an Alarm (p. 92). Black Ice is almost always illegal for private individuals; corporations, and those with influence, can use it with impunity. Execution Time is 1, Complexity is 4, and cost is $200,000.

Bluff *No Default*

A Bluff is used to "simulate" ice, to make a system appear better-protected than it actually is. Each active Bluff program can simulate one type of ice program. See *Recon*, p. 91, for more information. A Bluff is Complexity 1, is always running, and costs $1,000.

Camouflage — *No Default*

Camouflage is used to disguise a link — it remains invisible unless someone looks *specifically* for the link that is hidden (i.e., random network scanning will never find it). If someone tries to find the link, the GM should roll a Quick Contest of Skills between the Camouflage program and the Computer Hacking or Cyberdeck Operation skill of the netrunner. Each successive search attempt by the same user using the same equipment is at a cumulative -1. If the runner upgrades his deck or his skill, he can try again with no penalties.

Complexity 2, cost $1,000 per point of skill in the program. There is no execution time — if it isn't already running when an intruder appears, there's no point in gearing it up.

Codewall — *Defaults to Cyberdeck Operation-3*

A Codewall is a "wall" of sensory static created to temporarily block a signal passing through a communication line. If there are multiple paths from point A to point B, a single Codewall will only block one of them.

A Codewall is destroyed by a Crumble program, or will naturally decay after ten seconds. Execution Time is 2, Complexity is 2, and cost is $10,000.

Datalock — *Defaults to Computer Programming-4*

A Datalock is essentially a long, complex, constantly-changing sort of Password. It is usually found on a particular database or program, rather than on a system. Webster won't help against it; a Datalock must be unlocked with a Skeleton Key. An authorized user will have a Datakey; this may be a message sent by his own system, or he may have a separate electronic code-key that he can jack in. The message is time-dependent, so even if it is "overheard" once, it will be different 5 seconds later! A Datalock has an Execution Time of 5, but is usually put in place when the system is started up.

At the owner's option, a Datalock may be an integral part of the database. In this case, any attack that destroys it, or even a superuser's attempt to turn it off, will erase the database!

Complexity is 2, and cost is $20,000.

Disinformation — *No Default*

This program is used to feed false information to a Recon program. The GM should roll against this each time a Recon program (see p. 91) fails to detect an ice program. On a successful roll, the program returns false information to the character. Disinformation has no Execution Time; it is running on bootup. It is Complexity 2 and costs $15,000.

Mask — *No Default*

A Mask program is used to "blur" the appearance of a system's defenses. A Mask subtracts 2 from all Recon attempts; Mask may cover some defenses while deliberately leaving others visible. Each doubling of price subtracts another 1 from the Recon roll, to a maximum of -6 (for $320,000). Mask is Complexity 2, and costs $20,000.

Password — *Defaults to Computer Programming-2*

This is one of the simplest protection mechanisms against unauthorized access to a system. In addition to obtaining passwords through theft or social engineering (see p. 70), a Webster program (see p. 92) can usually be used to get past the protection — although a good password program will assign passwords that an average Webster won't guess. It is a Complexity 1 program costing $100.

Some Passwords issue a "prompt," challenging a user to respond. These programs cannot be Masked. Other Passwords just sit quietly until they get the right response, and these can be Masked.

Note that a Password doesn't *have* to use a typed input. It can take input from *any* peripheral device or sensor (such as those on pp. 53-54) as valid input.

Regenerate — *No Default*

A Regenerate program constantly monitors the status of a system, and keeps track of the integrity of all programs on it. Each Phase, Regenerate checks the status of one program. If it is intact, it moves on to the next one. The default cycle is alphabetical through the list of programs, but the sysop can "program" Regenerate to a non-standard pattern — it might check the integrity of a particular database every other turn, for instance.

If a program is missing, Regenerate will notice automatically. If it has been tampered with (e.g., by Corrode, or an unsuccessful attempt at Silence), the GM rolls vs. the Regenerate's skill. On a successful roll, the Regenerate notices that something is wrong, and takes action.

It can rebuild the program from ROM if it is available; this takes 1 Phase for Complexity 1, 2 for Complexity 2, and so on. If the corrupted program is disk-based, it will signal a human operator to install an offline (and presumably uncorrupted) backup, and probably shut the system down until it is reset. Regenerate can also activate other programs (such as Alarm) at the same time it starts repairs. Execution Time is 1, Complexity is 2, and cost is $30,000.

To be fully secure against Corrode, *two* Regenerate programs are needed — they watch each other!

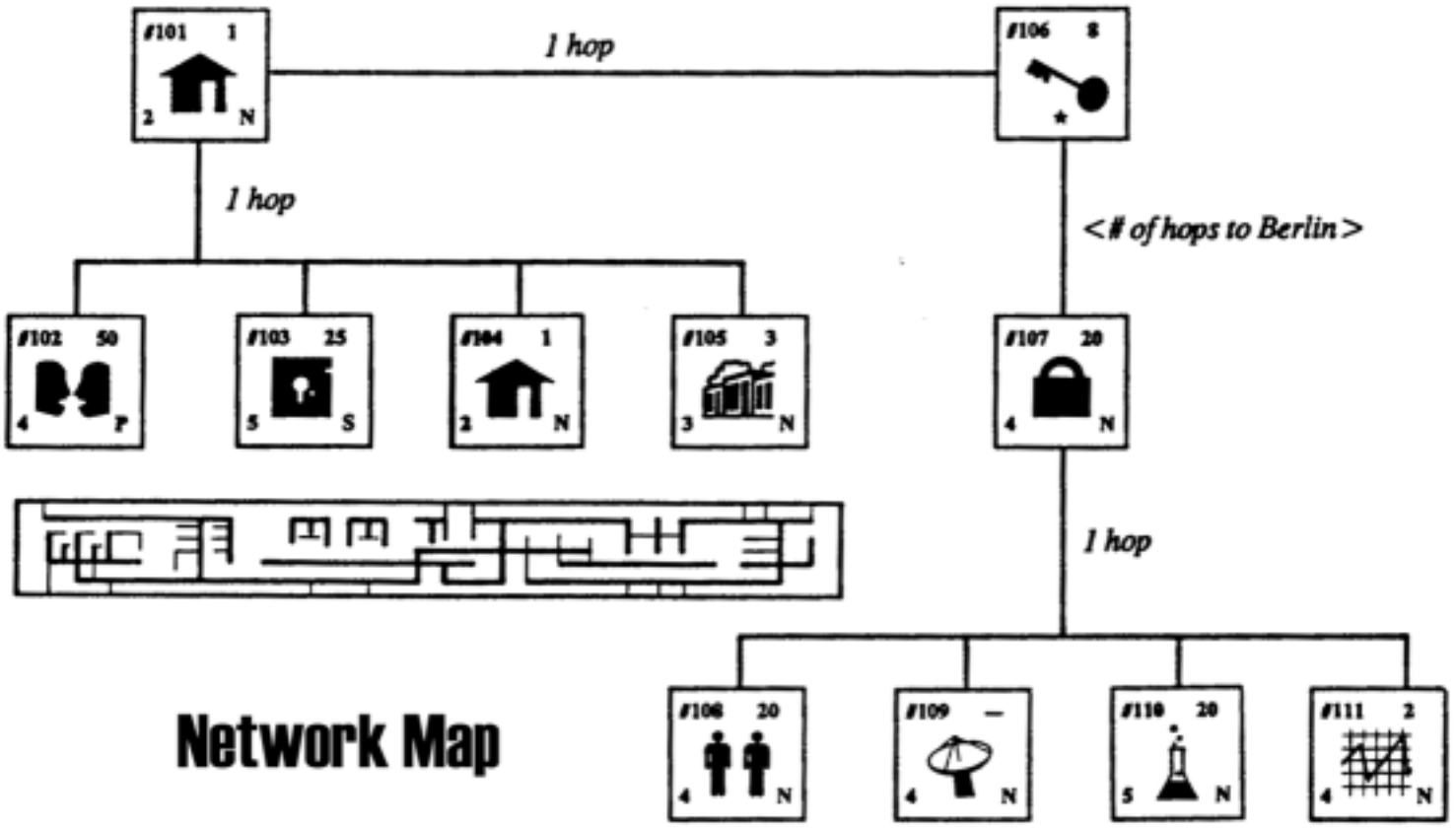
Safety Net — *No Default*

Safety Net acts as a failsafe against system crashes. Any time a command is issued that would cause the system to reset, for instance, the program checks to see if there is anything unusual about the request — looking at its internal log to see if the system is normally reset at this time of day, if the user requesting the reset has ever done so before, etc. If there is any doubt about the validity of the request, the Safety Net aborts the reset and sends a message to the sysop of the system informing him of the attempt. See Crash (p. 89) for more information.

A Safety Net is automatically invoked on system startup. Complexity is 2, and cost is $12,000.

Watchdog — *No Default*

A Watchdog program is kept running constantly, monitoring and examining all connections to a particular node. Some Watchdog programs merely keep track of all connects, recording them to a log. Others execute Alarms, Traces or Severs to deal with any unauthorized connections. It only takes one Phase for Watchdog to execute another program (plus the Execution Time of the invoked program). Watchdog is Complexity 2, and costs $20,000.



Network Map

System Descriptions

Below is a description of a small area of the network. It could be located anywhere in the world — but the number of hops between # 106 and KarNet will have to be adjusted for the the distance to Berlin.

#101 The "home node" for distance determination. It is a Complexity 2 cyberdeck with one comm-line. It isn't left online when not in use, so no intrusion attempt is possible.

#102 This is GloCom, a medium-sized Commercial Computing service. GloCom is run off of a Complexity 4 microframe with a Phase of 2,000 msec. GloCom is set up with several demonstration accounts, so their security is not very advanced. It has four standard slots running Password-15, Datalock-14, Regenerate-13 and Safety Net-13.

Any time a connection is established, the Password program is invoked. The Datalock is used to secure the userfiles with the encrypted (see p. 63) password list. Anyone obtaining access to this database could conceivably decrypt it and would then have a list of all the accounts. There is also a disk-based version of Alarm-12 running. Any time that the Regenerate program detects tampering with the system, it will launch the Alarm. The Alarm merely sounds a loud bell on the main system console, which is manned around the clock.

#103 This is DataLok, a low-profile Data Haven. It is running on a Complexity 5 mainframe that has been modified to have 10 slots instead of the standard 5 and has had its processing speed increased by 25%, giving it a Phase length of 750 milliseconds. The following programs are slotted: Alarm-13, Bailout-12, Camouflage-13, Datalock-18, Mask-13, Password-17, Regenerate-13, Sever-13, Trace-14 and Watchdog-15.

System defenses: The incoming links are are Camouflaged — the people that use DataLok know how to find them; casual browsing is discouraged. The system also runs Mask to obscure its defences. The Watchdog observes all connections and watches the login attempt. If, within the first 10 seconds of connection, a successful login hasn't been made it launches Sever and cuts the line. If Sever isn't successful, it sounds an Alarm that alerts a human operator and launches Trace.

The Password program notifies the Watchdog if a successful login is made — if the Password is Corroded or otherwise taken out it will *not* send a successful login sequence to Watchdog, which causes the Sever to be launched.

All of the databases are protected by the Datalock and are stored in an encrypted format (see p. 63). If the Regenerate program notices a Datalock being subverted, it immediately launches Sever and Alarm. If the Sever is unsuccessful, it launches Trace and begins throwing disk-based (not on ROM deck so Execution Time is 4) Codewalls up in front of the intruder. It will continue to launch a Codewall and a Sever each Phase until the connection is broken (or something happens to the Watchdog…)

If the Regenerate notices someone tampering with the Watchdog, it immediately begins the same Codewall and Sever routine, but won't stop until the human operator tells it to.

In addition to the front-end password, each data area is protected by a secondary Password program that will also have to be defeated. The information stored on this system is left to the whim of the GM but will probably be good.

#104 This is a public BBS system run by the Society for Creative Anarchy. It only has one incoming line (which is busy on a roll of 13 or less on 3d), and has no security except a standard Password-12. In addition to the numerous discussions going on, it is a popular point for netrunners to check their mail. Of course, no one in their right mind leaves anything *sensitive* here, but it's a good place to arrange further meetings. It has a Phase of 8,000 msec.

#105 This is the minicomputer that runs the operations at Cap, Inc. (a company that manufactures caps for toothpaste tubes.) The company employs 23 people, and had revenues last year of $1.8 million. The system has a Phase of 4,000 msec, and has the following slotted: Password-15, Alarm-12 and Bluff-12 (appears to be Black Ice).

The Alarm is set to trigger after three unsuccessful attempts to defeat the Password program, or one attempt to knock out the Bluff that is posing as Black Ice (all the *legitimate* users know to ignore the ice…). The Alarm sounds at the operator console, but it is only manned during business hours.

KarNet

This part of the net is its own mini-network. #107 cannot be "seen" except from #106, and maybe not then if the pathway to Berlin is long. The rest of the net cannot be seen except by someone in #107 and in possession of a valid password for one of the outdial lines.

Except for the gateway #106 no KarNet system is supposed accept any call from outside the system. There is one exception to that: see #109.

#106 This is the network gateway to KarNet (the internal network of a large German car manufacturer). It can support up to 8 users at once and is running Password-16.

#107 This link allows KarNet engineers and distributors to link into the main office to use the computing facilities there, and ensures that transmissions are secure. The Padlock system is a Complexity 4 microframe with processing speed increased by 25% for a Phase of 1,500 milliseconds. In addition, it has 8 slots instead of the regular 4.

Slotted programs include Password-18, Trace-15, Bloodhound-14, Disinformation-16, Watchdog-15, Snare-13, Regenerate-13 and Alarm-14.

The system is set up with two levels of Password security. The first Password is launched when a connection is made. If successfully dealt with (via a good password or a successful Webster) the user is confronted with the Sysop-in-a-Box (see p. 80) that asks questions from a database (which is protected by a disk-based Datalock-13). Then, before an outgoing connection can be established to the network, *another* Password must be dealt with.

The Watchdog observes all connections, and the Disinformation program is constantly active. If either of the Passwords is muffed (whether through an unsuccessful Webster or a bad Computer Hacking roll) it simultaneously attempts to Snare the intruder while sounding an Alarm on the main system console (which is manned 24 hours a day). After the Snare has been launched, the Watchdog will execute a Trace (using Bloodhound as needed).

The Regenerate program will execute the Snare and Alarm if it spots any attempt to subvert the system programs.

#108 This system handles the 5,000+ personnel that work for Karwerks. The system administraton rely on the Padlock (#107) to protect the network from unauthorized users — the only programs slotted are Password-14 and Regenerate-12. The system has a Phase length of 2,000 msec.

This handles all of the payroll and vacation functions — it doesn't write the checks, but reports the hours worked to system #111, which handles all the accounting. It also keeps track of personnel records — including applications, interview results, work history, salary histories, etc.

#109 This is KarNet's private satellite uplink. It allows fast access to other KarNet systems throughout the world. It is primarily used by the R&D department from system #110. It is running a Trace-12 and an Alarm-13. All connections are Traced. Any connection made from a machine other than #110 is checked against a small database of superusers on other machines. If the account isn't a valid superuser, the Alarm is sounded at the system console. The fact that this system will accept incoming calls is a huge back door into KarNet.

#110 All of Karwerks' research and development computations are processed by this mainframe. It has a Phase of 1,000 milliseconds. Like #108, it doesn't rely much on its own security — the sysops place great trust in the Padlock.

This system is running Password-13, two Regenerate-13 programs (watching each other as well as the system) and an Alarm-14. In addition, it has a disk-based Datalock-14 used to protect all data. If either of the Regenerate programs detect system tampering, they sound the Alarm on the system console.

#111 This is the main financial computer for Karwerks. It contains all accounts payable and receivable, plus invoice information, paycheck data and anything else relating to accounting. Connections from outside are rare — thus it has only two comm lines. The system has a Phase of 2,000 msec.

System security is based around detecting unauthorized users and calling in humans. It is running Password-14, Trace-13, Bloodhound-13 and Alarm-13. Each connection is automatically traced — anyone not originating from a superuser account on machine #108 sets off the Alarm.

Sample Netrun

Evil Stevie, our intrepid hacker, has been hired to make a run on KarNet — his goal is to obtain the name of the chief researcher on KarNet's new Boxon 2000 project

He is equipped with a Maxis-3 cyberdeck (Complexity 3, SI 4, Phase of 1,000 msec. (no extra slots) with Promote-14, Recon-15, Corrode-13 and Silence-13. His applicable skills are Computer Hacking-14, Computer Programming-13 and Cyberdeck Operation-13. The fixer who hired Stevie told him the node number (#106) of the KarNet gateway — and warned him that there's a Padlock on the other side. No one has ever gotten any further than that!

Stevie jacks in at node #101 and looks around. He can see #102, #104, and #105. (Since he isn't looking for it, #103 (Datalok) will be invisible thanks to its Camouflage.) He also sees the gateway system, #106, one hop away, and send his Recon program to check it out. The GM secretly rolls versus Recon-15 for the system ice (only a Password program) — the Recon is successful. He tells the player that all he saw was a Password program. Since there are no Watchdogs, a Disguise program is useless (it doesn't affect Password). He can either try a default on Webster, or try to Corrode the Password program. He chooses the latter.

A Quick Contest is rolled between the GM (Password-16) and Stevie (Corrode-13). The GM rolls a 14, making it by 2; Stevie rolls a 10, beating his skill by 3. The Password breaks up into nothingness, leaving the system unguarded, and Stevie wanders through the portal.

Since this system is merely a data conduit, Stevie can't do much here except pass through. He tries a Promote program to get better access, but there's nothing to accomplish here. At this point, he isn't close enough to Berlin (probably) to see anything — just a narrow, featureless section of cyberspace stretching into the distance. As he moves closer to #107 (the Padlock), he will begin to make out details. He sends the Recon up to scout.

The Recon has a chance to detect the Password, Watchdog, Regenerate, Disinformation and Alarm. It detects all of them but the Disinformation. The GM then successfully rolls versus Disinformation-16, and decides that Stevie's Recon program *told* him that there was Black Ice ahead. Stevie hops closer and the GM begins keeping track of time, noting that the Regenerate checks the programs in the following order, 1 per phase: Watchdog, Bloodhound, Disinformation, Password, Trace, Snare and Alarm. It is currently checking Trace.

At this point, the GM should let Stevie know that he has a faster Phase than the Padlock — but he doesn't have to tell him *how* fast!

0.0 sec: Stevie encounters the first Password, and attempts to decoy it with a default Webster. He rolls a 7, and succeeds. The Regenerate program starts checking Trace.

1.0 sec: The sysop-in-a-box begins to question Stevie. Rather than mess with it, he launches a Corrode at the SIAB while sending a Silence at the Alarm (roll versus Cyberdeck Operation-3 for the second action in one Phase. It is successful). The Corrode wins its Quick Contest versus the SIAB, knocking it out. It is ineffective versus the Alarm, however — and the Regenerate may soon notice that it has been tampered with!

1.5 sec: The Regenerate finishes with Trace and starts checking Snare.

2.0 sec: Stevie realizes that he probably doesn't have long in the system before things start happening. He tries an adittional Promote (Computer Programming-2 minus the system's Complexity for an effective skill of 7). It will take 2 phases.

3.0 sec: Stevie is still executing his Promote. Regenerate finishes checking the Trace and starts checking Alarm.

4.0 sec: Stevie rolls a 9 on his Promote attempt — a failure. Cursing, he attempts another Silence, which fails.

4.5 sec: The Regenerate program makes its roll, and detects that Alarm was assaulted. It launches Snare and sounds the Alarm. It then starts to load a replacement copy of Alarm, as per its own programming. Stevie sees the Snare attempt begin.

5.0 sec: The Snare won't hit until second 6.0. Stevie decides that discretion is the better part of valor and jacks out — leaving him stunned for 3d seconds.

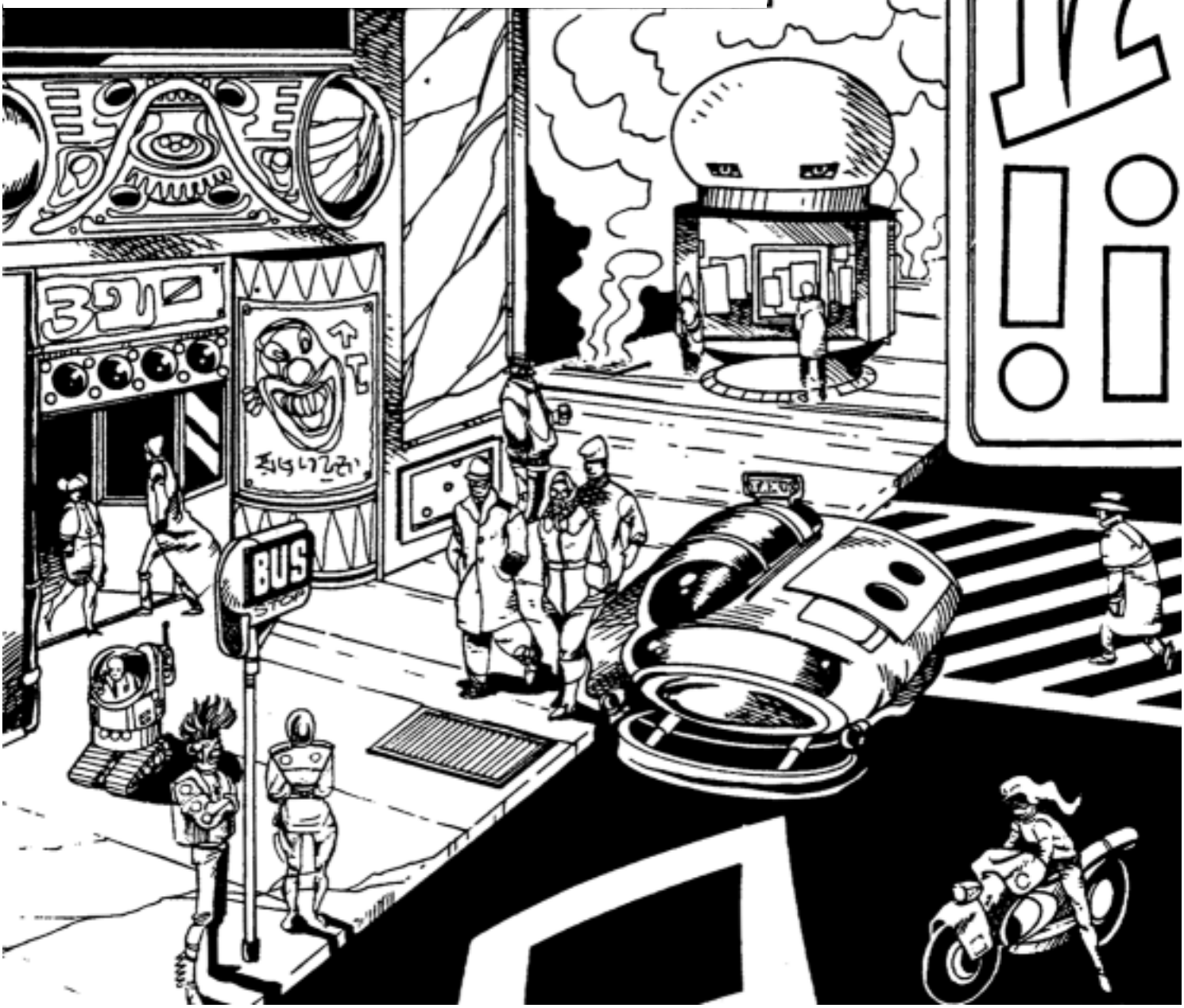
6.0 sec: The Snare hits the now-empty spot in the matrix where Stevie was just a moment ago. The human operator responds to the Alarm, but doesn't find anything out of the ordinary other than a corrupted SIAB program.

5 World Design

The GM of an ongoing campaign has two choices. He can use his favorite story background — or he can create his own cyberpunk world.

Just what is cyberpunk? The question is as old as the genre. There are as many answers as there are cyberpunk fans — probably more. Many of the following ideas and features are found throughout cyberpunk literature (see *Bibliography*, p. 124). The GM should consider which ones he wants to use to "flavor" his campaign. He should feel free to pick and choose those that best fit his vision of the future, or to add new ideas. Only one thing is certain about the future: it won't look like the world of today.

This chapter will discuss the factors that make a world "cyberpunk," and the creative choices that a world designer has within the cyberpunk setting.



THE SETTING

The overwhelming majority of cyberpunk books and stories are set on Earth. This is one of the factors that makes the genre so easy to identify with. The reder doesn't have to visualize life in a plastic dome on a methane planet circling a binary star, he just has to look out his window or turn on his TV. Space colonization sometimes comes into play in both literature and gaming (see sidebars, pp. 100-102), but the bulk of the action will take place dirtside.

This makes the GM's job easier, as there are good maps available for almost every square inch of Earth's surface. This also makes it easier for the players to visualize the surroundings — if the GM says that they're on a crumbled interstate highway, they have a good mental picture of what it looks like.

Urban Blight

Cyberpunk is an essentially urban genre. It's about overcrowded cities, with people piled on top of each other until privacy is almost unheard of. These "sprawl" megacities may stretch for hundreds of miles, a giant urban nightmare in bleak shades of gray. A successful GM will convey the sense of oppression and crowding to his players. Imagine New York City with ten times the people, all wired on speed.

And, while there is a countryside, it may not be green and pleasant. Save the whales? *Forget* the whales. The last one died years ago. People are more concerned with their own problems than with dying waterfowl. Pollution is a fact of life. You can't make the corporations stop; you'd better get used to it.

Very few cyberpunk worlds have anything approaching a well-balanced ecology. Most just limp along using technology to replace the natural resources that have been exhausted. This presents several options for campaign themes — see the *Eco-Guerrillas* sidebar, pp. 106-107, for more information.

Near-Future Nightmares

The time period for a cyberpunk campaign is usually near-future — within the next 25 to 75 years. This is far enough away that new technology could reasonably exist and near enough that the GM can make a reasonable attempt at predicting the future.

The GM should start by deciding what year will be the "present," and what the world is like at that time. Then build a timeline to describe how it got that way.

Periodicals that cover the "cutting edge" of technology will be useful. Anything that is considered avantgarde by the scientific community in 1990 will likely be commonplace by 2020. Magazines such as *Scientific American* and *Omni* have sections devoted to the newest in speculative technology, while television shows like *Beyond 2000* feature technology in action.

TECHNOLOGY

The interaction of man and machine is a central theme of almost *all* cyberpunk literature. Cyberpunk without science is merely *punk*.

The sophistication and realism of equipment varies wildly from story to story, so the GM is free to determine the type and availability of tech in his own particular world.

Computers and Net

If current trends hold true, nearly everything manufactured 50 years from now, from TVs to cars to toasters, will include some sort of microprocessor.

Drugs and Society

Many cyberpunk societies — or at least the parts of them that show "on screen" — seem to revolve around drugs. Legal drugs, working medical wonders. Illegal drugs, sold in shadowy street-corners. Designer drugs, so new the law can't keep up with them, offering wonderful highs… and, perhaps, vicious side effects. Several drugs are described on pp. 57-59.

An authoritarian society may also produce a special kind of drug addict… the soldier or ex-soldier, hooked on military "adders" designed to improve concentration and reaction time. Of course, after a few years hyped up on some top secret super-speed, the war hero may not be good for much. Maybe an illicit supply of the military drug will sustain him in civilian life. Maybe not.

If society is extremely biase about recreational chemicals, there may even be legal "drug parlors" — the opium dens of the 21st Century. They might be combined with bars and nightclubs: they might be separate establishments. The reputable ones would offer guaranteed dosages, sanitary needles, and a clean, well-guarded place to sleep it off. Even a waterfront dive might be safe… for a regular, or his friends. But a stranger would take his life in his hands if ordered anything in such a place. The dose could be Sandman… and the organleggers and cyberghouls would divide the sucker between them.

It is even possible that wireheads (see p. 16) would have their own parlors. But the wire is pure pleasure, and requires no company; a wirehead would be as likely to stay home to turn on.

Organlegging

As transplants become more common, there will be an increasing demand for donor organs. Increasing knowledge concerning the body's immunity and defense mechanisms (largely as the result of ongoing AIDS research) will solve problems of "rejection," allowing patients to receive limbs and vital organs from a wide spectrum of donors.

Eventually, legal organ supplies will run short. "Living will" donations won't be enough. Poor people may be willing to sell an "extra" kidney or lung if the price is right. But demand will increase. Eventually, illegal facilities (known as black clinics or meat markets) will come into being to serve those who can't find a legitimate transplant. Such clinics will pay cash for healthy, transplantable parts — and they won't ask questions about where they came from (except for maybe "It wasn't poison, was it?").

The practice of obtaining parts from a non-voluntary donor is known as *organlegging* to the police and the media. On the street, less savory terms such as "lung-rippers" and "vivs" (from "vivisection") are used. By any name it refers to someone who makes a living by kidnapping reasonably healthy people (there is a great demand for both adults and children) and delivering them to a black clinic.

This is a lucrative business — a healthy major organ or limb (heart, kidney, lung, arm. leg, etc.) will fetch upwards of $30,000. Double that if it happens to be the same blood type as the prospective recipient. Secondary bits (eyes, eardrums, fingers, teeth) will net anywhere from $500 to $5,000, depending on the part and how urgently it is needed. A clinic that has no immediate demand for a particular part will pay perhaps $60,000 for a recently-dead victim, or $100,000 for a live one.

Of course, there are all kinds of clinics. Many are back-alley chop shops. But there are also country estates, patronized by the super-rich, where the work is done in modern facilities by skilled surgeons. In such a clinic, a prime "spare parts" victim might survive for months in comfortable imprisonment, losing an arm one week, a kidney the next…

If the characters are interested in setting up their own organlegging operation they'll need someone with Physician-14+, a sharp knife, and a good portable refrigerator ($10,000, 50 pounds, 1 cy.) although an ice chest full of cold beer will do in a pinch…

Computers are so central to 21st-century society that they can hardly be discussed independently; they are intimately involved in many aspects of life. Both hardware and software will far outstrip anything we can imagine today.

Many cyberpunk worlds feature a vast computer network. In some, the net is much like the networks of today — computer terminals hooked up by communication lines. In others, the net has mutated into a pseudo-mystical "consensual reality" or "shared hallucination" where the users interact via a mindlink with the machines.

Both of these options are valid and interesting, and the GM may choose either one. Chapter 4 is devoted to the network, from regular computers to the virtual reality of netrunning. See p. 72 for more information.

Medicine

Cyberpunk almost always assumes radical developments in medicine. Organ transplants, either from donors or from clones of the subject's own cells, are likely (see p. 57). However, a world with cyberwear assumes that most rejection problems have been solved, which will allow many internal organs to be replaced with artificial ones, either to replace the original function or to supply some new ability. Chapter 3 discusses this in detail.

Medical treatment may be socialized and available to all, or it may be strictly pay-as-you-go, which will further separate the gap between rich and poor.

Drugs

Unusual new drugs, presented in a matter-of-fact way, are a common feature in many cyberpunk stories. These may be recreational, performance-enhancing, or simply medical miracles. See p. 57.

Genetic Engineering

Deoxyribonucleic acid — DNA — is the blueprint for every living thing from viruses to humans. One of the greatest challenges faced by medical science is to decode human DNA; once this is done, children may be produced to order, at least in theory. The first development will be to allow simple choices — blue eyes or green, blond hair or brown, and so on. Many genetic and hereditary diseases, such as Down's syndrome, color blindness, sickle-cell anemia and hemophilia will be easily cured in the future by removing or repairing the genes that cause them.

Subtler changes — in height, facial features, overall build, even in personality will be harder to implement. Making a person smarter, stronger, faster or sturdier will require yet another leap in technology.

Yet a further step will be the combination of human and non-human (or wholly artificial) genetic material. Gills, photosynthesis, regeneration or yet more unusual features can be incorporated into a clone. Eventually, people could be bred for tolerance to toxins or radiation, or have organic computers "grown" into their brains, or have almost any ability that can be imagined as a natural function.

A particular campaign world might have only a few of these available, or might have many different subfields of genetic engineering, each advanced to a different degree.

Cloning

Cloning is the process of creating a genetically identical copy of a living being — even a human. The GM should consider the implications of this technology before including cloning in the campaign.

The rules on p. 57 describe an extremely advanced cloning technology, with the ability to create a clone and "force grow" it to adulthood. This technology

would have many consequences. First, a clone could be used for "spare parts" for transplants. Second, a clone could be used as a stand-in for the original person — for public appearances, for instance, or for getting through security systems such as fingerprinting, retina scans, or even genetic analisys. Such impersonation could be useful either to an important figure, or to his enemies — hence the need to prevent tissue samples from falling into the wrong hands.

The rules on p. 55 describe a sophisticated technology for human memory transfer. This would allow the creation of a full duplicate of the original individual, down to his memories and personality. This might allow a form of immortality, with people transferring their personalities into younger clones every several decades. Or it might let duplicate individuals coexist at the same time, which would literally allow a person to be in more than one place at a time — a boon to those who feel there aren't enough hours in a day.

Clone Families

Societies that embrace cloning may produce "clone families." Such families may consist of any number of genetically identical individuals. They might all be of the same age or might be like a real family, of all ages. Simple genetic alteration could let some be male and some female — but otherwise, they would look alike. Depending on how closely related the GM decides personality is to genetics, members of such a group could cooperate very well. A whole company, or the population of a whole town, could be formed of clones trained in different specialties. A clone family might act as a Patron to its members.

Legal Issues of Cloning

The existence of clones creates several legal problems. To flesh out his gameworld, the GM must answer many questions.

For instance, is a clone a legal person with the same rights as a "normal" or "natural" person? If not, are they property (i.e., slaves), experiments, or would they have some other status? If they do have legal rights, is it possible for private individuals or corporations to avoid the law and create clones to suit their purposes, what sort of penalties would there be for breaking these laws, and how effective would these penalties be? Indeed, in a post-governmental corporocracy, the concept of "legal" may have radically altered or faded away completely, replaced only by what is convenient or useful for the corporation.

This might also significantly change the meaning of the concept of "murder." Would it be murder to kill a clone with no legal status? If a person has a clone "backup," would it be murder to kill the original person? Could a person testify at a murder trial in which he (or his original body) was the victim? With memory transfer technology, a person might even remember being killed; this might have unusual psychological effects. What would the legal and psychological consequences be of activating a "backup" clone while the original is still alive?

Although the issue of cloning has been touched on in other genres, usually duplicate individuals are not allowed for "play balance." But identity is one of the main themes of cyberpunk, and it would be perfectly appropriate for this to be the focus of a cyberpunk adventure. If the law does not recognize duplicates as distinct individuals, is any crime committed if a clone kills another identical member of the set? How and when do identical individuals diverge? All of these questions has to be addressed by the GM, and will set the tone for the campaign.

Social Hazards of Cloning

Societies may be threatened by unregulated cloning. Possibilities include:

The rich cloning themselves repeatedly, out of vanity.

Cyberghouls

Parallel to the organlegging trade, and often practiced by the same clinics, is the "cyberghoul" business. Bionic parts are far too valuable to throw away just because somebody died. They are scavenged from the dead, refitted and re-used until they become obsolete. In game terms, such parts will be cheaper, but may have reliability limitations (see p. 31).

Many cyberghouls are perfectly legitimate. They make their arrangements with the heirs of the deceased, visit the hospital or the morgue, and sell the used parts through regular channels.

Also legitimate, though less well liked, are the "repo men." If the deceased still owed money on his augmentations, or if the bionic parts were the property of an employer, the repo man will be on the scene before the meat is cold. And, yes, a deadbeat doesn't have to be dead before the repo man is called in… though he may not survive the visit.

But the real ghouls are those who prowl the streets, scavenging for spare parts that the owners suddenly don't need. Like hyenas, they are drawn to any combat… hoping to pick up a few pieces and run. Some of them will hijack an ambulance or morgue truck; the better-financed ghouls will own their own vehicles, painted to look like official ones.

And, in extreme cases, someone may be attacked and murdered just for the value of his augmentations! If you have $100,000 worth of built-in hardware, and it's *not* weaponry, better be careful where you walk after dark.

What's Up There?

With commercial interests entering the space race, the number and kind of things floating around in orbit has increased dramatically. The following list is by no means exhaustive.

Satellites. Technically, anything orbiting the Earth is a satellite. Here, the term refers to artificial satellites used for everything from communications to weather monitoring to solar power converters. Many of these have outlived their usefulness and are now dead or dormant — possibly a legitimate target for salvage. Others remain active.

Habitats. Some people prefer to live in microgravity. Many are older people and heart patients who will live much longer lives when freed from the necessity of fighting gravity. Others simply prefer solitude and live in otherwise abandoned space stations, or (for the very wealthy) custom-made dwellings. Couriers deliver the food and other essential supplies, and the habitats keep in touch with each other and with Earth via radio.

Factories. The manufacture of many items, from medicine to ball bearings, is much easier in microgravity than on Earth. At first small entrepreneurs, then larger corporations, have moved their operations into orbit, where energy is easy to obtain and their operations do not add to the terrestrial pollution problem. Each of these factories has one or more habitats attached to it, housing its workers. In some, the habitats spin to provide artificial gravity; in others, the residents have voted to live in microgravity.

Military Bases. Governments have established outposts in the High Frontier to keep an eye on what potential enemies are doing and to be ready for any war that might happen in space. If corporations are the dominant power, they might post security forces in space to help them guard their assets.

Churches, schools, hotels, prisons, entertainment complexes — the Illuminati may have moved their headquarters into orbit, the better to see what's going on on Earth. Aliens may be circling the globe, keeping track of us. The possibilities are endless.

Use and abuse of clones (particularly of very attractive or famous people) as pleasure-slaves or living toys.

Use of a clone body to "prove" that a criminal is dead while he continues his career under another name.

Governments might try to produce super-armies by cloning their most capable, loyal soldiers — especially if braintaping is also possible.

To forestall such possibilities, many governments regulate cloning. Unauthorized cloning of an individual is almost always illegal (even if only a copyright violation). Clones may or may not have civil rights, and these rights may depend on the original intent of the clone's creator.

Clone rights and clone defense organizations vary from button-down lawyers to bomb-toting terrorists; adventurers may have to deal with either type of group.

There might be a fear or prejudice against clones. Clones themselves might have psychological problems; some might resent not being considered "real," and a few might go berserk and kill as many "real" people as they can. Others might want to reproduce and replace "normal" humans. If either of these tendencies were at all known, this would magnify social fears about them.

Aging and Death

Medical advances will increase overall life expectancy. More expensive techniques could extend the lives of some individuals by a long time — perhaps indefinitely. This would profoundly affect the way the elderly relate to society, and vice versa. For instance, few pension plans were designed to accommodate a majority of their members living to 100 or more. For that matter, corporations may change radically if senior executives, rarely forced to retire due to age, just go on and on for decades. Such organizations would become more conservative, as well as making promotion slower at the upper levels. See *Age*, p. 22.

If clones and personality transfers are available, death itself becomes a treatable condition. This would require new interpretations of many laws and social customs. For example, what does "until death do us part?" mean, when one can come back from death? Do survivors inherit from someone who dies but returns as a clone? Legal identity becomes a serious problem when a clone shows up demanding the return of "his" estate, claiming that he is, if not technically the original owner of the property, at least closer kin than any mere relative.

Transportation

Although transportation will rarely be the focus of a cyberpunk adventure, it will often be a part of the background, and it can often be a key factor at an important plot juncture. (And cyberpunk *is* about "life in the fast lane.")

Cars and Transit

City planners of the 21st century face some daunting challenges. Consider, for instance, the average city of 1990. Take the number of people moving into and out of downtown and multiply by 5 or 10. There simply isn't room for that many high-ways or parking lots.

Mass transit is part of the answer. Busses, trolleys, light rail and subways will all bring people into and out of central business areas. Some areas may completely outlaw cars — tearing up streets, installing mass transit stations and creating grassed-in "pedestrian malls." This will not solve the problem, however; people seem to be addicted to personal transportation.

Goverments will adopt “carrot-and-stick” approach, balancing incentives to decrease traffic (tax breaks for carpoolers, for instance) with penalties for inefficient automotive use (“carbon taxes” on gasoline, increased license fees and parking taxes). Many roads will become toll roads.

Telecommuting

Many people will avoid the bother of traveling to work by *telecommuting*. Even in the late 1980s, many people were working at home, taking advantage of computer-to-computer communications to transmit their work back and forth, going in to the office only for meetings (if at all). The telecommuter works in the comfort of his own home and has the advantage of living almost anywhere he likes. The primary disadvantage to telecommuting is that it involves communication through the Net, where hackers and console cowboys could be monitoring one's every move.

Long-Distance Transport

Long-distance travel in the 21st century will be very much like its 20th-century counterpart — but it will be cheaper, faster, and much more convenient.

Railroads will continue to be a popular and efficient form of transportation. In Europe, TGVs (*trains a grands vitesse,* or high-speed trains) already connect a few French cities, and more are planned. Trains traveling up to 300 mph will connect the large population centers, while "low-speed" locals (only 100 mph or so) will have stops every 5-20 miles.

Magnetic levitation (*maglev*) trains will also become more common. They will be a little faster than TGVs, since they will only have to fight air friction. (Thus, on the Moon or on Mars, maglev trains could be much more efficient — in the far future, when the population creates enough demand to justify the cost.) The main advantage of maglev trains is that they can carry more weight than railroads, so they will be used on the some of the busiest rail routes.

At distances of over 300 miles, air travel will continue to be important. Airports will become larger and busier. Jets will change in some respects. Superjumbos carrying 2,000-5,000 passengers will make frequent runs between major hubs (especially coast-to-coast and between the U.S., Europe and Japan). Also, to save on runway time and space, jets will take off much more quickly and on shorter runways; compared to modern aircraft, jets of the future will seem to bounce into the air. This will increase the amount of air traffic each airport can handle.

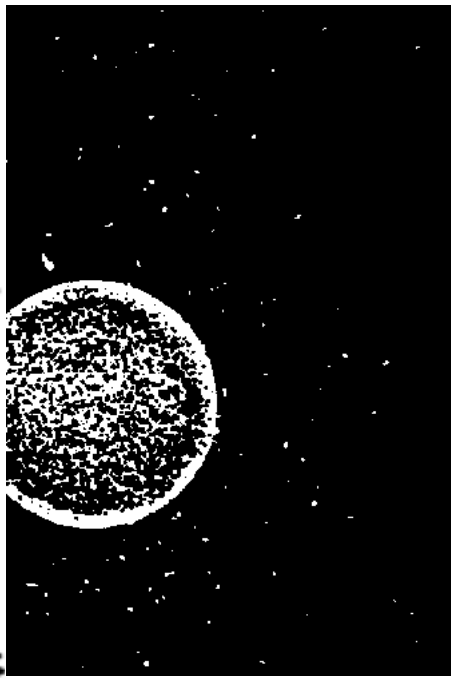
For aerodynamic reasons, subsonic jets will still be common on flights of a thousand miles or less. For flights of over 1,500 miles, supersonic jets will become much more prevalent. Time is money, after all. These jets will travel between Mach 2 and Mach 3; economic considerations will make them large (500-2,000 passengers).

Intercontinental travel between the largest megalopoli will often be done by suborbital and orbital craft. Suborbital ballistic spaceplanes will carry passengers from Los Angeles, to London or from New York to Hong Kong in just over an hour. Almost as fast, and somewhat cheaper and more accessible to some large centers, will be orbital flights. Travelers will grab a shuttle to a low-orbit station, travel around the world to their stop, and take another shuttle down to their final destination.

In any case, if money is available and time is important, very fast travel will be possible. Other considerations may be more important, however; it may be easier to travel anonymously on a crowded TGV than on a small orbital shuttle.

Electricity

Modern society runs on electrical power, and is always looking for ways to get more. In the face of brownouts and blackouts, anti-nuclear "environmentalism" lay fade as new and safer designs for fission reactors become available. Alternatively, the desperate need for more power may lead to new accidents and "lore disasters"… and, possibly, permanent contamination of some areas.



The Moon And Mars

Lunar and Martian colonies are a part of many cyberpunk world backgrounds, but are usually mentioned in an offhand way rather than figuring prominently into a story. ("Did you hear about Eddie? Yeah, they told me he took a contract up at Mars Tranquilitatis.") The two share certain similarities; they are lifeless (except for humans and what they've brought with them) and artificial environments are necessary to survive.

Lunar and Martian colonies will have many similarities. The people most likely to go there are adventurous types and those who have good reason to leave Earth (fugitives from justice, for instance). At least at first, these colonies will be the outer space equivalent of frontier towns — lawless towns — where, in the absence of other laws, it's every man for himself. Of course, instead of Indians or Goths, the colonists' primary enemy will be the environment outside the shelter of the domes. These are the types of colonies seen most often in cyberpunk literature.

The Moon's three primary advantages as an area for settlement are its known abundance of raw materials, its proximity to the Earth — even the primitive Apollo space technology managed the trip in only a few days — and its position at the top of Earth's gravity well. The Moon's low gravity (and therefore its low escape velocity) allows minerals extracted from its crust to be "flung" at the Earth; with the proper launch window and trajectory, shipments can be shot toward Terra, enter the atmosphere in a way that will minimize ablation from air friction, and land in the ocean to be retrieved.

Continued on next page…

The Moon and Mars (Continued)

Lunar gravity will also be a boon to those with circulatory diseases and similar ailments. At .16 G, the Moon's gravity is strong enough to keep objects from moving once they've been set down, but weak enough to make circulation more efficient. This does present one problem, however; those who live on the Moon and grow accustomed to its environment will be reluctant to return to Earth and its full 1 G — in fact, they may find it impossible without specialized training to keep their muscles accustomed to the strain, and natives of the Lunar colonies will probably be unable to visit Earth under any circumstances.

Mars' gravity is about twice that of the Moon. and its mean surface temperature is about the same. Unlike the Moon, Mars has an atmosphere — albeit a thin one, composed mainly of carbon dioxide — and there is evidence of water ice on its surface. Geological formations on Mars suggest the possibility that liquid water once flowed on its surface; if so, that water might be locked under the surface. In short, Mars is a very good candidate for terrafonning if its soil will accept plants imported from Earth.

The other planets in the solar system are either too far away or considered too inhospitable to be worth trying to colonize with current technology — but who knows? Cyberpunk is science fiction, and the state of the an of extraterrestrial colonization may have changed before the beginning of the campaign.

Corporate enclaves and arcologies will have their own small reactors, making them independent of external power sources.

Other sources of power will also be tapped. Hydroelectric and geothermal power sites will be developed, even in remote areas. With global warming and the rising of the oceans, tidal effects will be more pronounced and easier to take advantage of. "Mirror farms" in the desert will focus solar energy to boilers and steam turbines. Fusion power generators, either sun-hot reactors driving massive steam turbines, or pocket-sized "cold" fusions, may be developed.

Giant gossamer solar power satellites could float in orbit, collecting solar energy, converting it to microwaves and beaming it down to receiving stations on Earth. A typical satellite would generate power more than 23 hours a day, losing some time in the Earth's shadow. A solar power satellite will appear as a *very* bright star in the night sky. Theoretically, it could be used for a devastating weapon, killing people while it left buildings and equipment relatively untouched. It's an extremely expensive way to do the job, however, and any attempt to move the microwave beam from the receiving station would be noticed immediately.

ECONOMICS

Money

Getting and keeping money will be one of the PCs' main concerns; getting it *away* from them will be one of the GM's. There are several types of money in most cyberpunk worlds, and each has its advantages and disadvantages.

Precious Metals and Jewels

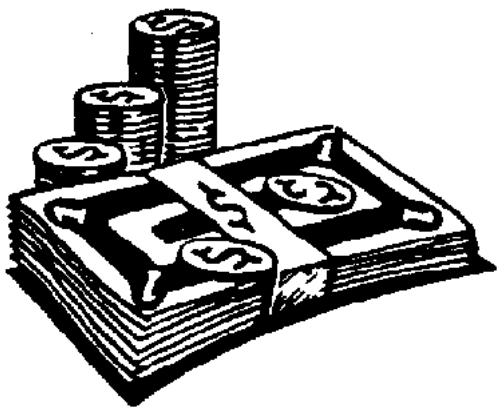
Historically, money consisted of gold, silver, jewels and similar items that were considered to have value in and of themselves. These items of value were traded for other, less durable items such as food and clothing, or for intangible items such as rent or interest on debts.

In cyberpunk worlds, all three continue to be a valuable commodity. Their chief advantages are their portability and anonymity, and their resistance to counterfeiting. These substances, especially gold, are the foundation for a thriving underground economy of unrecorded transactions in illegal (or at least highly questionable) goods.

The primary drawback to these items is, ironically, their value and size. They're very easy to steal, and keeping them somewhere *really* safe costs money!

Paper Money

Paper money, issued by a government, is based on two assumptions: first, that the government (the issuer) is capable of honoring the debt represented by the money, and second, that the money can not be easily counterfeited. In cyberpunk worlds, neither of these assumptions is necessarily true. If a government's monetary system breaks down, either the government will honor its money as best it can, in which case the "street value" of the currency will fluctuate wildly, or people will simply stop honoring the worthless currency and turn to "hard" currencies (gold and silver) or private notes issued by (hopefully) reliable private banks.



Assuming that paper money survives into the 21st century (see *Electronic Credit*, below), it will be much harder to counterfeit — but it not impossible. Governments will use measures such as magnetic strips, imprinted holograms, watermarks, ultraviolet printing and other means to maintain the value of their money. But as manufacturing processes move away from Henry Ford-style assembly lines to small-lot manufacturing, it will become easier for individuals to obtain the same printing technology the government has.

Eventually, counterfeiting and the rising costs of printing money (the government will stop printing dollar bills long before it costs $1.00 to print one) may force governments to leave the job of issuing money to private banks. (This is not as odd as it may sound; historically, private bank notes have been more common than government-issued currency.) The disadvantage to private bank notes, of course, is that their trading area is limited by the size of the bank. A note issued by Citibank or Sumitomo Bank will probably be good anywhere; scrip issued by the First State Bank of Okanogan, Washington might not be accepted in Seattle or Spokane, let alone Tokyo.

Barter

Barter, the oldest form of commerce, simply involves trading two items of roughly equal value — a side of beef for a used car, for instance. Barter is inefficient and often inconvenient, but since it doesn't involve money, tracing a barter transaction can be very difficult.

Any sort of contraband — drugs, weapons, stolen merchandise, illegal computer programs — can be used for barter. Much more so than in previous eras, information or services can be traded for goods in a barter swap; for example, a netrunner could provide information that he had obtained, or an assassin could provide his unique services, in exchange for new hardware appropriate to their respective crafts.

One likely medium of barter would be *computer chips* — the newer, the better. These could be programmed chips, skips (p. 40), etc., or just blank computer memory.

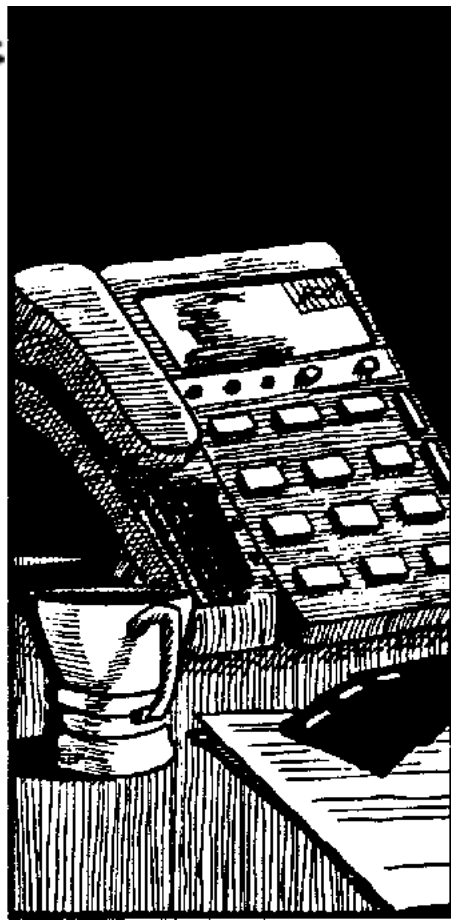
Electronic Credit

Electronic credit will be by far the most widely used means of exchange in the 21st century, though the form of authorization may change. For simple transactions, a simple strip-encoded card, or a password on a computer network, will be sufficient to identify oneself and authorize the transfer of funds. For larger transac-tions (probably over $1,000), fingerprints, retina scans, or other forms of identifi-cation may be necessary. For the largest transactions, a full genetic assay and computerized personality verification may be required to prove that the participants are who they say they are; drug tests or lie detectors may also be required to prove that the individuals making the transaction are not under any form of coercion. Generally, if a bank transfers money out of a customer's account without his provable consent, the bank may have to replace the money out of its own capital, so banks will be very cautious about large transactions, especially unusual ones.

Netrunners spend a great deal of time finding ways to circumvent these security measures. Sometimes they can falsify an account holder's consent to a transaction (in which case the customer has to prove the authorization was not valid), and sometimes they can cause the bank to incorrectly debit the customer's account (in which case the bank must make good). In many cases, a commodity is transferred to whomever has the appropriate verification codes — prime targets for an enterprising computer hacker!

The Home of the Future

All middle-class houses and apartments (and most hotel rooms and passen-ger ship cabins) have an integrated, voice-activated computer system that controls climate, domestic appliances, security and communications. The system is programmed to respond to the owner's voiceprint. A typical "smarthome" system costs $4,000 plus the price of a Complexity 3 computer ("the house brain") to run the system. Cheaper apartments tie into the landlord's main building computer, which provides similar services, but with less security.



Planetary Communications

Any radio communicator or vidcom (see p. 50) that is registered with a comm company can tie into a planet or system-wide communications net, functioning as a cellular phone. The monthly bill is $20, which includes an individual comm number. Long-distance planetary calls cost $0.25 per minute; if the system is settled, an in-system interplanetary call may be placed for as low as $5 per AU per minute ($2 a call between planet and satellites).

Credit Transaction

Most face-to-face exchanges use the credit transactor. Also called a credcard this is an electronic currency-transfer device, resembling a small, flat calculator (weight 1/4 pound). A credit transactor does not credit or debit an account. An amount of money is programmed onto the card; the card itself is the account and the record of the transactions.

In most reasonably free societies, a credcard requires a bank account with a minimum initial deposit of $100. There is an additional charge of $20 to make the card. The user can encode more money onto his card (or deposit from the card to his account) by communicating with the bank. He simply visits a credit terminal, dials the number of his bank account, inserts the card and encodes the amount onto the card itself. Funds on a card are encoded in tamper-resistant molecular circuitry; it is difficult to forge a credcard's balance (see sidebar, p. 105).

In use, two credcards are linked together and the amount to be transferred is keyed in. One credcard's balance is debited, the other's is credited. Repressive societies may require that a record be kept of the exchange in the card's memory, including the serial number of the other card. More free-wheeling cultures insist that part of the purpose of credcards is to keep transactions private. All credcards require the owner to use a positive ID to verify the exchange. The most common is fingerprint and code number. Including verification, a transaction with this system takes about ten seconds. Some banks issue more secure credcards (e.g. also requiring a retina or voice-print authenticalion). This takes longer, depending on how light the security is; retina and voice print take 30 seconds. This costs $200+ and usually requires a very substantial balance ($100,000+) at the issuing bank. A stolen credcard is useless without the ID code (and possibly the victim's eyes or fingers) or a credcard cracker (see sidebar. p. 105).

If a credcard is lost or destroyed, the money encoded in it is lost as well. Few people put more than a small percentage of their bank balance on their card at any one time. Most banks that issue credcards pay a reward of 10% of the card's balance if a missing card is returned. They then deduct the reward as a fee from the account and return the card to its owner.

Credcards run for two years on a single AA cell.

Corporations

Corporations play an important role in a cyberpunk world. The almost universal assumptions made are that corporations will be bigger than in the late 20th century, wider in scope and less regulated by governments.

Most successful corporations have one primary function, and they concentrate on doing it as well as they can. However, they may have a variety of small subsidiaries providing a variety of products and services; in addition to supplying the parent corporation, these diversified subsidiaries also serve as a "toehold" in various economic sectors, to provide information to the parent company to aid in planning for the main enterprise. These subsidiaries usually tie into the overall corporate function, but not always. For instance, an auto maker might own steel and aluminum refineries, bauxite mines, an electronics division, a manufacturer of tires and belts — and a chain of record stores, simply because the chairman of the board likes music.

Corporate subsidiaries are expected to at least break even or they'll be sold off or closed. In addition, if the corporation becomes too diffuse, it becomes difficult to manage; at best some of the subsidiaries may need to be divested, at worse the corporation fails or becomes a target for takeover. This seldom happens in a well-managed corporation, however.

In a power vacuum, the most powerful individuals, groups, or organizations tend to take control. In a 21st-century setting where governments are in decline, corporations may become the dominant social force, bypassing, replacing or even eliminating governments. If this happens, corporations will organize society to suit their purposes.

Corporate goals are different from governments', however. A government must (at least nominally) look after the interests of all of its citizens. Corporations are only obliged to look after the interests of their "stakeholders," that is, people who have a stake in the success of the enterprise — stock — and bondholders, customers, suppliers, employees and managers. This does not include society as a whole; in particular, it does not include competitors and those too poor to be customers or have any other relations with the company.

In a *corporocracy*, or corporate-dominated society, this creates a sharp division between haves and have-nots, between those who belong to the corporate world and are protected within it, and those who are locked out in the cold and dark. To those on the outside, the corporations appear to be a heartless oligarchic tyranny, crushing all in their path. To those on the inside, the corporation is as a protector and provider which holds off the ravening horde outside the gates.

Some corporations may have generous intentions and will donate to worthy causes, but they have to stay in business and make a profit before they can indulge in such luxuries. As the world becomes tougher, the corporations adapt by becoming tougher themselves, out of necessity. This "we protect our own" attitude is sometimes called *techno-feudalism*. Like feudalism, it is a reaction to a chaotic environment, a promise of service and loyalty from the workers in exchange for a promise of support and protection from the corporation. It is similar to the Japanese concept of "lifetime employment."

Unfortunately, in an unregulated world, corporations can band together, forming quasi-monopolies where all can maximize profit by reducing consumer choice, and by taking over or eliminating competition that tries to defy their pacts. This happened in the U.S. in the late 19th century, but governments then were able to respond and force the companies to break up such pacts, shutting down or breaking up recalcitrant companies if necessary. In many cyberpunk worlds, no such counterweight exists to corporate power.

Work and Income

In most industrial or post-industrial parts of the world of the 21st century — most of the world, in all likelihood — the majority of the population will be employees, shareholders, or pensioners of a megacorporation or one of its subsidiaries or suppliers. Many of the remainder will be independent professionals or small businessmen who are on good terms with the local megacorps and are part of their economic system. The rest will be "on the outside," left to survive as best they can.

An "industrial" society is a post-agricultural society. The percentage of the world's population involved in agriculture dropped dramatically in the 19th centu-ry, and in the 20th century was at or below 5% in most "First World" countries. An "information" or "service" society is a post-industrial society; the percentage of the population involved in manufacturing and non-agricultural primary industries dropped to around 25% in America and many European countries by 1990, and will drop to around 5% in the 21st century, as automation becomes more prevalent in manufacturing and as products become less important in terms of a person's or a society's total purchases. (Economic theory suggests that beyond that is a "leisure" society, in which the percentage of the population involved in all agricultural, industrial, and service industries drops below 10%, leaving the remainder of the population to artistic or leisure pursuits. This probably isn't appropriate to a cyberpunk world, though.)

Even in the information society of the 21st century, many services will be partly or fully automated. Most banking, and much retailing, can be done on the Net. Most jobs will mainly involve creative work and/or decision-making. Megacorporations will require battalions of system analysts merely to design and implement information-processing systems, and then regiments of managers will be needed to act on the information provided by these systems — deciding what products are needed, how they should be manufactured and marketed, how personnel within the corporation should be handled, what incentives or penalties should be implemented to maximize productivity, and so on, and on, and on. These are the ordinary toiling minions of the megacorps. And some managers will be floating problem-solvers; their job description is, "Here's the problem. You can spend this much money on it. Go fix it, and report back on the results." These are the types PCs are most likely to interact with.

There will also continue to be a large subcorporate economy: small manufacturers, farmers, retailers, service businesses, etc. This is a sort of "lower middle class" — near the bottom rung, but still on the ladder. They will deal extensively with the corporations, but will not have the security of the corporate environment; on the other hand, they will have a measure of freedom not afforded the average corporate worker. This sector of small businesses will be the ones who provide goods and services to those totally outside the walls of corporate power and protection.

Credcard Crime

A false balance can be entered on the credcard. This takes three rolls: Electronics (Credcards)-4, Forgery-4 and Computer Programming-4. It also takes four hours of work in a fully-equipped shop. A failure on any of the rolls gives the card a zero balance. A critical failure wipes the card completely; it will no longer accept a program. (Or the GM may make the roll; in that case a failure of any kind identifies the card as a forgery whenever it is used; it will not debit or credit and the card or terminal it is hooked to tries to notify the authorities.)

A *credcard cracker* is a device to allow access to a card without the owner's consent. They come in many models. Collection agencies, bankruptcy courts and tax collectors have legal ones. Cost is $5,000 dollars and weight is two pounds; an A cell provides power for a year. Illegal ones are produced (or diverted from legal sources). The black-market price is variable; possession or dealing in credcard crackers is a serious crime. A Streetwise-4 roll can usually find a dealer in any large city; a roll against Detect Lies might reveal whether he believes in his own merchandise.

Eco-Guerrillas

An eco-guerrilla is one who uses illegal means, including violence, against those who he feels are endangering the environment. In a future where pollution and population problems continue to worsen, eco-guerrillas will become more common.

Some eco-guerrillas act only "in the field" — destroying bulldozers, bombing polluting factories, and so on. Others attempt to harass or even assassinate the corporate executives who they blame for environmental damage. Some of the most radical groups have taken "direct action" against overpopulation by committing spectacular mass murders.

Endangered Species

la a cyberpunk future, it may be assumed that many of today's endangered species are extinct, while many more creatures that are common today have become threatened. "Save the Whales" may be an obsolete slogan; "Save the Dolphins" or even "Save the Tuna" may be heard instead. As the protectors of endangered species lose battle after battle, they become ever more desperate and fanatic.

Groups like the "Wadical Wabbit Pwotectows" have been responsible for the destruction of automated farms, fishing platforms, and similar food-harvesting devices worldwide. Sportsmen, and even scientists and museum collectors, have been harassed or murdered from ambush.

Continued on next page…

Food

Agricultural production in the late 20th and early 21st century will more than keep pace with population growth. New technologies will increase yields, and modern agricultural techniques will spread throughout the developing world. If the environment continues to be moderately healthy, inexpensive, high-quality, fresh food will become more and more available.

Unfortunately, a healthy environment is an optimistic assumption. It is more likely that a host of environmental problems will drastically cut agricultural production on arable land. Fortunately, serious as this problem is, it will probably happen slowly enough for technology to adapt. Land will be shifted to higher-yielding crops, and more and more food will be grown in greenhouses, hydroponic units, and other enclosed situations. This result of this will be… soybeans. Lots of soy-beans. People will get more of their protein and other nutritional requirements from textured soy products and other (perhaps genetically engineered) crops. Protein "on the hoof" will become rarer and costlier, with the least efficient forms of meat (beef and pork) becoming the most expensive. "Aquaculture," or the harvesting of seafood from carefully controlled coastal areas, will become much more important as a source of food.

Among the upper classes, "organic" food (meaning just about any sort of food that is what it appears to be rather than disguised vegetable protein) will always be in demand; even something as simple as a hamburger will be a status symbol of sorts. Some societies may even adopt the Darwinian justification that since the ecosystem can't support all of the people in the world, and the lives of the poorest classes aren't really worth living, using the poor as food animals — *cannibalism* — would do the slum dwellers a favor by ending their miserable lives. Of course, the poor won't see it that way; such a society is ripe for revolution.

Food can also be used as a means of social control. Additives can be used to manipulate social behavior and trends. Gentle mood-altering drugs can make the lower classes more docile and obedient; contraceptive drugs can reduce population growth (or fertility drugs can increase it, if that is required). Vaccines and vitamins — or viruses and venoms — can be put into food.

Why would anyone want to eat such tainted food? Many people don't know it's been doctored — the corporations don't advertise the contents of Sim-U-Beef. Altered food will be plentiful and cheap, to get people to buy it rather than expensive "organic" produce. And some people don't have a choice. The drifter standing in line at a megacorp's charity kitchen (run for PR purposes, of course) or a worker on a pipe line crew in the middle of the Sahara, will take what he is served.

POLITICS

Governments

A world's government and society are intertwined, and each shapes the other. It is the GM's responsibility to determine what levels of government exist, what their functions are, how (and how well) they carry out those functions, and who they answer to.

Almost every type of government imagined by man appears in cyberpunk, from rigid totalitarianism to absolute anarchy. Most governments will not be of a "pure" type, but will have elements of several different forms. Some possibilities are:

Corporocracy, or rule by corporations. Either the corporations are the government, or they completely control it. This is one of the most common forms in cyberpunk literature.

Democracy, where all citizens have a direct say in how the government is run. With the advent of the Net, all a citizen has to do is decide what topics interest him, follow (and contribute to) the discussions on the Net, and vote when the time comes. The majority rules.

Representative democracy, where citizens elect those who will represent them in the government. This is the form of government most common in North America and Europe today. Representatives are traditionally chosen by geographical region (to represent, for instance, everyone in Montana, or everyone in a particular part of Liverpool), but they could be just as well be chosen by political leaning, religious background or other factors instead.

Aloof bureaucracy, otherwise known as The Blind, Stampeding Elephant. Things are done in a certain way because that's the way regulations say they should be done.

Junta, or rule by a military elite.

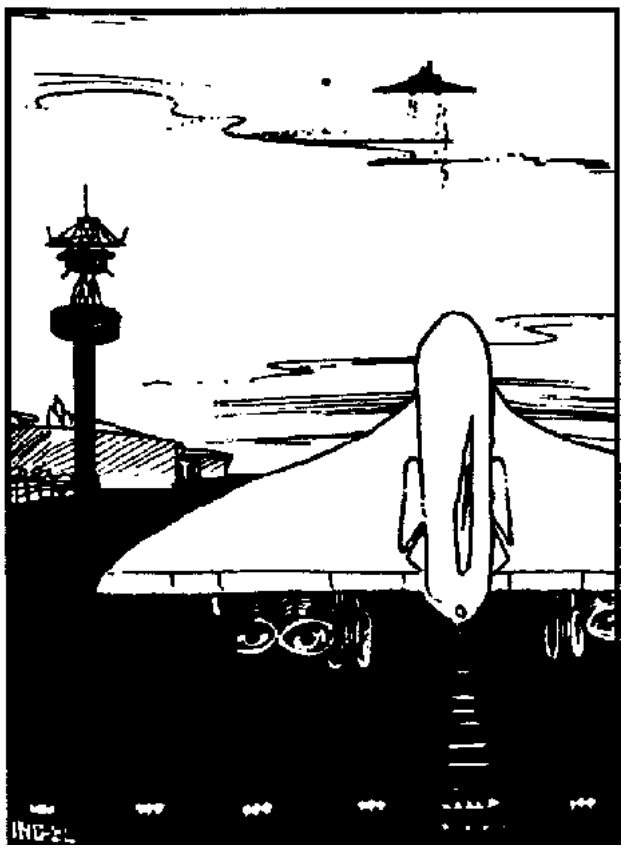
Theocracy, or rule by a religious elite.

Dictatorships of all kinds.

Anarchy, or no government at all. Everyone looks out for his own interests. Some anarchies and near-anarchies are peaceful and productive (such as the Confederacy in L. Neil Smith's *The Probability Broach*); others are war zones.

Governments also vary in the amount of control they attempt to exert on the economy, from none at all (laissez-faire capitalism) to extreme (the planned economy of the USSR through most of the 20th century). The type of government normally has little relation to its economic philosophy; a true democracy with a planned economy (planned by the participants, of course) is at least as likely as an absolute monarch who espouses hands-off capitalism. Of course, there are exceptions: an anarchy will generally have a completely free market (since, by definition, no government exists to control it), and corporations will always have their own fiscal plans, independent of the economy of the state as a whole. See the *Control Rating* sidebar, p. 109.

Governments may be competent or incompetent, in terms of how they succeed in carrying out their objectives. A corporocracy which thoroughly insulates its people from harm, keeping out-siders in isolated slums, might look bad to the slum dwellers — but shareholders would see that the company was protecting its employees, and was therefore doing its job.



Some functions of government may be transferred to the private sector, or even left to individuals to take care of for themselves. Transportation infrastructure (roads and rails), monopolistic utilities (like water or electric power transmission) and pollution control are all functions that can easily belong to the main body of social oiganization. However, there is no hard and fast line, and many exceptions one way or another are feasible.

Eco-Guerrillas (Continued)

Power Plants

Nuclear power plants, both fission and fusion, are likely targets of eco-guerrillas. Means and motives vary widely. Some nuclear protesters are afraid of radioactive pollution; others simply feel (though they may not state it so baldly) that any power source contributes to technology and is automatically bad. Saboteurs of the latter ilk have been responsible for several disasters that have created severe contamination: they say this is "necessary to raise the public consciousness."

Action against other power sources is possible. For instance, some eco-guerrillas will certainly object to the orbital microwave power stations ("Who knows what those microwaves are doing to human and animal life?") — and such stations may be very vulnerable to sabotage.

Transport

Strikes against polluting forms of public transportation, especially the giant stratospheric jets, are common. Usually these take the form of protests and nuisance sabotage. Occasionally the results are more tragic; the most spectacular such case, for which the Queens Clean Air Front has convincingly claimed credit, involved the deliberate reprogramming of air-control computers, causing two megajets to collide directly over a terminal building. Over 9,000 lives were lost.

The Tyranny of the Majority

Most people equate the word "democracy" with a society that is free and unoppressive. This isn't always the case. The laws passed by any group will always reflect the mores and values of the majority of that group.

There are towns in the United States where the majority of the citizens would gladly vote to legalize the murder of minorities (or homosexuals, or cigarette smokers). The GM can create a very oppressive society in which everything is voted on.

This can be made even better, or worse, with electronic voting. In a society in which everyone has a computer terminal, everyone can vote. Every day. On anything and everything. Electronic voting could build a Utopia in which the government is instantly responsive to the popular will. It could also build a hell on earth, in which popular whim, orchestrated by whoever controls the media, is used to justify the most repressive policies imaginable.

The Tiniest Majority

Electronic voting could allow a 99.9% voter turnout. But suppose that electronic voting *doesn't* exist. In the gray urban sprawl of a c-punk frture, many citizens might just give up voting… "it only encourages them." If only 10% of the eligible population votes, then it only takes 5.01% of the population to constitute a "majority." This is why many radical groups conduct massive voter registration drives among demographic groups likely to be sympathetic to their cause!

This could result in a situation where a small clique controls just enough votes to get themselves elected into power. And once the new regime is in place, the apathetic no-show voters may find themselves disenfranchised, deported or just shot by the secret police.

Some governments will streamline themselves, become well-managed and "customer-oriented," and will greatly resemble the corporations in the world they inhabit: they may put some of their operations on an independent-revenue basis, and even own profit-making industries that have private-sector competitors (as most governments in the 20th century do). In other circumstances where the government has fallen into decline or collapsed entirely, major corporations may band together and form a cartel to provide social organization. These cartels would resemble a government in many respects, except that they might not answer to "the people" in the same way that more traditional governments might

International Community

Several possible international arrangements are possible in a cyberpunk world. One is a world state where individual countries are mere administrative districts, and in which most authority lies in the hands of global institutions. (This is the "one-sovereignty" model.) There will be no wars — just an occasional local insurgency.

A related form is the continentalist or regionalist world structure, in which groups of countries band together to form economic and political associations and the regional authority holds most of the power. This is the "ten-sovereignty" model. An example is the post-1992 European Community. This may be a stable situation of large blocs, or it could be a step on the road to the world state, or it might only apply in a few areas, leaving the rest of the world to more chaotic arrangements. In such a world, wars will be rare; when they do occur, they will be devastating, whether of short or long duration. However, regional blocs may have diffuse groups of client states and petty allies, and may indulge in small wars and political maneuverings.

The nation-state world of the 20th century may continue many decades into the future (the "hundred-sovereignty" model). This is not necessarily a stable condition, however; most of today's nations in their present form are less than 100 years old, and few date back more than 200 years. Wars of varying intensity will be a fairly common occurrence, although mechanisms exist to settle international disputes. Great powers will continue to dominate global affairs, although they may not be the same great powers that dominated the world in the 20th century, and military might will not necessarily be a factor in global pre-eminence.

The fragmented-state world (the "thousand-sovereignty" model) is a possibility, in which nation-states have broken up into smaller statelets. This will certainly require the breakup of the superpowers and great powers of the 20th century into smaller states. Most of the new nations will be mini-confederations of yet smaller provinces. States will occasionally break up into their constituent parts, or sometimes a state will gain the upper hand and gobble one or two of its neighbors to create a larger (but not necessarily more stable) empire. This sort of world is depressingly self-perpetuating, since any state which does better than its neighbors will provoke them into allying against it to cut it down to size. International institutions will probably be weak and unable to intervene in local conflicts. Wars will be frequent, and constant in some areas.

In general, the smaller the states, the less power each will have with regard to events within its boundaries. The world or regional governments will be vast, impersonal entities of great power, but which allow many ordinary events to go on so long as they do not disturb the continuity of the state. In a world of fragmented states, governments will be too busy with external events to worry about anything but the worst domestic problems. Exerting personal influence on the course of a state's events may prove difficult — the powerful bureaucrat one successfully bribed on Monday may be shot on Friday by the new regime.

War

As military technology becomes more sophisticated, weapon designers will concentrate on more controllable weapons, which destroy only the desired target and nothing else — whether the target is one man, or a city. Institutions of peace may become more influential and more effective; part of the challenge in a cyberpunk world may be to conduct a military operation in a region where tough peace-keeping forces are keeping a close eye on both sides.

If governments collapse, corporations may seek to solve problems by direct force. They may assemble military teams, on a temporary or permanent basis, to conduct operations to "fulfill corporate objectives."

Set-piece battles will almost never feature in such conflicts; subtlety, stealth, and symbolism will be essential in the conduct of any corporate military operation. Corporations may even resort to stylized combat between champions, although this will rarely be used for serious conflicts since it's strictly a form of gambling. Generally, such stylized battles will be sold as entertainment, and used at most only for small real stakes.

Other levels of intensity of warfare are possible, but only if governments are the main driving force. Corporations won't be interested in large-scale military actions — there's no profit in them.

Cyberpunk is not usually set in a "post-holocaust" world. Local, limited nuclear exchanges, such as in local conflicts in the Middle East, Africa, or south Asia are much more likely; minor exchanges involving Europe and the superpowers are possible, but should not be too devastating, as this would eliminate the technological base integral to a cyberpunk campaign. An overall theme in cyberpunk stories is that the world is dying, slowly, not with a bang but a whimper. A nuclear war would have a devastating impact on the local environment; even a small local nuclear war would destroy much of the region.

SOCIETY

Violence

Cyberpunk stories often feature a high degree of personal and societal violence as an accepted part of the status quo. This may be a reaction to a sense of helplessness, in the face of social and environmental decline. To combat this external miasma, some individuals will strive for a semblance of control and power, which will be expressed by intimidating or even hurting others around them. Usually this will manifest itself by people participating in street gangs, joining with organized crime, or just becoming bullies. A few will step over the line of madness into sociopathy, terrorism, mass murder, and other psychopathic behavior.

Terrorism will take many forms in the future. Inhabitants of disadvantaged parts of the world may complain of "exploitation" and "enslavement" of their people, and they may strike against "the West" in an effort to gain "freedom" for "their" people. (Of course, in the economically interdependent world of the 21st century, such terrorists generally interpret "freedom" as turning their backs on the whole world economy — a course which would be disastrous for most areas.) Others will be environmental terrorists, seeking to preserve the ecosystem by destroying the biggest and most disruptive man-made projects within it. Vandals on the Net may attack the corporations for real or imagined grievances, or even for the sheer intellectual joy of overcoming difficult obstacles of computer security systems (no matter how harmful the effects of their success might be). Lowlifes who resent their lot may try to disrupt or destroy the operations of the megacorps. So totally random violence will be a constant, minor, nagging fear of everyone in civilized society.

Ecotage

The direct opposite of eco-guerrillas are *ecoteurs*, government or corporate agents whose mission is biological sabotage or disruption of the ecology of enemy-controlled areas. An ecotage or anti-ecotage mission would make an interesting adventure.

Ecoteurs might adopt a brute-force approach. Spreading a plague virus is a primitive form of ecotage — dangerous, but unsubtle. Ecoteurs might also spread poison to kill key species, seed fresh-water clams to choke the water mains of an arcology, and so on.

But ecotage could also be a highly delicate mission, requiring knowledge, research and insight. Suppose, for instance, that a professional ecoteur (with several PhDs in subjects from sociology to molecular biology) is hired by a Pacific Northwest firm which harvests lumber for paper. The firm is hard-pressed by competitors in the Amazon Basin. The ecoteur immediately starts a campaign of media manipulation to whip up anger about the vanishing rain forests. He creates and plants carefully-doctored "facts" to document the damage being done by the Amazon firms. Meanwhile, he is researching the ecological linkages of the tropical forests. In due time he discovers a certain algae, one of many in the Amazon tributaries. Then he sets to work.

He arranges for agents (possibly frothing eco-guerrillas who don't know what they are really doing) to chemically contaminate several key river areas. The contamination causes the algae to reproduce greatly, producing conditions which are ideal for a certain small fish to breed. That fish, when adult, preys on mosquito larvae. In due course, the shortage of mosquito larvae leads to a shortage of adult mosquitoes, which slashes the population of insect-eating birds… which removes the control on a disease-carrying fly which soon makes millions of square miles uninhabitable until countermeasures are taken!

Then the ecoteur starts the *next* phase of his project…

Control Rating

The Control Rating is a general measure of the control which a government exercises. The lower the CR, the more freedom exists on the world and the less restrictive the government. Government type does not *absolutely* determine CR; it is possible (and interesting) to have a very free monarchy, or an Athenian democracy where the voters have saddled themselves with thousands of strict rules. The GM should determine the CR of his campaign; it's entirely possible that different areas of his world will have different CRs.

CR also affects what weapons can be carried (see *Legality Rating*, p. 110), but especially violent or nonviolent societies will have a separate, modified CR for weapon laws.

If any question of legality arises, or to determine how severe government checks and harassments are to visitors to an area, roll one die. If the result is lower than the CR, the act is illegal or the PCs are harassed, delayed or even arrested. If it is higher, they escape trouble, either because the act is legal or the authorities overlook it. If the CR is rolled exactly, the situation could go either way: play out the encounter or make a reaction roll.

Control Ratings are as follows:

0. Anarchy. There are no laws or taxes.

1. Very free. Nothing is illegal except (perhaps) use of force or intimidation against other citizens. Ownership of all but military weapons is unrestricted. Taxes are light or voluntary.

2. Free. Some laws exist; most benefit the individual. Hunting weaponry is legal. Taxes are light.

3. Moderate. There are many laws, but most benefit the individual. Hunting weaponry is allowed by registration. Taxes are moderate and fair.

4. Controlled. Many laws exist; most are for the convenience of the state. Only light weaponry may be owned, and licenses are required. Broadcast communications are regulated; private broadcasts (like CB) and printing may be restricted.

5. Repressive. There are many laws and regulations, strictly enforced. Taxation is heavy and often unfair. What civilian weapons are allowed are strictly controlled and licensed and may not be carried in public. There is strict regulation of home computers, photocopiers, broadcasters and other means of information distribution and access.

6. Total control. Laws are numerous and complex. Taxation is crushing, taking most of an ordinary citizen's income. Censorship is common. The individual exists to serve the state. Private ownership of weaponry, broadcasting, or duplication equipment is prohibited. The death penalty is common for offenses. and trials — if conducted at all — are a mockery.

Cyberwear itself is a form of violence; it is a form of self-mutilation that in some ways represents a deeply disturbed outlook, one which says that since the world as a whole is marred, a person must mar himself as well in order to deal with it most effectively. This would be an issue for sociologists and psychologists to handle, but in general, the great conflicts within society will be metaphorically mirrored in the bodies of many cyborgs.

Crime and Punishment

A "crime" is a violation of the law. A "law" is a common rule of conduct which is generally enforced by a controlling authority. And that is the core of the issue: what authority controls society, and what does that authority consider a crime? The answers to these questions are not nearly as straightforward in a cyberpunk world as they have been in almost every other civilization.

If they are still influential, governments will have much the same attitude to crime as they've always had. The GM may simply draw on 20th-century examples of law enforcement, adapting the methods to the technology available.

In a corporocracy, however, the situation is totally different. A corporocracy is not concerned with punishment as such. If an individual commits an offense against corporate policy (the closest thing to "law" there is in such a society), the first official reaction is assessment of that individual's value to the corporation. If the person is a stakeholder, the corporation will consider the person's rights, privileges, and legal obligations to and from the company. The next question is the profit potential — can that individual be returned to useful labor? How much of the situation can be salvaged, and how much of the cost of fixing the problems can be attributed to the person who committed the "crime?"

The corporation's final concern is public relations. How will each potential solution be interpreted by stakeholders and others with whom the company might do business? The manager responsible for dealing with the problem will then have a context for decision-making, a list of positive and negative factors connected with each option. He then plugs everything into his spreadsheet, and voila! the decision is made, on cold economic grounds. (The manager who sets this up may have to assign some arbitrary numbers to fill out the spreadsheet, but then it's his job to make sense of things.)

If the "criminal" is not a stakeholder, the equation is radically different. The miscreant has no value to the corporation, and if he can be cleanly eliminated the corporation may well be inclined to do so. The manager goes through a process similar to the one above, detailing all of the options and the economic factors affecting each choice. The difference is that the equations assign a different value to various factors, making assassination, maiming, lobotomy, or imprisonment much more likely alternatives. Depending on the corporate "style," the criminal may be eliminated in a messy, public fashion as a demonstration of corporate strength of will, or he may simply be quietly disposed of so as not to make a fuss. If someone has committed a particularly clever breach of corporate security, the corporation may even wish to hire the person to show them how he did it (and to keep others from doing the same!).

Urbanization

Everybody has to live *somewhere.* Since the Industrial Revolution, most people have lived in cities. How close together people can be packed is limited by the technology of construction (how tall they can build comfortable housing) and by the technology of transportation (how many people can move into and out of an area on a regular basis). As population pressures increase, cities will grow up and out to cope with the demand.

Some cities will be run as corporations. Residents may hold shares in their municipal corporation, making them quasi-democratic, or they may only own memberships, which allow them to live there and take advantage of all facilities, but don't give them any real say in how the community is run. Some communities will bring in non-resident employees to provide services for affluent residents. This will create a sharply defined class structure, as non-residents will have limited privileges — and will have to leave town at the end of their shift.

As construction technology improves and the prices of land and transportation skyrocket, some corporations (especially information-intensive industries such as insurance houses and investment firms) may decide to create giant, integrated "corporate habitats" where offices, homes, schools, stores, churches — even parks — would be under one (very large, and very tall) roof. Shopping centers and offices in the bottom floors would be open to outsiders, but access to the living areas would be limited. A further development of this technology would be *arcologies* — giant buildings intended as self-sufficient communities. Either habitat would be a refuge from pollution and many of society's ills; the primary disadvantage would be that space would be very limited and population would of necessity be strictly controlled.

Arcologies and private corporate communities will become more and more common, but most people will live in great megalopoli. How these are controlled depends on many factors, but all cities, public or private, will have similar functions. They will be responsible for policing, roads and other transportation infrastructure, and many other functions, possibly including education, welfare, public health and unemployment compensation — providing social services will improve the productivity of current and future workers, who will pay more in taxes, which will at least partially cover the cost of providing the services.

Overcrowding will result in smaller living spaces, especially in desirable areas. This is a problem that Japan has faced already, and Japanese customs of politeness (which seem excessive to 20th-century Westerners) may be imitated in the future as a means of giving people more "psychological space" to make up for the physical space they are losing.

City services, including fire and police, are usually underfunded. This means that the corporations can hire away the best people by offering them more money; those who stay behind will generally be hopeless idealists, on the take, or incompetent.

Rather than allocate already-strained resources toward trying to eliminate crime and vice, many police forces will try to keep them contained to particular areas, only taking action against the most flagrant offenses, crimes outside the "turf," and politically sensitive cases (e.g., busting the dealer who sold the chairman of the board's daughter the drugs she OD'd on). In these areas, sex, drugs, restricted high-tech goods — in fact, everything, legal or illegal — will be available for a price. These areas are likely to be under the influence of the local criminal organizations. Anyone with any sense will stay out of them, or know exactly what he's getting into.

All in all, cities will provide a variety of settings, but in general communities which are under corporate control will be more pleasant than larger public areas, although corporate communities will be exclusive and difficult to get access to.

Family

Changes in family structure will probably continue into the future. The traditional unit of husband, wife and children will continue to be the main type of family. But with an increase in single parents, same-sex partnerships, unmarried couples (with and without children), communal groups and other non-traditional units (to say nothing of gangs, orphanages and packs of street urchins, which could all

Legality Rating

Many weapons and other devices have a *Legality* rating. The more lethal the weapon is, or the more potentially dangerous the device is, the lower its Legality. In particular, some computer programs have Legality ratings. See below.

The class of items that will be *legal* in any given milieu will generally depend on the local government's Control Rating (see sidebar, p. 109). However, effective Control Rating may be reduced in some societies (e.g., 20th-century USA) where citizens insist on the right to go armed. It may be increased in others (e.g., 20th-century England, where the cop on the beat isn't allowed a gun). The effective CR of an area determines who will be allowed to have what kind of weapon. A very violent society may have a *negative* CR with respect to weapons!

Legality = CR+2 or more: Any citizen may carry the device.

Legality = CR+1: The device may be carried by anyone except a convicted criminal or the equivalent. Registration is required, but there is no permit fee.

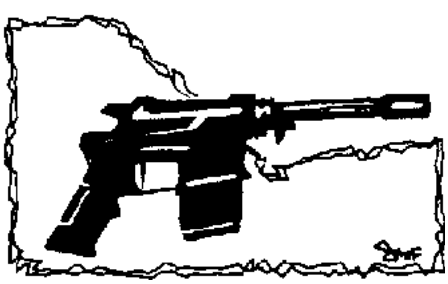
Legality = CR: A license is required to own or carry this device. To get a license, one must show a legitimate need. Generally, a license cost 10-60% of the price of the item itself. The GM may set this; roll a die.

Legality = CR-1: This device is prohibited except to government agents, police and bonded security agents.

Legality = CR-2: This device is prohibited except to police SWAT teams, military units, and perhaps secret intelli-gence agencies.

Legality = CR-3 or worse: This device will only be found in the hands of the military.

So, for instance, on a world with Control Rating 4, anybody could carry a stun pistol (Legality 6); registration would be required for a stun rifle (Legality 5); permits would be required for hunting weapons (Legality 4); and ordinary citizens could carry nothing heavier.



Legality of Other Devices

Items other than weapons may also have a Legality Class, based on how dangerous the government (or Big Business) perceives them to be to its monopoly of power. The ratings follow the same pattern:

Class 6: A very clever person might find a way to use this item for self-defense or crime. Example: A low-powered home computer.

Class 5: The device could conceivably used for crime (or for defense against intrusive police or corporate agents), but it would be unlikely. Example: A mid-range home computer.

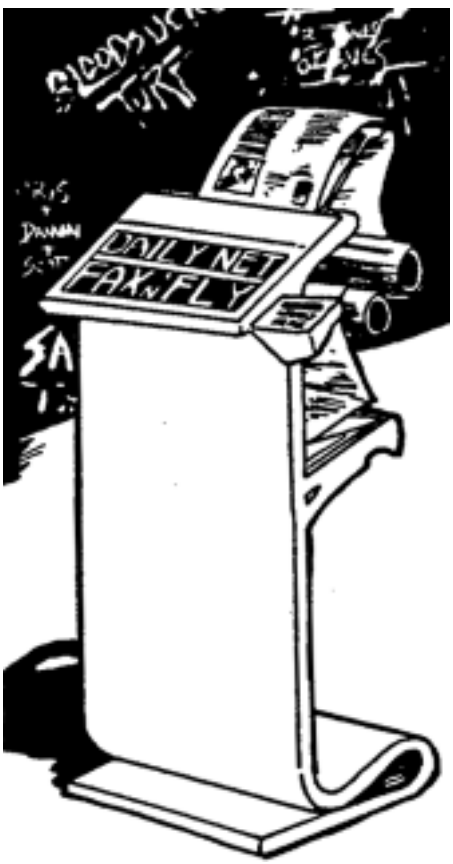
Class 4: While the device has many legitimate uses, it can also make some types of crime easier. Example: a high-speed modem, a data-encryption program.

Class 3: The device is easy to misuse. or to use against corporate interests. Example: an "ice" program, an ordinary cyberdeck.

Class 2: Government or corporate agents would recognize very few legitimate civilian purposes for this device. Example: most surveillance equipment.

Class 1: Designed purely for illegal or covert purposes. Example: a Thumb; an icebreaking program.

Class 0: Very powerful and dangerous. Military-style icebreakers, superspeed cyberdecks. and so on.



be considered "families"), it may no longer be the majority. A character's family is probably the most important factor in his early development, and should be part of his background story — he will look at the world very differently if he is heir to a banking fortune than he will if he was abandoned by his mother at age 8 and grew up on the street.

"Marriage" may mean anything from the traditional "till death do you part" arrangement to a renewable contract (perhaps with 3-5 year terms). The government determines what constitutes a legal marriage, who can enter into it and its legal ramifications (e.g., who inherits property if one of the parties to the marriage dies). For instance, if death is reversible (by cloning and braintaping), is a woman whose husband died but was cloned still a widow? Or is she still married to the duplicate? If there are three or four copies of her husband, which is she married to? Or are they *all* her husband? If there is more than one of *her*, is each married to a specific copy of the husband, or are they all married to each other? And are their children brothers and sisters, half-brothers and -sisters, cousins or some as-yet-unnamed relation?

The specific biological parent-clone relationship will also become much more diverse. Infertility can be sidestepped through the use of sperm banks, egg banks and surrogate mothers. A child may be a "vat baby," from a genetically-engineered *in vitro* fertilized embryo which may or may not have genetic material from the official "parents." Such children may draw from standard commercial clone gene-stocks, used because they are known to work and are much less expensive.

There are several options in parenting. At the top of the corporate social ladder the traditional nuclear family will still be the most popular choice. Others may leave primary responsibility for child-rearing to servants (human or robotic) or to an extended friend-family structure. Corporations will provide creches to take care of their employees' children.

Outside corporate society, extended-family arrangements will be common. In the worst cases, children will be given to orphanages, or simply abandoned to the mercies of the street. For them, street gangs may serve as a sort of surrogate family that teach their own way of coping with the world.

Media

The media, both print and electronic, serve two functions: information and entertainment. In a typical cyberpunk world, control of information means control of the elite, and control of entertainment means control of the masses. This makes the media vitally important.

Video and Radio

Even in the early 1990s, more people get their news from television and radio than from any other source. This trend continues in most cyberpunk worlds — even where governments or corporations don't control the media outright, they may have huge influence over what stories are presented, and how.

A few journalists may have the clout to get their stories on the air with a minimum of outside interference. These journalists are generally highly popular with the masses — but they also learn to live with intimidation, extortion and occasional violence from the subjects of their stories.

Most cities may also have smaller, local stations. They may be official "community" or "alternative" stations, or unlicensed "pirates." Pirates are often one- or two-man operations which broadcast what they please without having to clear it with multiple levels of corporate bureaucracy. But they may also be huge offshore operations, sponsored by the corporate competitors of the "official" media.

Print Media and the Net

As radio and television become more powerful, the ability to read may be seen as less and less important. Still, many people will rely on the printed word — and its younger cousin, news databases on the Net — to learn what's going on around them.

Future technology may be used to create individualized newspapers for subscribers, who can choose, for instance, to only receive news about business, ice hockey game recaps, the "front page" (major news stories), and all of the "humorous" comic strips. These will be beamed directly to the subscriber's home. Stories will be updated every few hours (for fast-breaking, important stories, several times an hour) to make sure the reader has the latest news.

Accessing a "newspaper" on computer will also allow the user to select other stories via *hypertext.* When the subscriber calls up a story on the latest conflagration in the Middle East, a menu will appear, suggesting other, related stories. He can then select another story about (for instance) the history of the conflict, which would refer him to other stories about other wars in the region, and so on.

The advent of the inexpensive laser printer will make private publishing more common. Called *samizdat,* the Russian word for the USSR's underground press, these publications espouse every cause from Nouveau Nazism to organic agriculture to ecoterrorism. A few are well-produced and professional-looking; most are crude, if not downright illegible. The only requirements to publish *samizdat* are a word processor, a printer and enough paper for the desired number of copies.

Samizdata

As the Net grows ever-more pervasive, and as those with a cause to espouse find how easy it is to gain access, *samizdata* — an electronic version of samizdat — will gain popularity as a means of expression.

Producing samizdata is even easier than preparing leaflets for distribution. All one has to do is type up the information and store it into a computer's memory. From there it can be uploaded to the Net, where others who share the samizdatist's views (or who just advocate freedom of the press, or want to pass along *this* piece of full-frothing propaganda) can copy it into their computers, read it, modify it if necessary (usually by inserting their own comments), and load it into another section of the Net. The result is a combination dialogue/journal giving many people's views about the subject.

Samizdata can be used to pass along information to help the campaign progress. If the PCs need a specific bit of arcane data, a successful Research roll on a large samizdata library may turn up exactly what they need… or at least give them the name of an expert.

A samizdata newsletter can also be an adventure hook. Suppose that someone found out about a back door in the new Mannlicher 6016 operating system. He uploaded it to the Net. Now he's wanted worldwide — one division of Mannlicher wants to hire him, and another wants to rub him out! He asks the party for help…

Samizdata can get PCs in trouble, too. For instance, a hacker might find an interesting document in a computer somewhere, relating to (say) the Strategic Defense Initiative. He might rewrite the information slightly, but not so much as to alter its basic form, and upload it onto the Net, signed with his handle. Unfortunately, the information he downloaded was classified Top Secret and involved possible defenses against an SDI platform — so everyone on the Net from then on who read this document and passed it along was (in the Government's eyes, at least) guilty of possessing Top Secret information and of passing it along to others — no matter how innocently they participated!

Fashion

The look. Some have it, and some don't. Many cyberpunk stories feature protagonists, and worlds, that are totally fashion-obsessed — another example of the need to make a personal statement in a dehumanizing world, even if the statement is only "I'm OK, because I'm just like all the other hip types." Many top "scenes" won't let anyone past the door who isn't wearing the *latest* in fashion — whatever that may be. Possible styles include:

Glam — everything is flashy and chrome-plated. Common accessories, include mirrored contact lenses, lots of metallic jewelry, multi-colored neon scarves, fluorescent wigs, etc.

Tek — taking advantage of the cutting edge of science. Tek fashionplates are usually wealthy, as technology doesn't come cheaply. Typical accoutrements include fabrics made out of tiny LCDs used as a television screen (especially striking on ties and handbags), with a small tuner built into the sleeve (true technophiles will have a small videodisc player in a pocket); fiber-optic wigs or hair implants are also popular, with multi-colored light patterns cycling throughout. Body hair, and even natural head hair, is out of style.

Natch — the natural look, a reaction to Tek. Visible prosthetics are very, very out. In some circles, any implants may be considered tacky. In others, the whole point of fashion may be to cyborg yourself heavily while *appearing* natural. Bare skin, perhaps painted, and long hair will be "in." Fake furs, medievalist garb, and similar historical themes may cycle in and out as phases of natch fashion. Drug use may become unpopular — or "techie" drugs may be eschewed, while "natural" mushrooms and alcohol become popular.

Retropunk/Metallist — a mixed look drawn from the punk rock groups of the 1970s and the heavy-metal bands of the 1980s and 90s. This is a very popular look in the rougher parts of town, as black leather not only serves as crude armor, but doesn't show blood. Chrome and rhinestone studs, with broad leather belts and razor-sharp buckles, abound. Outrageous earrings are displayed, and hair is either waist-length or in a spiky mohawk.

International — tied to whatever country happens to be popular at the moment (see p. 113). The appropriate look could range from traditional Japanese to the loincloth and skin-paint of a Maori tribesman.

Prayerware

With computers pervading the households of the world, it is only natural that they will begin to be used in religious observances in day to day life.

Simple programs might do nothing more than sound the call to prayer five times a day for an Islamic family, or help a Mormon do genealogical research. By the mid-1980s, several versions of the Bible were available on computer disks.

But what about interactive software? A devout Catholic could say several hundred Hail Marys per second if plugged into a fast enough computer with the appropriate software. There would also be a great demand for behavior chips (see p. 38) of a "proper" member of the church. And how much could you get for a braintape of someone who claimed to have spoken to an angel or a god?

Net Mysticism

Some believe that the Net can offer communication with any other intelligence, even God Himself, although only through complex and arcane procedures revealed gradually over time to true believers. These beliefs are based on mystic traditions such as Kabalism, Sufism. and Buddhism. The Net Buddhists are strongly influenced by Zelazny's *Lord of Light*, which expresses Nirvana as thought in a pure electromagnetic form, unencumbered by the flesh. They believe that they must be reborn a number of times until they purify their souls and can be reborn as perfect intelligences on the Net. And, indeed, there are intelligences on the Net who claim to be such perfect beings.

Some religions even operate electronic temples on the Net, and have mystical interfaces which they describe as "computer-assisted prayer." A few irreverent netrunners try to crack these programs' ICE and go all the way to whatever is at the core of these mystical interfaces, so they can steal the source code of God! Needless to say, this kind of blasphemy greatly offends the believers, some of whom spend great amounts of lime monitoring the interfaces, watching for infidels.

INTERNATIONAL INFLUENCES

The direction that a campaign world takes will be largely dependent on what countries are "world powers" at the rime. Much of the existing c-punk literature and stereotypes are based on the idea that Japan will become the predominant power in the future due to their technological superiority. As the Japanese stock market plummets in early 1990, we see that this might not be the case. Some potential choices include:

Germany — As the Berlin Wall crumbles and East and West Germany begin planning reunification, the idea of a united Germany surging forward as a world power has to be considered. This could result in a Europe that, while not *militarily* conquered, becomes the economic vassal of the Fourth Reich.

Russia — Assuming Gorbachev survives the internal turmoil that is ripping the Soviet Union apart as this goes to press, Russia might emerge in 10 or 20 years as the largest capitalist nation on Earth. Once the Russian workers have gotten a taste of the free market, it is unlikely that they will settle for any half-measures.

Latin America — Many nations in both North and South America have always been treated as third-world — with organization and proper management of their bountiful resources, a united Latin America could become a world power. An imperialist Mexico might annex the southwestern United States…

In addition to the "straight" choices, the GM can make an interesting world by presuming that a small country rocketed to prominence through some outlandish technological struggle. For example, the secret to total energy conversion is discovered, and remains a trade secret of the government of Jamaica. Or the perfect longevity drug will be found in a herb that grows only in Estonia.

Of course, a good rationalization will be required to explain why one of the big countries (or megacorps) hasn't stepped in with a "protective" division of Marines to ensure the "proper division" of the resource.

Social Effects

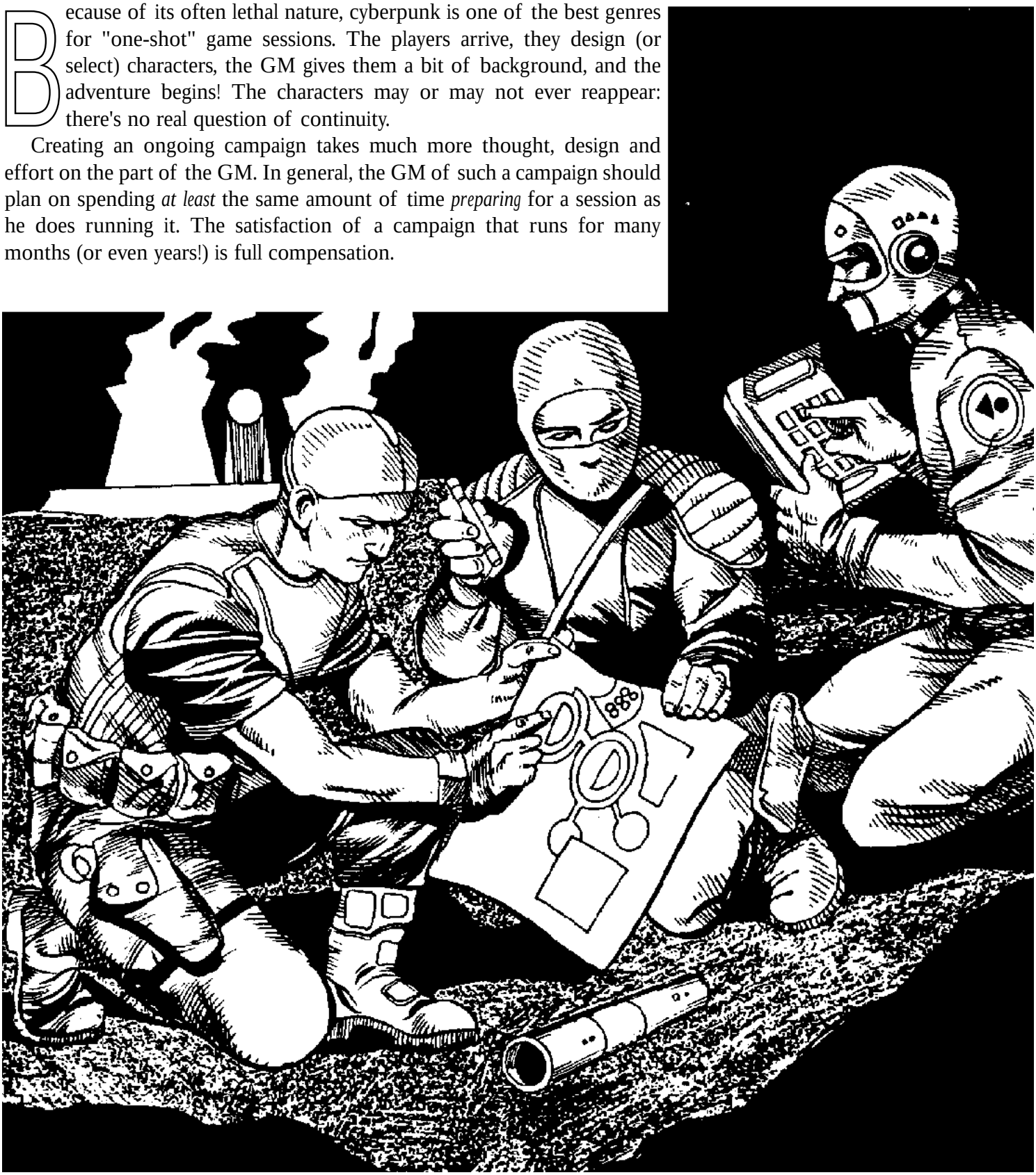
The dominant nation won't just influence the economy — it will affect every aspect of life. Even in places where the language isn't spoken, words from it will creep into everyday usage. It will affect fashion (see sidebar, p. 112) — if Russia is fashionable, then ethnic Russian wear, and Russian dances and amusements, will be "in." It might even dictate which religion(s) are considered acceptable and which are considered *verboten.*

Of course, in a world of rapid economic ups and downs, influences will be mixed. For instance, suppose Germany was powerful and fashionable four years ago. All the old clubs (those that survived) have German names. But Japan is on top right now, so most of them have redecorated with a Japanese theme; the waiters all look Japanese, whether they were born that way or not. However, Argentina's star is rising, and the really "hip" patrons at Sholtz Garten are wearing gaucho hats and summoning those Japanese-looking waiters with "Hola, amigo! Otracerveza!"

6 CAMPAINING

Because of its often lethal nature, cyberpunk is one of the best genres for "one-shot" game sessions. The players arrive, they design (or select) characters, the GM gives them a bit of background, and the adventure begins! The characters may or may not ever reappear: there's no real question of continuity.

Creating an ongoing campaign takes much more thought, design and effort on the part of the GM. In general, the GM of such a campaign should plan on spending *at least* the same amount of time *preparing* for a session as he does running it. The satisfaction of a campaign that runs for many months (or even years!) is full compensation.



Campaign Realism

Any cyberpunk campaign is likely to be violent; it's practically a part of the definition. Whether this violence is likely to be fatal to the PCs depends entirely on the GM.

Realistic Cyberpunk

It could be argued that this is a contradiction in terms; after all, cyberpunk involves technology that hasn't been invented yet. Some would say that it's right around the corner; others may argue that these devices will *never* exist.

But if it does come into being, cyberpunk hardware — both body modifications and more conventional weaponry — will be *deadly.* Firefights will often be over in seconds, as explosions level buildings and beams punch through stone walls. If the GM favors this type of campaign, the players will have to learn subtlety… or create new characters for every game. And, for those who find vicarious violence to be a catharsis, there's no better genre than cyberpunk. Even the dryest description of the damage done by an explosive bullet or a laser beam should be enough to satisfy even the most dedicated splatter fan.

But the GM should not start this sort of campaign without discussing it with the players. Otherwise, the bookish computer-fiend and the sneaky shoot'n'scoot agent will be badly disappointed when their mercenary buddies start a firefight that ends in all-around Armageddon.

Cinematic Cyberpunk

The alternative, of course, is the "cinematic" style of play. And in cyberpunk, style is the important word anyway! See *The Cinematic Campaign*, p. B183, for a general description of this type of play. The special combat rules mentioned there can be adopted at the GM's option.

In a cinematic campaign, the GM should reward ingenious strategy and "bravura" play. Good roleplaying — such as staying in character even at the risk of that character's life — is paramount. Encourage bragging, boasting and character rivalries; it's all part of the background.

Continued on next page…

CAMPAIGN SCOPE

When planning the campaign, the GM must make some basic decisions, such as the intended duration of the campaign, the area it will cover — even how much detail he will go into in building NPCs. The more background he has access to, the more realistic the campaign will seem, and the less he will have to "wing it" when the characters decide to enter a course of action different from what he anticipated.

"Duration" refers to the length of the campaign — one-shot, or continuing. In a one-shot campaign, the amount of background that has to be worked out is smaller. The NPCs can be painted in broad colors (the bad guys can just be *bad guys* with no motivation other than "The boss told us to shoot at the good guys"), and the GM can be more ruthless in killing off the characters. The players won't be as attached to them as they would in a continuing campaign.

Long-term campaigns allow the players to flesh out their characters and to work to change part of their society. They can also create agendas of their own, which can aid the GM in his campaign design. Of course, long campaigns have disadvantages. For instance, individual PCs may be killed along the way, so the GM should have both some reason for the group to stay together (a Patron with a mission for them to perform, for instance) and a way for new characters to enter the group. Also, as campaigns continue, continuity and complexity become problems. A half-forgotten incident from the group's very first session could provide a loophole that will short-circuit the GM's careful planning. The GM must keep very careful track of the intended direction of his plots, and balance it very carefully against "railroading" the players.

A medium-term campaign — a linked series of two to six adventures, each with its own objectives, opponents, and resolution, but all building up to a final climax which ties the loose ends together — is a compromise between very short- and very long-term campaigns. The GM should outline the plots and major NPCs before starting the campaign — even before any of the players generate characters. This lets him foreshadow and leave clues that will only be important in future adventures. He can also select elements of PC background and tie them into the plot ("Your parents were missionaries in Burundi and you were born there? Hope you remember your way around Bujumbura…"), and develop NPCs who will further the action.

As plot threads tie together, the players will get a feel for the flow of events, and things which seemed unconnected at first will make more sense. The GM can build up to a great, long-anticipated climax. This sort of mini-campaign is long enough for players to get really into their characters, and for the GM to show how the world works and what the inner motivations of the main NPCs really are. The main drawback of a medium-term campaign is that it involves as much work as a long-term campaign — maybe even more, since the GM must plot the separate threads of the adventures and weave them together to form a conclusion. He can't just randomly hop from episode to episode. And the very idea that the campaign will end can be disappointing; to many players, one of the most appealing aspects of roleplaying is its open-endedness.

A well-crafted plot will have a lot in common with a good story plot, but by its nature a game must be more flexible, allowing either the death or the survival of any given character at critical points in the plot.

Information

Much of the action in any cyberpunk adventure will be centered on the characters finding out what is actually going on. Players should be rewarded for innovative ways of figuring things out, but they should work for informa-

-tion. The GM should avoid leaving obvious shortcuts or loopholes in the adventure, and should anticipate predictable ways of gathering information.

In planning an adventure, the GM should work out, in advance, all the important clues that lead up to the final resolution. He should make a list of the contacts the PCs will have access to, and which ones have access to what information. The GM should also decide what pertinent clues might be found on the Net, and how hard it is to access these areas.

Sometimes an adventure may hinge on the unavailability of information that logically should be easy to find. In that case, the GM must either invent a reasonable explanation, or restructure the adventure to avoid the problem. Remember, contacts — and even some patrons — can be killed by the bad guys. Patrons that PCs have spent points on can be replaced by other, similar patrons in the future; this allows maximum GM flexibility in determining the plot, while preserving character point game balance. And that all-important net node may be down for servicing this week — but the characters need the information *now!*

What's Really Going On?

At the beginning of the campaign, the players should only know what any reasonably well-educated citizen of the GM's world would know about current affairs. The GM might also give each character a few pieces of information that the other PCs wouldn't have. Some of this information is probably true (the agenda for the coming year for the character's corporation), some of it rumor (the agenda for a competitor) and some might be wildly inaccurate or fall under the heading of a Delusion.

The GM must keep track of what is really happening in his world, and in what direction he wants the campaign to proceed.

Example: The PCs have been hired by Eurodyne International to steal the last five years' financial records of the Takashi Corporation. (This directly furthers the plot of the campaign, which is a corporate war to the death between Eurodyne and Takashi.) So far, through several episodes, the PCs have not been able to crack the Takashi central computer or to get into the warehouse where the physical records are kept. A fixer called The Rodent, however, promises them the passwords to Takashi's system if they will do a little job for him…

In this example, the PCs may be completely unaware of the war between Eurodyne and Takashi. All they know is, they've been hired to do a job. As the plot advances, however, and the team leams more about the situation, they may be able to turn the situation to their advantage, possibly making money from *both* sides of the conflict.

Eventually, the plot will resolve itself. The villain may triumph, but if the heroes were smart, they'll survive, and even collect hazard pay. It's then time to move on; a good GM will have planted the seeds for the next set of adventures somewhere in the middle of the previous campaign.

Technology and Change

One of the central themes in cyberpunk literature is the radical change in society brought about by advances in technology. Cyberpunk is true science fiction, in that the science, the technology, is central to the plot. This should also be true of a cyberpunk game.

A cyberpunk adventure will often center on some technological achievement or scientific phenomenon which will have an important impact on the game world. The prime movers in the plot will either support or oppose this change, and they will affect the other NPCs who will in turn affect the players.

Campaign Realism (Continued)

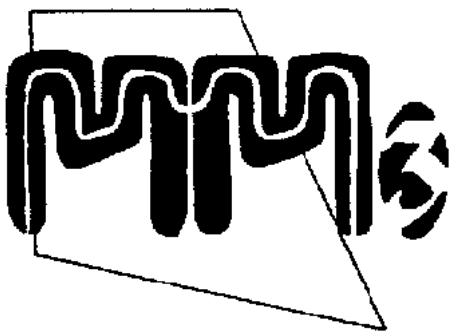
In a cinematic campaign, the GM is free to play up the power and romance of cyborged bodies — and ignore or downplay the pain, embarrassment and maintenance expenses. He can freely improvise the sights, sounds and smells of a trip through cyberspace, without worrying about reality checks. And death, when it comes, should be quick and heroic, but always with time for a few brave last words.

Cyberprep

This can be a character type (see p. 13). But it can also be a whole style of campaign. Cyberprep assumes that all the technological advancements of cyberpunk have taken place… but life is *fun,* not gritty or dangerous.

In a cyberprep campaign, netrunning is an an form or a medium of entertainment. Body modifications are used for sports and pleasure. Society, at least at the PCs' level, is leisure-driven. (There are probably a lot of cyberpreppies in the average cyberpunk world, but you rarely meet them; they're the soft, spoiled children of the rich exploiters.)

So where's the adventure? It could come from the intrusion of uncivilized elements into the cyberpreps' happy existence… or it could be an innocent Tom Swiftian tale of cyber-enhanced travel and exploration, with the only dangers coming from nature. But on the whole, cyberprep is probably best for a short "change of pace" adventure, rather than a full campaign. It's just a little bit *too* nice.



Brand Name Flash

One of the things that adds interest to cyberpunk (both campaigns and literature) is to use brand names for products. This is in keeping with the fashion-oriented spirit of the genre. Besides, a Miriko Mark III cyberdeck sounds more interesting (and believable) than a "Complexity 3 cyberdeck." The GM can either make up his own brands or use those of existing companies.

Cross-Genre Cyberpunk

Some of the gadgets or style of the cyberpunk genre can be used to cross-fertilize other types of campaign, with interesting results… Many of these have been anticipated by science fiction writers or filmmakers, as noted below; see the Bibliography for more details.

Cyberpunk/Space

This is the most obvious crossover. Just push the timeline ahead by 50 years or so. Actually, this is the most realistic way to do a space campaign, though not the most familiar. The far future will probably be much more like, for instance, *Vacuum Flowers* than it will be like a Doc Smith space opera. Future society probably won't be anything like the 1940s and 1950s, and technology will change a *lot* more than the way people get from place to place and the kind of pistols they carry.

The big thing to remember about fa-future cyberpunk is that it will be truly *ultra*-tech. The mind and body changes available to a 23rd-century Solid Citizen would probably amaze, disgust and *frighten* that 2050 netrunner!

Cyberpunk/Special Ops

This is another perfect fit. The basic missions of Special Ops are infiltration, sabotage, counter-terrorism and insurgency. This is perfect cyberpunk material. Read ***GURPS Special Ops*** for background; then assume that your mission teams have all the latest enhancements. Many of their opponents will be civilian "bunnies" with no enhancement or equipment at all… such easy prey that it may not be necessary to harm them. But some will have standard military-issue gear, inferior in quality but dangerous in numbers. And some foes, especially terrorist targets or elite security forces, will be your match in every way.

Keep in mind that a cyberpunk special ops team is as likely to be employed by a megacorp as it is to work for a government. A PC team could be a mercenary unit, selling its loyalties to a new employer in every scenario.

Cyberpunk/Time Travel

It it's possible to explore past history. The obvious agent to send is the man (or woman) whose outwardly-normal body conceals incredible powers. Even the time machine could be built in. And a technology that can travel in time should have no trouble with infrared eyes, razor claws, and even pop-out navel shotguns.

Of course, in a really challenging time travel scenario, there are likely to be history-hopping foes… and they, too, may be formidably augmented. Especially if their "home time" is a few years later than your own…

Continued on next page…

CAMPAIGN PACE

A cyberpunk campaign, no matter what the style or background, should be swift and deadly. In a future world where all of life seems stuck on Fast Forward, even *boring* people move quickly. The interesting ones — the type that players will want to roleplay — live for nothing but action.

So… as the GM, if nothing seems to be happening, it's your job to make something happen. *Now.* Let the PCs find something interesting, or meet someone interesting… perhaps at gunpoint. It may be a red herring; it may have nothing to do with the plot at all. But keep the game moving. When the evening's over, you'll have time to do a bit of retroactive planning, and plant the clues that will weave your improvisation into the fabric of the campaign.

And the GM should reward the characters who think and move quickly, and penalize the indecisive. That doesn't mean that nobody should be allowed to plan ahead. Springing a well-planned raid, or a better-planned trap to catch raiders, is exciting and essential. But the enjoyable part comes from the action. The planning should be secondary.

The players should always have the feeling that inaction will result in the flow of events passing them by (or sweeping them under!), and while the first impulse might not be the best, it beats sitting around talking!

Not all the action must (or should) be combat — strange phone calls, news updates about the latest shooting war, hot rumors from street contacts and the appearance (and disappearance) of important NPCs will all let the characters know that things are happening…

Live fast, die young, and leave a highly-augmented corpse… that's cyberpunk.

GROUP DYNAMICS

In a cyberpunk campaign, the GM must consider what kinds of characters will be playing, how many of them, and how they are connected to each other. The "band of doughty heroes who meet in a tavern and join to go on exciting adventures…" setup, common in many different genres, is not very appropriate in a cyberpunk campaign. Many features of more traditional role-playing campaigns must be changed.

PC Types

The GM should determine what kinds of player characters are appropriate for the campaign before beginning it (see the Campaign Plan on p. 128). A street gang or rock group is unlikely to have a cybertank jock at their disposal. Most two-group combinations can be rationalized, but the GM has to look at how larger groups will work together; a group with a corporate executive, a homeless drifter and a mobster could be set up, but it would be stretching things a bit. The GM should be aware of what kinds of plots he's going to run and what kinds of skills and resources will be necessary to cope with the problems he's going to pose. When he brings characters into the group he should consider what kind of contribution they will make to solving those problems. If it's likely that cybered assassins are going to go after the PCs, then they should have someone with some bionic combat enhancements in the group. Netrunners are integral to the genre, but can be boring for other players to watch in action; if the GM isn't prepared to do one-on-one role-playing with the netrunner while the rest of the players are idle, he might want to have the group's netrunner be an NPC.

Unalloyed heroes are rare in cyberpunk literature, and they should be rare in cyberpunk gaming as well. On the other hand, soulless killers and unredeemably venal graspers can grow rather tiresome, both to watch and to play.

Cyberpunk PCs should be a complex mix of positive and negative traits; these don't have to be consistent, so a character may be pushed to seemingly random actions that don't serve his self-interest. The theme of the search for identity, of coming to terms with a discordant mix of motivations, is important in cyberpunk. PCs can begin with some illusions about themselves, and some inconsistencies, which can be worked out over time.

Number of Players

A one-player campaign (plus GM) can be very interesting. The GM can control all aspects of the environment, and all the NPCs, so the player never knows who to trust and who not to trust. The game can go at the pace of the GM and the player, and the player can follow whatever angles of the plot he wants to, in whatever depth.

Cyberpunk literature often features two main characters who rely on each other, a well-balanced pair able to handle any situation. Thus, a GM may wish to set up a game with two PCs; this gives players someone to share their experiences with, and still lets them go into as much depth as they want to. Two-person groups rarely keep secrets from each other. The PCs may even be linked directly in some fashion, either by some sort of sensors on one or the other, or even a direct link through the Net. There is a degree of intimate camaraderie in a two-player group that simply cannot be maintained in a larger group.

A group with more than a couple of players invites conflict and betrayal. The PCs should be given a reason to trust each other, perhaps they have a common history, perhaps they are a team assembled for some specific purpose. Most adventures in this kind of campaign will be missions assigned by a patron.

A diverse group will be interesting, but difficult to run, since PCs with different specialties they will attack problems in radically different ways. It is more likely that a large-group campaign will have PCs similar to each other, such as a research team, a military squad, a street gang, a business enterprise, a musical group, etc. In any case, the GM must create reasons for the PCs to work together as a group. See the sidebars on pp. 120-121.

Backstabbing

It's very easy for a player to say, "I want to have a character who is working against the group." In fact, mistrust and betrayal are a common theme in cyberpunk literature.

However, it makes difficult gaming. In other genres, it would be rare, and would therefore add an interesting surprise twist to a plot. In cyberpunk games, it's just too predictable. It only takes one incident to permanently turn all the players against each other. Some players may, briefly, find working with their enemies to be intellectually stimulating, but over a long-term campaign it can be prove damaging.

This is not to say that individual characters can't have hidden agendas. Characters in a cyberpunk campaign can work toward secret goals. However, such differences should not generally lead to violent confrontations.

If the GM does want to set up a betrayal situation, it's best to use an NPC. Most players will expect this, so it will take some work from the GM to pull off properly. It works best when the PCs interact with *many* NPCs on a regular basis, some friendly, some hostile, and some neutral. In such a detailed campaign, the betrayer should not be a hostile or neutral. It's one of the *friendly* NPCs, established over a number of game sessions, preferably one who has already shown that he's on the side of the party, by taking risks or making sacrifices on the party's behalf. This can be a good person compromised by enemies, or a plant, set up originally by a villain, waiting to strike at the proper moment.

Cross-Genre Cyberpunk (Continued)

Cyberpunk/Fantasy

There are two ways to play this. The first is the approach taken by ***Shadowrun*** — Elves 'n' Orcs in a cyberpunk background. No problem; just take all your standard fantasy races and give them guns, mohawk cuts and an attitude.

An alternative approach is to keep the attitude (and maybe the mohawks) but drop the technology. Imagine a fantasy background rim with the cyberpunk ethos… with magic taking the place of bionics and the Net as the "source of power." Wizards aren't sages or merchants; they're hard-edged, alert businessmen. They and their bodyguards have all the magical augmentations that money can buy… Dark Vision instead of IR eyes, amulets of increased strength and dexterity, and so on. Anything that cyberpunk technology can do, magic can do as well.

Now think about the fantasy version of the cyberpunk society… stratified, ruthlessly mercantile. For "megacorporations," read "merchant houses." For "Net entities," read "demons."

Cyberpunk/Horror

Horror and cyberpunk work well together. In a cyberpunk world, there are perfectly reasonable natural explanations for any number of awful things. "Thirty of them? Tongues and thumbs missing? Green ichor on the walls? Yep, sounds like another Darbraxin lab; we'll get to it next Tuesday, if nothing comes up." And the undercity is full of cults and would-be curse doctors. So the characters, and the *players*, will be all the more surprised when they meet the *genuinely* occult.

Whether it's a simple case of a voodoo-man who makes *real* zombies. or a full-scale invasion of Evil Things, the fully-augmented, streetwise outlaws (or cops!) will be better equipped to handle them than their 20th-century counterparts.

Cyberpunk/Supers

This one can be a *lot* of fun… The obvious method is to have a modern-day Gadgeteer character, who does wonderful one-of-a-kind bionic augmentations to build a team of super-crimefighters… or super-villains… or, perhaps, just supers for hire, with no real bias toward good or evil as long as it pays. Backed up by a mentor who is a master of the world's computer networks, they're a super-team to contend with.

The opposite approach would be to take four-color superheroes into the gritty cyberpunk world. Now, that world is *not* a place for heroes. But suppose that you happen to be strong, indestructible and pure of heart. Now, if you *want* to wear a cape and fly around fighting crime, who's going to stop you?

Lone Wolves and Groups

Most of the heroes of cyberpunk literature are loners. On the rare occasions when they trust others, they often have cause to regret it. Cyberpunk is, as much as anything, a literature of betrayal… by friends, by society, by technology.

But most roleplaying occurs in groups. While one-on-one roleplaying (that is, the GM and one player) is fun, group gaming is much more common. And it is difficult to maintain a continuing campaign in a background that encourages distrust! If every player picks his favorite cyberpunk archetype, and they all meet in a bar, good roleplaying will almost *require* a shootout.

There are several possible ways around this, but they all require the players to cooperate by creating characters that *could* work together. This will mean the GM will have to explain what he wants at the beginning of the campaign.

The Gang

The player characters are all part of the same group, and have all known each other for some time. The group might be a street gang, a mercenary team, or a corporate security squad. Players who insist on a slightly different background could be old and tested friends — a single street contact for a security squad, for instance. The GM must emphasize, as characters are created, that everybody knows everyone else and trusts everyone else. Rivalries are all right; hatreds are not.

This campaign can still allow for a great variety of character types. For instance, a mercenary team could easily include computer experts, heavy-weapon types, an administrator and deal-maker, and someone with underworld connections.

The Cop Shop

The PCs are all law enforcement officers. Some are uniformed: some are plainclothes, with street identities as samurai or scum; one could be a console cowboy.

While police PCs shouldn't have a motive to betray each other, the likelihood of corruption somewhere in their department can keep things interesting.

The campaign does not have to stick to law enforcement. Policemen in a c-punk world are likely to develop some interesting enemies and other personal problems, which will provide a break from "solve this case by next Tuesday, or else."

Continued on next page…

Either way, it should be someone the *players* have truly come to count on, someone they'd risk their characters' lives to protect. Then the betrayal will be a genuine surprise. Thus, it only works well later on in a long-term campaign.

It is possible to have a PC *involuntarily* betray his fellows, by drugs, brainwashing, or cybernetic mind control of some sort. In this case, the betrayal will not be something "in character" for the PC, so the party (or at least the survivors) can forgive him for it afterwards. However, anything less coercive falls in a different category; even something like blackmail, such as a threat to a loved dependent, creates a measure of voluntary betrayal on the player's part that will cause lasting mistrust.

PCs in a cyberpunk campaign have more than enough to worry about from direct enemies, powerful authorities of whatever sort, random violence, and even ordinary day-to-day living in a world of social and environmental collapse. The GM should not *encourage* them to betray one another. It will be hard enough to keep them from doing so anyway.

Death

People die. In cyberpunk, people die a lot. Players should be aware of this point. If a player has a tendency to get *deeply* attached to characters, then cyberpunk may not be the best genre for him!

To keep players from getting *too* discouraged, the GM can try to make sure that characters die in ways that are in some way meaningful, perhaps even heroic. And the GM shouldn't "hose" the players. If the scenario is set up so that the PCs are doomed from the start, the players may not want to play again. If there is a chance for an intelligent character to survive, then PC deaths are likely to be seen as "fair." The players will just be more careful with their next characters.

Of course, in some campaigns, even death is only temporary…

THE OPPOSITION

In cyberpunk, change — technological, social and environmental — is increasing at an exponential rate. The important characters in a cyberpunk campaign will be most affected by these changes. This will make them hard to understand — perhaps alien, even — but they will only be manifestations of this rapid change, and their actions will often merely be reactions intended to cope with their environment.

NPCs, however, will generally have understandable motives. They don't necessarily need to be likable, but they should be subject to ordinary human vices, and even the worst ones should have a virtue or two. Many characters, both player and non-player, will act hard as nails, but that's usually a mask covering their *true* feelings. The GM should be aware of such depths in NPCs; it will make them more realistic and interesting.

And the opposition should behave intelligently. Corporate executives and security men don't get where they are by being stupid. It's their job to understand how the world really works, even at levels of society they don't personally interact with. On the other hand, some of the NPCs who appear the most effective and street-smart may be desperately naive, even about the circles they travel in. The street op who has romantic visions about his grubby, impoverished little world and the pointless gang battles, the holovid performer who believes he's as powerful as the heroes and moguls he plays for the cameras, the uptowners who think they can buy happiness — all of these will actually be *less* formidable opponents than they appear at first glance.

CAMPAIGN THEMES

Even the most carefree, shoot-'em-up campaign will have an underlying theme of some sort. This is especially true in cyberpunk, which by its very nature is a politically conscious genre.

The Struggle for Power

Cyberpunk is about the effect of technology on mankind and society. Usually, this is shown through a struggle for power, as society tries to adapt to the ever-increasing rate of technological change. Power plays can exist on many different levels — from control of a city block or a valuable ROM deck to world domination.

Economic Struggle

The economic system in cyberpunk worlds often revolves around the mega-corporations. They will be the center of most economic struggles as well, as they attempt to crush their competition — whether it is another large corporation or a lone inventor — and as idealists and revolutionaries take on the corporations as symbols of society's ills.

This suggests several campaign themes. The PCs might be dissatisfied employees attempting to defect to another company — which will be actively discouraged by their current bosses! Or perhaps they have become disillusioned with company policies and seek to redefine the corporate structure from within.

Or the PCs might be outsiders who have uncovered a corporate secret. Will the coverup offend their personal morals to the point that they go after the company, or will they take their evidence to the authorities or the media? And what if the business in question turns out to control the authorities and the media?

The economic struggle can be carried out on any level as well. This could be two dealers fighting over who controls a particular street corner, rival crime families struggling over domination of an entire city, or two nations fighting over a newly-discovered oil reserve.

Political Struggle

In any given political system, there will *always* be someone dissatisfied with the current state of affairs. If the government is powerful and oppressive, the general public may passively support revolutionary groups — though it takes an overwhelmingly grim and ruthless regime to turn the *average* citizen into a revolutionary.

And, though idealism is rare in a c-punk world, it shines all the more brightly when it appears. PCs might be members of a city police department struggling against a corrupt commissioner or mayor, or civil servants who are fighting against a greedy bureaucracy, or perhaps one of the PCs is a newly-elected politic who is somewhat shocked when he finds out how things *really* work! Whatever the case, there will be opportunities for the characters to take moral and ethical stands.

Religious Struggle

The concept of religious tolerance is a fairly new one, historically… and it may not last. Characters might be fighting against a state-established religion — either for their own religious beliefs or for the right to reject those espoused by the government.

Lone Wolves and Groups (Continued)

The Op Team

This is a team of specialists, assembled for a specific mission by a specific employer — maybe the government, but more likely a corporation. In this particular case, their mutual loyalty is, or should be, guaranteed by the large bonus they stand to collect when the job is over. One might sacrifice another to get the job done (as a matter of fact, you can depend on it), but there are good reasons not to shoot each other in the back.

After the mission is done, such a team might conceivably be kept together if they had done well. They might even resign together and form a freelance team. Of course, their former employer might *strongly* resent losing their services…

Overriding Common Interest

In this campaign, the players can be free to create absolutely any type of character they like… but they must do so before the campaign's starting day. They turn the character sheets over to the GM, who will probably make a few alterations on each one. He then discusses these changes with the players.

The point of this review and alteration is to give each character something in common — something having to do with the campaign the GM plans. For instance, suppose the point of the campaign is to reveal the violent eco-terrorist connections of the Kenya office of PanAfro Corporation. The GM rewrites each character background to give the character a reasonable grudge against PanAfro. The computer whiz was discharged from that office because he spoke out against PanAfro's destruction of the veldt. The ex-bodyguard also worked for PanAfro; he overheard a conversation he shouldn't have. and barely escaped assassination. The broker lost a thriving business, several friends, and an arm, all to PanAfro's enforcers. The one-time honest cop was fired to make room for someone PanAfro could bribe. And so on.

While there is no guarantee that this party will work together in perfect harmony, good roleplaying should keep them from each others' throats until the objective has been reached. If the campaign continues further, they'll be less likely to want to betray old comrades in arms. And if they *do* betray each other, it will be a *meaningful* betrayal, by an old friend — not a casual backshooting.

Cyberpunk Soundtracks

The underlying principle of cyberpunk fiction — struggle — also the theme of many different forms of music. The GM who wishes to set the mood (whether to run a game or work up the next week's play session) can turn to any of a number of styles, depending on the effect sought.

Heavy Metal — prototypical cyberpunk music, in great part because the musicians take great pains to appear as if they've crawled out of an urban jungle. Appropriate groups include Metallica, Motorhead, Guns n' Roses, Judas Priest, AC/DC, Skrewdriver or Venom.

Punk — the original off-the-wall, renegade sound. If the room is large enough, encourage the players to slam-dance a bit. Try the Sex Pistols, the Ramones, Skinny Puppy, Tuff Darts, the Big Boys, the Circle Jerks or Black Flag.

Rap — the music of the urban resistance. Some groups concentrate on rebellious antiauthoritanan lyrics, while others espouse the violent overthrow of the U.S. government. Groups to grab include Public Enemy, NWA, anyone with Boogie Down Productions and 2 Live Crew.

Reggae — the sound of the Rastafarian struggle. Bob Marley is a must; others include Peter Tosh, Ziggy Marley, King Yellowman, Jimmy Cliff and Aswad.

Technorock — this is a very high-tech, synthesized sound that fits in well with working on the Net. Good examples are Devo, the Art of Noise, Rick Wakeman, INXS, Thomas Dolby and Kraftwerk.

New Age — No struggle here, but many New Age composers use complex themes and electronic instruments, evoking a bodiless drift through cyberspace. Try Kitaro, Andreas Vollenweider, Phillip Glass and Tomita. Electronic renditions of Bach also fill the bill.

Angst Rock — Artsy music for those who wear black. This is music to be alienated by — dress up, get depressed, take drugs and die! Appropriate examples include X, Velvet Underground, Sonic Youth, New Order, Brian Eno, Siouxie and the Banshees and Lou Reed.

ADVENTURE THEMES

Generally, the logical motivations for a diverse group of characters will fall under one of three basic plots — the rescue, the defense and the quest. When planning a c-punk adventure, think first in terms of these three archetypes.

The Resque

The bad guys — be they a rival street gang, corporation or government — have something that the PCs want. This doesn't have to be a person — stealing the plans for a new cyberdeck is a "rescue" of sorts! This can give a group a common cause to work toward. But this *doesn't* mean that all of the players have to want to rescue the person/item for the same reason! This is a good way to allow players to explore different motivations for their actions. One character, may be along to make a buck, while another is after revenge. Still a third is along just because "it's the right thing to do."

The Defense

The PCs have something that the bad guys want, and they must protect it. It doesn't have to be a mere physical possession — it could be information, or it could be that the PCs are defending someone that is too weak to defend themselves. Again, this allows the party to have several different motivations while ensuring that their basic goals are the same.

The Quest

Something is missing/lost/needed, and the PCs are racing to get to it before the bad guys do. It might be as valuable as a prototype cyberdeck, or as mundane as the contents of a dumpster from a high-security area. Perhaps the antagonists aren't actually competing for the quest object — but there needs to be some kind of time pressure to move the plot along. "We have 24 hours to find the code key, or the nuke will take out San Fran."

Plot Flexibility

No matter how carefully the GM works out his plots, every so often his characters will completely disregard all of the carefully laid-out clues and go off on a completely different track. When this happens, the best thing to do is to let them do what they like, but work the elements of his plot into their plans. "Railroading" the party — constraining them to one course of action — seldom works.

Example: The GM has dropped hints that there is some important information on a computer system in Baltimore. The PCs, however, don't want to be bothered — they've just made a pile of money on their last assignment and decide to go blow it on a skiing excursion to Tasmania.

The GM could find several ways to keep the characters in America and railroad them into finding the information, but decides instead to help them set up their siding expedition. Only once they get to Tasmania, they find there's no skiing — they forgot that it's the middle of summer in Australia when it's winter in the Northern Hemisphere. In addition, the party finds that their credcards don't work in Tasmania. The nearest reader that accepts non-Australian credcards is in Melbourne — the hotel manager says politely that they don't get many tourists, as he explains that he needs payment within 24 hours or they'll be arrested. Their plane tickets have a 100% penalty for any changes. They're stuck with no way to get food or pay their hotel bill, until it occurs to a cowboy that he could hack into the local Net and connect with their bank back home. And of course, in the American net he finds the information the GM wanted to pass along…

GLOSSARY

The cyberpunk genre is rich with its own language. Some of the most common terms are listed below. An asterisk indicates a term first coined by William Gibson in *Neuromancer*, the novel that essentially created the genre. (It could be argued that the act of creating this evocative vocabulary was one of the most significant acts in defining the concept of cyberpunk.)

Bionics — High-tech prosthetic parts. See *cyberwear*.

Biz* — business. Usually, illegal business.

Black clinic* — an unlicensed medical facility. Offerings may include illegal transplants, stolen or illegal cyberwear, experimental treatments (e.g., longevity), or cloning services.

Black ice* — a counterintrusion program that can do actual damage to an intruder, some can even kill. See *ice*.

Bomb — also known as a *logic bomb*, this is a computer program set to activate whenever a certain condition is met on the system it's installed on. Effects can range from trivial (a message appears on the screens of all users) to destructive (the backup disks erase themselves and the machine melts).

Chip — a small integrated circuit that contains a program or data. Cyberwear chips are accessed directly by the brain through a socket on the body.

Console cowboy* — slang for hacker, especially a hacker who works with an interface.

Corp or Corporate* — anyone employed in mainstream business, especially anyone working for a mainstream corporation. It implies a "company man" and faceless conformity.

Cyberdeck* — the hardware used to access a computer network through a neural interface (see p. 72).

Cyberspace* — slang term for the global computer network.

Cyberpunk — the "high-tech low-life" genre of science fiction; also used to indicate a computer hacker.

Cyberstealth — any equipment or modification that allows the user to move silently and without detection.

Cybertech - see *cyberwear*.

Cyberwear - any equipment or technology that links bionics with the human body and mind.

Cyborg — someone who has had parts of their body replaced with bionic parts.

Daemon - a program that runs in the background of a computer operating system. It doesn't require a user to monitor it — it talks directly to the operating system.

Deck* — slang term for cyberdeck.

Decker* — someone who uses a cyberdeck.

Face — slang for interface.

Flatline* — from "flat EEG line." A decker who has had his brain turned off by hostile "ice" has been flatlined.

Flip — A reflex chip. See p. 40.

Go-to* — A dossier, usually illegally compiled.

Hack - to penetrate (or at least attempt to penetrate) the security of a computer system.

Hacker - one who hacks, whether for personal gain or just the thrill of it.

Ice* — Intrusion Countenneasure Electronics. Shorthand for any computer security programs.

Icebreaker* — any program designed to penetrate or foil ice.

Implant — a term for cyberwear (usually internal).

Interface — the software/hardware link that allows a person to communicated directly with a cyberdeck and the network.

Interface jockey — a hacker.

Jack in/out* — to enter or leave cyberspace, usually by unplugging the interface from your head.

Matrix* — another term for the global computer network.

Megacorp* — a giant, multi-national corporation; often larger (and more powerful) than governments.

Merc — slang for a mercenary.

Microsoft* — A temporary implant; a skip, entertainment chip or other computer chip designed to be plugged in to a user.

Mod — modification. Any sort of cyberwear.

Net* — slang for the global computer network.

Netrunner* — slang for a hacker.

Neural interface — a direct connection between a computer and a living human brain (see pp. 41,71-72).

New Yen* — a hypothetical Japanese currency.

Night City* — The "bad part of town," with nightlife, neon, crime and danger.

O-ROM — Occupational ROM Chip (see p. 40).

RAM — Random Access Memory. A memory device that has a certain amount of space that can be erased and rewritten at will.

Razorgirl* (or razorboy) — A street samurai with combat cyberwear. The classic "razorgirl" has blade implants.

Rogue program — any program designed to harm the host computer, steal or modify data, or otherwise work against the interests of the computer's legitimate owner and users.

ROM — Read Only Memory. A memory device that has only one unmodifiable program or set of data on it.

ROM deck — a cartridge containing a program burned into a ROM chip. Plugs into a cyberdeck.

RPV — Remotely Piloted Vehicle (see p. 52). Any vehicle that can be radio-controlled. In a cyberpunk world, most RPVs are controlled directly by a neural interface.

Skip — Skill chip. A ROM chip with a certain skill burned into it (see p. 40). The user of the skip acquires the skill.

Softhead* — Short for software-head. Someone who habitually uses skips, personality implants or other microsofts.

Sprawl* — a huge urban area created when cities flow together and combine.

Street op — anyone who makes his living "on the streets," usually, but not always, by illegal means.

Street samurai* — a street op who specializes in strongarm tactics. Most samurai are significantly cyborged.

Suit — slang term for a corporate.

Tempest — a device that can detect and read computer output from a distance. See p. 62.

Time bomb — a rogue program that executes itself at a specified time. See *Bomb*.

Trip — A microsoft containing a preprogrammed adventure.

Trojan — a rogue program that disguises itself as a legitimate program or attaches itself to a legitimate program.

Virus — a rogue program that can be transmitted from machine to machine through shared software or hardware.

Yak* — Short for *yakuza*, a Japanese mobster.

Wirehead — An individual who is "wired" for direct electric stimulation of the pleasure centers: a "current addict."

Worm — a rogue program that actively seeks to propogate itself from computer to computer via the netowrk.

Zaibatsu* — A megacorporation. The term originally referred to the pre-WWII Japanese industrial combines.

BIBLOIOGRAPHY

The cyberpunk genre has spawned a great many books, movies and other works in just a few years… and the precursors of cyberpunk were many and varied. Space doesn't allow us to place a detailed bibliography here. Instead, we'll discuss a few the most important works in each category, and list the rest by name. A title in boldface indicates a particularly significant work. An asterisk indicates a nonfiction title.

BOOKS AND SHORT STORIES

Beyond a doubt, the seminal work of cyberpunk is William Gibson's *Neuromancer.* Along with its first sequel, *Count Zero,* it set the tone for the genre. Gibson also originated most of the cyberpunk vocabulary; terms like "cowboy," "black ice," "street samurai" and many others First appeared in his works.

The novels and short stories of Bruce Sterling — especially *Schismatrix* and the other works set in the same background — have also been very influential in the development of the genre.

Many of the titles listed below could not be termed cyberpunk in themselves… yet they contain significant c-punk elements, and would likely be of interest to a player or GM interested in the genre. For example, consider Aldous Huxley's *Brave New World* and C.J.Cherryh's *Cyteen.* While their world pictures are in no sense cyberpunk, both contains detailed speculations about the mechanisms, technological and social, of "building" human beings for specific tasks.

1984 — George Orwell
The Adolescence of PI — Thomas P. Ryan
Ailen — John Gilbert
Alien Speedway — Roger Zelazny
Alien and *Aliens* — Alan Dean Foster
Alongside Night — J. Neil Schulman
Angel Station — Walter John Williams
The Annals of the Heechee — Fredric Pohl
The Artificial Kid — Bruce Sterling
Borderlands and ***Bordertown*** — Terri Windling, editor
Brave New World — Aldous Huxley
Burning Chrome — William Gibson
Cat's Paw — Joan Vinge
City Come A-Wonder — John Shirley
A Clockwork Orange — Anthony Burgess
Cobra, *Cobra Bargain* and *Cobra Strike* — Timothy Zahn
Colonies in Space — T.A. Heppenheimer*
Colony — Ben Bova
Company Man — Joe Clifford Faust
Computer Lib/Dream Machines — Ted Nelson
Count Zero — William Gibson
The Cybernetic Samurai — Victor Milan
Cyteen — C.J. Cherryh
Do Androids Dream of Electric Sheep? (Blade Runner) — Philip K. Dick
Dr. Adder — K.W. Jeter
Dreams of Flesh and Sand — W.T. Quick
Quick Dreams of God and Men — W.T. Quick
Quick Eclipse, Eclipse Penumbra and *Eclipse Corona* — John Shirley
Electric Forest — Tanith Lee
Emerald Eyes — Daniel Keys Moran
Ender's Game — Orson Scott Card
Fahrenheit 451 — Ray Bradbury
A Fire in the Sun — George Alee Effinger
Friday — Robert Heinlein
Frontera — Lewis Shiner
Future Shock — Alvin Toffler*
Giant's Star — James Hogan
The Glass Hammer — K.W. Jeter
The God Came — Andrew Greeley
Gravity's Rainbow — Thomas Pynchon
Hardwired — Walter Jon Williams
When Harlie Was One — David Gerrold
The High Frontier — Gerald K. O'Neill*
The High Road — Ben Bova
The Human Use of Human Beings — Norbert Weiner*
Hunter/Victim — Robert Sheckley
In the Drift — Michael Swanwick
The Iron Dream — Norman Spinrad
Islands in the Net — Bruce Sterling
Johnny Zed — John Gregory Betancourt
Lacey and His Friends — David Drake
Lifeburst — Jack Willamson
Little Heroes — Norman Spinrad
Lord of Light — Roger Zelazny
Marooned in Realtime — Vernor Vinge
Masterplay — William F. Wu
The Matrix — John Quarterman*
Max Headroom — Steve Roberts
Megatrends — John Naisbitt*
Memory Wire — Robert Charles Wilson
Mercedes Nights — Michael D. Weaver
Millennia — Ben Bova
Mindhopper — James B. Johnson
Mindkiller — Spider Robinson
Mirrorshades — Bruce Sterling, editor
Mona Lisa Overdrive — William Gibson
The Mutants are Coming — Isodore Hairblum
Neuromancer — William Gibson
Oath of Fealty — Lairy Niven and Jerry Pournelle
The Ophiuchi Hotline — John Varley
Outland — Alan Dean Foster
Proteus Unbound — Charles Sheffield
Psychodrome and Psychodrome II — Simon Hawke
RoboCop — Ed Naha
Schismatrix — Bruce Sterling
Shockwave Rider — John Brunner
Sight of Proteus — Charles Sheffield
Sleepwalker's World — Gordon Dickson
Silico Sapiens — Joseph Deken
Software — Rudy Rucker
Stand on Zanzibar — John Brunner
Svaha — Charies de Lint
The Taking of Satcom Station — Jim Baen and Barney Cohen
The Tenth Victim — Robert Sheckley
The Third Wave — Alvin Toffler*
This Cybernetic World — V.L. Parsegian*
This Perfect Day — Ira Levin

Time Pressure — Spider Robinson
Tom Paine Maru — L. Neil Smith
Tower to the Sky — Philip C. Jennings
True Names — Vernor Vinge
Vacuum Flowers — Michael Swanwick
Valentina — Delany and Sriegler
Victim Prime — Robert Sheckley
Voice of the Whirlwind — Walter Jon Williams
Warbots — Harry G. Stine
Web of Angels — John M. Ford
Wetware — Rudy Rucker
Wild Card Run — Sara Stanley

COMIC BOOKS AND GRAPHIC NOVELS

The comics show, more than any other medium, the international nature of cyberpunk. The world of the British *Judge Dread* is quintessentially cyberpunk, though it is a comic book — little effort is made to be consistent from issue to issue, and many of its elements are deliberately silly. The same could be said of *American Flagg* in the United States with, perhaps, less silliness and more satire. *Dirty Pair* is a Japanese import set farther in the future than most cyberpunk stories, but the technology and attitude are definitely both cyber and punk!

Akira
American Flagg
Appleseed
Batman: The Dark Knight Returns
Bubblegum Crisis
Cyberpunk
Dirty Pair
Eagle
Electric Warrior
Grendel
Grey
Haywire
Johnny Nemo Magazine
Judge Dread
Marshal Law
Outlanders
Shatter
Sonic Disruptors
Those Annoying Post Brothers
Time 2
Vfor Vendetta
Watchmen
Tenon

MAGAZINES AND ELECIRONIC NEWSLETTERS

Some of these are science fiction and science fiction criticism; others are are sources for real-world data for reality checking and further ideas. Some, like the Usenet newsgroups and our own Illumninati Online are available to anyone with a modem; others (*) have very limited circulation, and just being on their mailing list is a good way to attract official suspicion…

Not listed here are the mainstream magazines of the computer hobby/industry — but any of them can have appropriate information from time to time

*2600**
Aboriginal SF
Amazing
Analog
Computer Underground Digest (available through Usenet)
*Cybertech**
Fantasy & Science Fiction
Illuminati Online (modem 512-448=8950, telnet io.com or http://www.io.com)
Isaac Asimov 's Magazine of Science Fiction
*Legion of Doom Technical Journal**
Mondo 2000
*Phrack Inc.**
*Reality Hackers**
*TAP**
USENET: alt-hackers and *alt-cyberpunk*

MOVIES AND TELEVISION

Certainly, *Blade Runner* was the first real cyberpunk movie. It finnaly established the "look" of the genre, with its exposition of grime and neon. Max Headroom built on the same images and developed the social background further. It is interesting that "Max" adopted, and helped to popularize, Gibsonesque terms like "black ice." A *Clockwork Orange* isn't high-tech, but its hellish London, infested with drugs and "droogs," is a perfect c-punk city.

The Abyss
Akira
Alien
Aliens
Android
Blade Runner
Brainstorm
Brazil
Cafe Flesh
Cherry 2000
A Clockwork Orange
Deathwatch
Dead-End Drive-In
Eliminators
Escape from New York
Futureworld
Hands of Steel
Liquid Sky
Logan's Run
Looker
Metropolis
Max Headroom
1984
Outland
Overdrawn at the Memory Bank
Parts: The Clonus Horror
The Questor Tapes
Radioactive Dreams
Repo Man
Robocop
Rollerball
Runaway
Saturn 3
Scanners
The Six Millon Dollar Man
2001: A Space Odyssey
THX 1138
Trancers
Tron
Videodrome
Wired to Kill
Westworld

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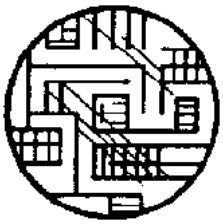

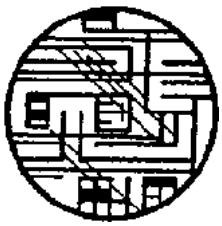

GURPS CYBERPUNK CAMPAING PLAN

GM:_____ Date:_____

General Information And Background

Campaign name: _____ Campaign's starting year: _____ Rate game time passes: _____
Campaign's base location: _____ Starting point level: _____
Campaign background: _____
_____
_____
Description of the general style and "flavor": _____
Required reading for this campaign: _____

Campaign Technology

Campaign's TL: _____ Differences from this TL as described in ***Ultra-Tech*** or the ***Basic Set:*** _____
How common is cybertech?_____ Is there a negative reaction or social stigma associated with it? _____
If so, what? _____
What is the predominant type of government?_____ How powerful are the large corporations? _____
What are the major world powers? _____
What countries are the leaders in cyber technology?_____ In fads & fashion? _____
In medical technology? _____ In military power? _____ Other: _____
What is the economic basis of the starting country? _____
Other major countries? _____
Realistic or cyberspace network? _____ Most common type of interface (marquee, icon or environmental)? _____
Is there one global network or many small ones? _____ If just one, who runs it? _____
What level of space travel exists? _____. How common is it? _____
Are there colonies off Earth? _____ Where? _____
What are they like? _____
Is there a "Universal ID Number" that everyone is assigned? _____ Who assigns it? _____
If so, what happens to people without it? _____

Player Characher Information

Does cyberware cost money, points, or both? _____ Can it be purchased for points during character creation? _____
If yes, how much is each point worth?_____ What is the maximum points that can be spent? _____
Is Cosmetic Surgery commonly available? _____ Does this affect reaction rolls (see p. 19)? _____
Unusual Background cost(s) for cyberwear _____
Base wealth for PCs: _____ Starting social levels allowed for PCs: _____
Languages(s) the PCs will need: _____
Especially useful/useless character types: _____
Especially appropriate/inappropriate professions: _____
Advantages and skills that will be especially useful in this campaign: _____
Advantages and skills that will be worthless in this campaign: _____
Appropriate Patrons (and base value): _____
Appropriate Enemies (and base value): _____

Special Campaign Issues

Does magic exist? (Mana level, etc.): _____
Do Psionics exist? _____ Which rules (Supers or Basic Set)? _____
Is there any higher technology? (What TL? What is the source? How common?): _____
Rules variants: New skills, advantages, disadvantages (summarize) _____
Rules variants: New equipment and cyberwear (summarize) _____
Rules variants: New or optional combat rules (summarize) _____