underground™

TECHNO™

Gear and Accessories for Underground

by Paul Murphy

table of contents

TECHNO™
An Equipment Guide for Underground

100,000 Monkeys with Typewriters [and Paul Murphy]: Writing

Just a Smidge [Bryan Nystul]: Additional Material

Hodges' Harbrace College Handbook [and Doug Tabb]: Editing

Vincent Van Gogh [and Chris Vande Voort and Mari Paz Cabardo]: Graphics

Five Shots for a Dollar [John Ramirez, Rob McLees,

and Andrew Robinson]: More Graphics

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Rob McLees for watching my back.

Notes from the Underground....
Hello again my brothers and sisters. Yes, I know it's been a while since you've heard from us, but we've had to pull back five to regroup. We're back now to make 'em look both ways.

OK, so you've seen all the stuff so far: *Streets Tell Stories*; the Underground Notebook; the cool-o Underground t-shirts; the Underground GM Pack; Fully Strapped, Always Packed; and *Hell Bent* (from the boyz over at Atlas Games). Well, here's what'll be standin' out in the months ahead:

Underground Player's Handbook

Ways and Means

Steel Deep
AMI Field Manual

more info for the boosted vet on the go
the lowdown on Democracy City™, the nation's capital
the Luna sourcebook
a look inside the world's largest conflict firm

Lastly, we yanked this straight from the Underground mailbag.

To: I've Got a Beef
From: Major Disaster. Prez-in-Charge
LaCrosse. WI Chapter of the Underground™
Concerning: First Contact and Griping

Hey! So ho. Gotta say a few words before the Bug-Out. Police Spec-Forces jus' got a solid lead on our HQ address and we gots' to go. But as the big time leader. I get to evac the mailer and truth machine. so first a quick message.

First. No-Matter-What-ANYONE-Says. you're kickin' BIG-TIME rear and takin' no prisoners. <u>Proud</u> to be on the team. All of us. Ain't no other project we be workin' on than puttin' the Word out on the Street. Yours is the team wit' the Dream. and we be spreadin' it all over.

Second. DO NOT stop Puttin' out the News. You slap it out, we be BUYIN' IT. Comprende? No matter wot we gots' to do. Hear That? We be puttin' our butts on the line, so don'ts be failin' us.

Biggest Prob' right now? Not Much. We be havin' contact problems wit' our Street people. but what burns me up the Butt is this Prez Clinton and <u>her</u> hubby Bill, scan me? Jeze, gettin' so bad. I'm ex-spectin' to be seein' her face instead of George's on the Numero Uno. ya know? O.K.. yah I did bust my vote for the Willie-man. but not for his spouse. cha!

No matter. it'll change. Sooner or later. the circle comes 'round. right? Uh... oops. gots' to split. The Man be Here. and he's knockin' real LOUD. gut it? So. you'll be hearin' from us again. bet on it in the lotto. Until then...

YOUSE' GO OUT AN' MAKE SOME NOISE. HEAR?

Major Disaster
AMI 101st Screaming Eagles
Prez-in-Charge

better living through technology

Tech. That's where it's at. Gadgets. Hi-tech toys. Gizmos. Devices. Stuff.

Don't kill 'em, Sister — vid 'em. Catch 'em with their pants down. Sell the pix back to 'em for a bundle or give 'em to the newsies. Hell of a lot more fun than just scraggin' 'em... .

Lose an arm? Big snoggin' deal! Staple on another one. Grow your own, or what the hell. Build one outta solenoids, linkinlogs and plastic. Better than the original, hear what I'm sayin?

Lonely, Sister? Get a robot. They're friendly, loyal, can't give you the clap. Don't smell bad, neither.

You scared? Take a pill. You angry? Take a pill? You bored? Take a pill. You sleepy? Take a pill. Caught a little too much radiation at the plant last night? Take a pill. Bugs runnin' around the insides of your eyeballs? Take a pill. OD-ing on too many pills? Take some more pills to straighten yourself out.

This is the future, Sister. This is now. You got the whole world before you — all you gotta do is reach out and grab it. Grab it — squeeze it — suck it dry like an orange, then spit out the pits.

You have the tools.
You have the technology.
Do you have the guts?

what's in this book?

Stuff. That's what. Lots of stuff for Underground. Computers. Robots. Med tech. Chemicals. Communications gear. Spy stuff. Survival gear. And more. One-hundred and twenty-eight pages of neat gadgets to equip the heroes, villains and innocent bystanders of Underground with.

To wit:
• Pages 1 through 96 provide descriptions and rules for new equipment, along with a bunch of samples of same.
• Pages 97 through 128 are perforated; they contain the gizmos, gadgets and other junk you may find useful whilst running Underground. These pages are meant to be carefully yanked out of this book and thrust into a prominent position in your *Underground Notebook*. What? You don't have one? Get it!

Underground Notebook: Included in TECHNO and many other Underground products are several pages which are perforated for easy removal. The Underground Notebook is designed to hold these useful pages. It should be available at your local game store.

WHAT YOU'VE JUST DROPPED YOUR HARD-EARNED CASH FOR

computers

Overview

THE STATE OF
ELECTRONIC
MEDIA IN 2021

By the end of the 20th century, the information revolution was complete for all practical purposes. Virtually every bit of human knowledge on the planet was electronically encoded *somewhere*, and virtually all of this data was accessible through one or more of the great networks spanning the globe. In 2021, the data net is complete.

From his own home, using an inexpensive personal computer hooked into a modem, a person can read about the early history of the Hittites, play the stock market, download the latest thrash video into his entertainment system, and, if he has the proper passwords (or hacking Skill), he can access his neighbor's credit rating, change his own tax bill, and monitor the data files of the United States' missile defense systems.

In some ways, life in the 21st century has come to resemble that of the pre-Industrial Revolution. More and more people are working out of their homes, parts of a technological "cottage industry."

This paradigm shift has had several effects, some good, some bad. On the plus side, the worker can spend more time with his family. He can arrange his work hours to better suit his personal situation and inclination. On the minus side, however, the overall quality of work suffers from lack of direct human contact. Short-sighted employers might bemoan the amount of time workers spent gabbing at the coffee machine, but that's when most of the good ideas are generated. Without the opportunity to bounce ideas off of co-workers, a person's output tends to become stale and dull — less innovative, more conservative. This isolation and loss of creativity has had a subtle but increasing drag-effect upon human advancement.

THE INFORMA-
TION REVOLU-
TION RESULTS IN
INCREASED
UNEMPLOYMENT

Another, more obvious effect of the information revolution is the dramatic increase in unemployment, particularly in highly technological societies like the United States. When books are cheaply available through computer download-ing, printers go out of business by the truckload. When all of your financial trans-actions are handled through your personal computer hooked into the Federal Banking Network, bank tellers are obsolete. When computers can write their own programs, you don't need so many programmers. It has been estimated that, with the help of computers and other forms of automation, one modern ser-vice-sector worker can do the work that ten used to do in the mid- 20th century.

The Information Revolution is over. Unfortunately for Mankind, it looks as if the computers might have won.

"cottage industry": A writer, data-processor, or market analyst does his job from his personal computer, transmit-ting his "product" to his employers via network. He never encounters his co-workers except through elec-tronic medium — telephone, video, computer, or fax transmission.

unemployment: In 2021, unemployment runs at around 43% in the US.

Mainframe Computers

There are three primary manufacturers of mainframe computers in the world market today. These are Shellfish US, Cripp Bros. of Europe, and PICT Nippon. Mainframes are subject to the most stringent protectionist legislation in the world, pretty much ensuring that each producer will dominate its own trading bloc's market.

It's only in the Third World that any kind of free market competition takes place. Given the huge sticker prices of these items, there are not many purchasers to be found there, and the competition for the few there are is extremely fierce. Cutthroat trade wars (fought with bribery, blackmail and, of course, bullets) are not uncommon. For example, it is rumored that the Third Yugoslavian Revolution was sparked by an informal memo, written by a vice president of the National Bank of Serbia, suggesting that the State-owned company upgrade from PICT InfoPro™ 15s to Crip bros.' Brainiac IIgs™.

Super Computers

These are the biggest, most powerful computers in the world. They typically contain multiple bio-drives along with other mechanical memory units. They are used for the most difficult applications, those requiring billions of floating-point operations per second (or "BFLOPS"). The North American Air Traffic Control Network, for example, is controlled by a modest-sized super comp. Only the largest multicorps and national governments have any need for (and can afford) these monsters.

Following is a listing of the Shellfish US line of super computers. PICT and Crip bros. make similar models for their own markets.

Shellfish US 3000
Cost: $750,000,000; Avail: D
Storage: 6,000+, Processing 1,500, RES: NA (see below)
The Shellfish US 3000 is roughly the size of stonehenge. For security, the storage and processing equipment is usually buried underground in self-contained, self-repairing, blast-proof and EMP-proof bunkers, with heavily-shielded cables leading to the processing stations. The storage and processing areas are refrigerated to temperatures approaching absolute zero, allowing for near total super-conductivity of all major components. This is, of course, hugely expensive in terms of power consumption, but it also dramatically speeds performance. The memory backup unit is typically stored underground, several dozen miles away from the original unit, to protect the data in the event of a nuclear detonation or other catastrophe. A Shellfish US 3000 requires a human staff of 50 to run and maintain, not including security staff.

There are only four Shellfish US 3000s in existence in 2021. Two are owned by the US DoD (Department of Defense); they are used for weapons design and missile defense control and coordination. One 3000 is owned by the National Science Foundation; it is primarily employed in analyzing data collected from the Super Collider in Texas. During down time, to help defray the appalling cost of the machine, outside organizations can rent processing time on the NSF's computer for $500,000 a minute. The fourth 3000 is owned by a shadowy business organization, MultiMedia Inc. No one knows exactly what it is being used for.

Shellfish US 1000
Cost: $500,000,000; Avail: E

*Storage: 4,500+, Processing 1,000; RES: NA (see below)*
While smaller than the 3000, the Shellfish US 1000 is still quite imposing. The full machine is about the size of a one-bedroom apartment. Like the 3000, the 1000 is often buried underground. The 1000 requires a full-time staff of 25 operators and maintenance personnel.

These machines are the controllers and main workhorses of the vaunted American "Information Superhighway." OmniNet uses two to run its networking systems; NorthAmericanBell Inc. currently has one on-line and one on order for late '26. The Hawaii Stock Exchange runs on a 1000.

Shellfish US 500
Cost: $250,000,000;Avail: E

Storage 2,000+, Processing 500; RES: 10
The Shellfish US 500 is about half the size of the 2000. Only a small portion of the machine is super-cooled, providing for far, far less expensive operation and far easier maintenance, though, of course, with reduced processing speed. The 500 requires a staff of five full-time operators and maintenance personnel (with two specialists on 24-hour call).
Allied Mayhem, Inc. owns and operates a full dozen 500s. These machines create the "Slumberland" virtual realities, where AMI's boosted recruits are acclimated to their new powers (see "Chapter Four" of the Underground rulebook).
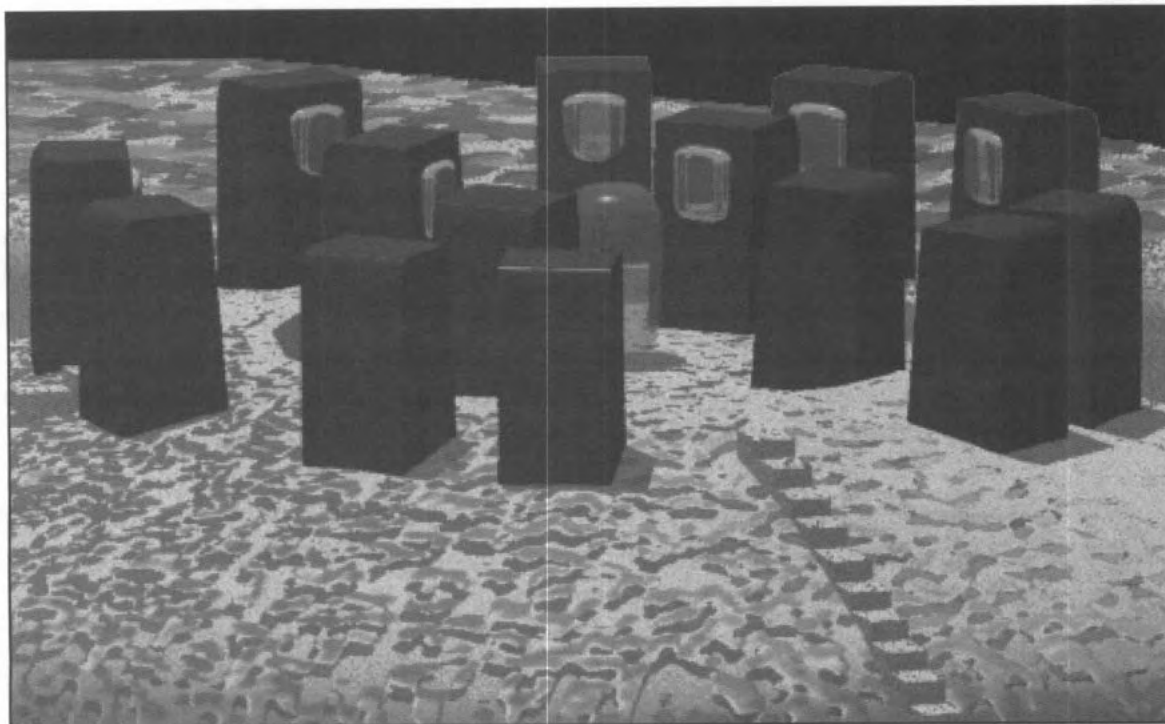
The Shellfish US 3000

Mini Computers

Mini computers are the intermediate step between super computers and personal comps. They often serve as central processors for businesses, linking the various personal comps in the organization into one network. Minis are also used wherever the computing power required for a job is too large for a personal comp. For example, a mini comp runs the environmental controls for the experimental undersea city of Atlantis off the coast of Florida.

Mini comps are somewhat less heavily-tarriffed than super computers, so it is possible to purchase foreign models in the North American Trading Bloc.

Some mini comps are equipped with bio-drives; some are not.

Mycroft XLNT
Cost: $15,000,000; Avail: B

Storage: 250; Processing: 40; RES: 9

This most excellent mini computer is DataStack™'s first foray into the lucrative mini computer market. At four feet tall by six feet wide by four feet deep, the XLNT is about the size and shape of a 20th Century full-service photocopier.

DataStack, a Toronto-based company, has been making impressive inroads into the mini and personal computer market of late, causing a certain amount of consternation among the already-established players — PICT, Grannysmith, Crip Bros. CandyTech and others.

Crip Bros. Brainiac IIg
Cost: $11,250,000; Avail: B

Storage: 200; Processing: 25; RES: 8

The Brainiac IIg is one of the more compact mid-powered mini comps on the market, its processor being about two feet wide by three deep by six high. It is favored where space is at a premium — on space stations, for example.

PICT InfoPro 15
Cost: $6,000,000; Avail: B

Storage: 100; Processing: 15; RES: 7

The InfoPro 15 is the poor man's mini computer. While undeniably powerful for their price, 15s are notoriously unreliable. Still, they are remarkably cheap, and thus popular. When buying a 15, smart businessmen also purchase PICT's extended warranty and service contract.

Personal Computers

The world is crawling with personal computers. Everybody has one. Life in the 21st Century is virtually impossible without them. At home, through entertainment nets, PCs provide access to video, audio, and text libraries. Most citizens pay their bills and taxes through their PC's banking network links. The PCs control the citizens' environment, manipulating the dwelling's lighting, heat, air conditioning, and other factors. Automated cleaning robots are controlled by the PC, as is telephone and mail service. A large portion of the high-tech workforce work from home on their PCs, linked to other employees via network.

In the modern business office, PCs are to be found at virtually every work station, saving only the most menial laboring jobs performed by Pre-Frontals. Everyone else works with computers (some primitivists say everyone else works for computers).

Appearance

The PCs of 2021 look pretty much like the late 20th century models we are familiar with. The processing unit is about the size of a shoebox. Inside, the workings are modular. In the event of a breakdown the offending piece is snapped out, a replacement is inserted, and the computer is back on-line in a matter of moments.

The display screen is an ultra-thin LCD (liquid crystal diode) sheet, providing video-quality color and resolution. The screen is often wall-mounted, like a picture, with additional screens mounted in all other rooms of the dwelling. Keyboards look much like they do today, except that the letters have been reordered for greater efficiency. Mice and light pens too haven't changed much. Many computers have microphone attachments, providing direct voice access to the computer. Often these mikes are built into the screens scattered about the dwelling, allowing the user to access the computer from anywhere in the apartment. Similarly, the better monitors have built-in speakers, allowing the computer to answer back in voice.

In most standard machines, the wires connecting the peripherals have been removed altogether. Keyboards, mice, monitors, etc., communicate with the central processor via digitized radio beam. In the workplace, where there are likely to be a lot of computers cluttering up the airwaves, and in areas where security is a concern, the peripherals are still hard-connected.

modular: Many PC components can be found poly-bagged and hanging from the hooks of most convenience stores.

PERSONAL COMPUTERS HAVE BECOME COMMONPLACE

THOUGH MUCH MORE SOPHISTICATED, PC APPEARANCE HAS CHANGED LITTLE

Computing Power

Powerwise, 21st century computers are far ahead of today's primitive machines. In rough terms, 2021's computers are one hundred times as fast as our computers and have one thousand times as much memory. The machines are also more reliable than today's computers. However, this is offset somewhat by the fact that they work far harder than our machines; thus they still break down periodically.

TECHNO

Standard Models

Grannysmith D 12
Cost: $16,000; Avail: A

Storage: 16, Processing: 7; RES: 7

The D — or "Delicious" as it is known — is the latest in this venerable computer company's line of high-quality, high-price machines aimed directly at the casual user. The machines are rugged and easy to use, but their rigid programming architecture (which makes them more accessible to the average user) somewhat limits their flexibility and high-end programming power. Hackers and computer snobs sneer at these machines as "yuppie toys."

PICT 3286
Cost: $16,000; Avail: A

Storage: 16; Processing: 8; RES: 6

After near-oblivion in the late 20th century, PICT was purchased outright by Pandemic Inc., a Japanese holding company representing several of that country's largest manufacturing concerns. The new owners imposed rigorous quality and price controls on "the Big Blue Guys", and since then, the company has been enjoying a comeback in the personal computer marketplace. In fact, the PICT 3286 has become the standard business computer in the US and Japan.

PICT 3286-X
Cost: $28,000; Avail: B

Storage: 18; Processing: 9; RES: 6

This is PICT's high-end personal computer, currently the most powerful available on the open market. It is much favored by engineers, programmers and hackers.

RedStar 3286
Cost: $12,000; Avail: A

Storage: 12; Processing: 6; RES: 5-7*

This machine is representative of any number of cheap PICT knockoffs which clutter the marketplace, available through discount houses and mail-order warehouses.

*Quality varies wildly from unit to unit. Their RES may be as low as 5 or as high as 7, depending upon brand and blind chance. Let the buyer beware.

Packs

Packs are portable personal computers, usually about the size and shape of a paperback book. They are worn strapped to the chest, arm or gat, or carried shoulder-slung. Packs function on battery power, up to three days on a charge. Packs can be equipped with a huge variety of peripherals, including microphone, earphone speaker, heads-up goggle display, radar, weapon interface, and more (see below). Packs are used by virtually all the combat personnel in the world. In addition, they provide an important edge in street survival, and are worn by cops, criminals, vigilantes, and ordinary citizens alike.

Shellfish US SuperPack
Cost: $32,000; Avail: A

Storage: 13; Processing: 7; RES: 7

The SuperPack is a standard street pack. All of the large computer companies worldwide manufacture machines just like it. Most of these machines are completely compatible, so a purchaser can mix and match packs and peripherals to his heart's content. The pack's memory unit is about the size of a D-cell battery. It is plug-mounted and can be easily detached and inserted into a new model in the event of pack malfunction. (This is an Automatic Action that takes twenty seconds [7 Units] to complete.)

Crip bros. Micro
Cost: $40,000; Avail: C

Storage: 13, Processing: 7; RES: 9

Crip bros. is the leader in combat pack sales worldwide. The Micro is sturdy, reliable, and expensive as hell. It has been known to keep functioning after a direct hit from a 20mm shell (though the same unfortunately cannot be said of the person who was wearing it at the time). "It takes a licking even if you can't."

RedStar MiniPack
Cost: $25,000; Avail: A

Storage: 12; Processing: 6; RES: 6-8*

This could be any one of a myriad of knockoff packs available on the world market. They're cheap. And that's about all that can be said for them.

*Quality varies wildly from unit to unit. Their RES may be as low as 6 or as high as 8, depending upon brand and blind chance. Let the buyer beware.

A diminutive boost sports the tried and true pack shoulderslung.

Pack Peripherals

There are a wide variety of peripherals available for the pack. The good ones tend to be small, able to hang from a belt or fit in a backpack or briefcase. They must be rugged as well, so that they can function in most environments — from a smoke-filled bar to a park bench in the rain.

Peripherals are not given *Resilience* values; if a peripheral is the subject of an attack, use the *RES* of the pack it is attached to to determine damage.

Portable Laser Printer
Cost: $20,000; Avail: A

The portable laser printer is about the size of a large book. It is battery-operated and will interface with any personal computer or pack. It prints on any kind of paper.

Standard Cellular Modem
Cost: $15,000 plus $100/minute satellite fee; Avail: A

A little radio pack the size of a deck of cards with a separate antenna, the cellular modem allows a pack to communicate with other computers via satellite modem link. If the user has headphones and microphone, he can use the system as a regular phone as well.

The antenna is mounted on a light helmet or headset, or extends from the user's backpack. The digital radio beam is broadcast to one of the communication satellites in geosynchronous orbit above the planet, then bounced to the appropriate phone substation. For best results, the antenna should be in direct line of sight with the satellite (ie, out of doors), as the beam can be blocked or distorted by metal, concrete, and electrical interference.

The cellular modem is secure enough for most normal — non-criminal, that is — purposes. However, the radio broadcast will be noticed by standard broadcast monitoring security equipment, and more advanced equipment can block or even tap into the broadcast. Standard modems have *Security Ratings* of 4.

Secure Cellular Modem
Cost: $30,000 plus $500/minute satellite fee; Avail: D

This somewhat larger and more sophisticated unit broadcasts a tighter and weaker signal, picked up by more powerful satellite receivers. The antenna must be outdoors to operate. The signal is much harder to notice and extremely difficult to tap, unless the monitoring equipment is in direct line between the antenna and the satellite. The secure modem has a *Security Rating* of 6.

The modem can also broadcast in standard mode if the user isn't particularly worried about security at the moment. In standard mode, the user pays the normal $100/minute satellite fee.

Portable Monitor
Cost: $15,000+; Avail: B

Packs normally come with tiny two to three-inch screens. The portable monitor allows full-sized screen viewing on the go.

This unique device is an offspring of the marriage between alien bio-tech and human liquid-crystal diode technology. The screen is a heavy sheet of rubber- like living flesh, mounted on a collapsible plastic frame, with a computer cable running from one corner. When plugged into a pack, the sheet displays full-color images at video resolution. If properly maintained (see below), a portable monitor has a life-expectancy of about 3000 hours of operation — that is, eight hours a day for a year.

When not in use, the sheet is removed from the frame and rolled up like a poster, then slipped into a plastic carrying tube. At home, the tube plugs into a wall-mounted maintenance case which automatically recharges the tube's batter-

ies and changes the nutrient bath and waste filtration systems. The unit must spend at least eight hours a week in the maintenance case or it will begin to die.

A 13-inch diameter monitor and life-support system is priced at $15,000. A 20-inch unit goes for $25,000; and a 40-in unit, the largest currently available, costs $50,000. Replacement screens cost half the price of the entire unit. The maintenance case requires a gallon of concentrated nutrient a year (at $1,750/gallon), plus monthly washing of the waste filters.

Power Supplies

Packs are equipped with standard plugs so that they can run directly off of household current when used in the home or office. On the street, packs draw their power from battery bundles.

Batteries

Cost: See below; Avail: A

 Disposable:

3-Day Battery supply: $100

7-Day Battery supply: $250

 Rechargeable:

3-Day Rechargeable Battery: $1,000

7-Day (Long-Life) Rechargeable Battery: $2,500

Battery Recharger

Cost: $500; Avail: A

The recharging unit plugs into any standard electric outlet. It recharges a three-day battery in four hours, a long-life battery in eight. (Note: disposable batteries explode if placed in a recharger.)

Solar Recharger

Cost: $8,000; Avail: B

When packed, the unit is the size of a coffee mug; it unrolls to reveal over 15 square feet of solar cloth connected to a standard battery recharger. This unit recharges computer batteries using solar energy. In bright, direct sunlight, a solar recharger will recharge a three-day battery in two days, a long-life battery in four.

Memory Drives

Ultra-Compact Disc Drive

Cost: $5,000*; Avail: A

The ultra-compact disc is the standard memory drive for personal computers. On the surface, UCDs quite resemble the CDs of today, but UCDs hold about ten times as much data as standard CDs. UCDs can be written to and erased repeatedly, just as the 20th Century's floppy discs.

*All personal and mini computers are sold equipped with internal UCD drives. The price listed is the cost of an external UCD drive for a pack, a unit the size and shape of a Sony Walkman.

Ultra-Compact Disc
Cost: $1,250/10-pack; Avail: A

A UCD holds up to 6 Memory units of data. A box of ten blank UCDs costs $1,250; when purchased individually, the discs are $150 each.

Micro Disc Drive
Cost: $10,000; Avail: B

This is a more compact storage system than the UCD, used almost exclusively with packs. The drive is about two inches square and 1/2-inch tall; it is usually mounted directly atop or alongside the pack. Micro disc drives can be serial mounted on the pack, one atop the other.

Micro Disc
Cost: $3,000/10-pack; Avail: B

An MCD holds up to 4 Memory units of data. Micro discs are one inch in diameter, 1/4 inch thick. They are encased in hard plastic and metal, to keep finger smudges off of the data surface (just like floppy discs of today).

A box of ten blank MCDs costs $3,000; the discs are $450 each when purchased individually.

Bio-Drive
Cost: $10,000,000; Avail: B

Employing discarded human brains, bio-drives are the ultimate storage medium. Although the drives are large and clunky, any computer connected to one has a Storage capacity of 150.

The typical home PC and bio drive in their natural environment.

Bio-drives weigh about 40 pounds each and they're the size of a bowling-ball carrier. Bio-drives are equipped with backup internal power sources good for 24 hour's operation. Five minutes after the internal power source fails, the brain dies and all memory is lost.

The drive requires steady maintenance, including weekly nutrient and vitamin replenishment and monthly circulatory fluid filtration and replacement.

Replacement Brain
Cost: $2,500,000; Avail: B

If a user has carelessly let the brain in his bio-drive expire, he can get a replacement brain installed in the unit for about

$2,500,000. If the user comes up with his own brain — from, er, some volunteer, no doubt — the installation fee to put the brain into the drive, wipe it of existing data and format it for use is a straight $500,000.

To insert the new brain into the drive himself, the user must have access to a neurosurgical theater and micro computer with the appropriate programming. The operation takes about 10 hours from start to finish; it requires passing a Computer Programming Challenge of Difficulty 3 and a Surgery Challenge of 4.

Human-Computer Links

Headset with Microphone and Earphones
Cost: $8,000; Avail: A

The microphone provides a computer with audio input, while the headset allow the user to hear the computer. These items are built into most combat headgear.

Heads-Up Goggles
Cost: $2,000; Avail: A

These goggles accept and display digital output. In addition, they protect the wearer's eyes from bright flashes, and provide the wearer with infra-red night vision at a range of 100 yards (15 Units).

Communications Helmet
Cost: $9,500; Avail: B

A light helmet with built in heads-up goggles and mike and earphones (see above) is available at a slightly cheaper price than if each item were purchased separately. This is standard headgear for metropolitan police and other light security forces. It offers no defensive *RES*.

Jacks

Jacks allow the user to mentally receive data from computerized equipment. Note that while the proud owner of such a jack can easily receive and interpret certain signals, it is far more strenuous for him to "send" signals from his brain out to the equipment. The two most popular tools for "jacking-in" to a computer are the induction jack and the neural jack.

Induction Jack
Cost: $100,000; Avail: B

This small cap looks pretty much like a silver beanie with gold wire tracing an intricate pattern on top. It allows the wearer to mentally interface with his or her computer. Through induction, the computer can stimulate the wearer's visual and auditory nerve centers, providing him with visual and sound data. The wearer can communicate with the computer via vocal commands.

The connection provided by induction jack is not as good as that of a surgically-implanted neural jack (see following). It can be interrupted by electromagnetic interference, and communication can be screwed-up by strong mental excite-

ment on the part of the wearer. (For example, trying to interpret incoming data from two programs simultaneously while dodging laser-fire is a Will Challenge with a Difficulty of around 3.)

Neural Jack
Cost: $500,000 for the surgery; $50,000 for the jack itself; Avail: D

This device is implanted directly into the subject's brain during a very dangerous piece of neural surgery. If the surgery is successful, the jack allows the user to "jack in" to a computer, accessing it via direct neural commands. In return, the computer can stimulate the user's visual, auditory, aural, and tactile nerve centers, providing him with direct mental images. The stimulus seems quite real to the user, the reality of the experience limited only by the computer's power and the quality of the programming.

On the most basic level, a neural jack allows the computer and wearer to communicate in the same fashion as an induction jack (see above). However, a neural jack is a much more powerful and reliable interface. It can provide the user with a complete mental environment — or "virtual reality" — like that in the Slumberland VR every recruit experiences during training. While jacked into a total-immersion VR, the user is cut off from his body's normal senses — sight, hearing, pain, and so forth. He is virtually helpless until he jacks out again. For example, if a jacker's apartment caught fire while he was jacked-into total immersion VR, he would easily burn to death completely unaware (until the very last moment, at any event).

Since the user has direct mental communication with the computer, his Programming Skill (and related Specialties) are increased by one when jacked-in.

Note that the user must pass a Will Challenge to operate the computer while under strong mental stress (see "Induction Jack," above). This applies only if the user is maintaining awareness of the goings-on around him. If the user is immersed in a VR, or chooses to cut himself off from his human senses, there is no Will Challenge. However, when jacking out from sensory cutoff or total VR immersion, the user automatically acquires a Stress point. If the user jacks out involuntarily — ie, somebody yanks the computer plug out of his head — he must make a Difficult Will Challenge, failure indicating that he manifests his Psychosis.

Installing a jack into a subject is a Surgery Challenge with a Difficulty of 3 (effects of failure are left up to the imagination, but include slight psychosis, insanity, coma and death). The surgery requires a complete modern neurosurgical operating theater and thus can't be done in the back of the average organlegger's chopshop. The price of the jack is $50,000; the neural surgery costs about $500,000 for a competent surgeon and staff.

The plug of the jack is usually hidden on the back of the skull, under the hairline, where it is invisible to the casual observer. The more exhibitionist programmers wear their plugs prominently on the forehead for all to see. (The location of the plug on the cranium has no effect upon its performance.)

Software

Built-In Software

Virtually every piece of electronic equipment in the world is digital, and equipped with computer connections, allowing control by a PC or pack. All such items are commonly sold with the appropriate communications software included, thus obviating the need to make an additional purchase.

Similarly, Medikits are equipped with comp integration software, as are faxes, photocopiers, toasters, vid units, fish tanks, artificial hearts and so forth.

Computer Security Software

As discussed in "Chapter 6" of *Underground,* a character uses the Computer Science: *Digital Security Specialty* to attempt to penetrate a computer and to protect a computer from such intrusion. For people without the Specialty, a variety of security programs are available on the market. Of course, their very availability limits their effectiveness: data bandits are always the first to buy (and dissect) new security software on the market. Thus, this software is of use only against the "casual" criminal: anyone who is seriously interested in hacking will be able to get past most mass-produced security programs.

"Time to fly it!"– Pueblo Sniper! version 3.1 makes targetting a dream.

ALL EQUIPMENT COMES WITH BUILT-IN SOFTWARE

Following is a list of the *Lockout* line of security programs. There are many others which perform basically the same functions.

LockoutTM Alpha
Cost: $2,000; Avail: A

Memory: 0; Security Rating: 1

Alpha is Lockout's most basic security software. It's a small program, designed to keep children and casual hackers from illicit access to a computer. Essentially, *Alpha* sets up a password system in the comp. Different passwords can be assigned to different users, limiting access to specific programs or memory areas. When someone logs on — either directly or via modem — the comp asks him for his password. He gets three shots at it: if he's unsuccessful, he's denied access. If two such unsuccessful attempts are made in a row, the system shuts down. *Alpha* is easy for anyone with the "Digital Security" Specialty to beat, but tough for anyone else.

Naturally, if the user is thoughtful enough to leave the password taped to the bottom of the keyboard, or uses the password "Hello", even casual thieves can beat the system...

Lockout Beta
Cost: $4,000; Avail: A

Memory: 0; Security Rating: 2

Beta is a bit tougher than *Alpha*. It provides the password system; it also includes a passive electronic monitoring program which checks the computer periodically for suspicious power fluctuations which might indicate electronic eavesdropping.

Lockout Gamma
Cost: $6,000; Avail: A

Memory: 1; Security Rating: 3

Gamma is again tougher than *Alpha* and *Beta*.

Lockout Delta
Cost: $9,000; Avail: B

Memory: 1; Security Rating: 4

The toughest in Lockout's mass-market programs.

Customized Security Programs
Cost: See below; Avail: B

Memory: see below; Security Rating: see below

The cost and memory of a customized security program is dependent upon its *Security Rating,* as shown in the chart below.

The higher-rated programs often have nasty defensive subroutines built into them. If they detect illicit access, they might send the intruder a virus or a blast of energy, attempting to short out the computer making the access and, incidental-

ly, the brain of anyone who might be jacked-in to that computer. They might attempt to trace the source of the tap and notify security officials. The more cunning programs might feed the intruder false data.

(Note: security programs with *Security Ratings* of greater than 8 are not readily available. The user must create them herself or latch onto a really hotshot security programmer and pay whatever he charges.)

Security Rating	Memory	Cost
5	2	$12,000
6	2	$15,000
7	3	$20,000
8	4	$27,500

Intrusion Software

This software is the opposite of security software. It is designed to help a programmer break into a secured computer system. To use, the hacker loads the intrusion software into his own PC or pack, then connects his machine to the target system via modem, radio-link or direct cable. If no such connection is available, then the intrusion software is useless.

Intrusion software is highly illegal, but there is a lot of it about anyway. The FBI has some of the best intrusion software in the world (illegal to use without a court order, of course), as do other security organizations worldwide.

Major companies spend millions creating intrusion software to use against the competition. The conflict firms — AMI, TWD, DHI and so forth — routinely develop intrusion measures and counter-measures as part of their Electronic Warfare programs.

Finally, criminal organizations — Yakuza, Underground, Sierra Club, the Mafia, the Uberboyz — all develop and use intrusion software, as do private operators. In 2021, computer theft is big business.

Following are some of the intrusion programs available on the black market.

Lockpick
Cost: $30,000; Avail: E

Memory: 4

This program was specifically designed to penetrate the LockoutTM series of security programs.

A hacker receives a bonus of +1 to his Digital Security skill when using this program to break into a computer protected by *Lockout Alpha* through *Gamma*. (Lockout *Delta* was released since *Lockpick* came onto the black market; it contains defenses against *Lockpick* which render that program useless.)

Backdoor
Cost: $50,000; Avail: E
Memory: 5

Backdoor is designed to work against *all* computer security programs, not just *Lockout*. It provides a +1 bonus to the hacker's Digital Security skill when breaking into any computer system. Note that *Backdoor* has been around for some time, and many new security systems have been programmed to defend against it. Upgrades are going out to older security systems as well.

This points out a problem with black market intrusion programs: after they have been on the market for a few weeks, the security companies find out about them and upgrade their programs accordingly. The intrusion programs then become obsolete, if not positively dangerous to the user. Of course, *Backdoor II* will be on the market by then... .
And so it goes.

Wormhole
Cost: $70,000; Avail: E
Memory: 6

An early version of this program was developed by the FBI. It was stolen by a hacker who broke into the FBI's computer system, swiped the program, modified and upgraded it, then offered it for sale on the black market.

Wormhole is one of the finest passive tapping programs ever developed. When inserted into a system, *Wormhole* monitors the computer's central processing unit. All commands and data sent to the target's CPU are duplicated and sent off to the hacker's computer, where they are recorded for future study. Note that *Wormhole* is *entirely* passive: a hacker cannot use that program to give commands to the target computer.

To insert *Wormhole,* a programmer must beat the computer's *Security Rating*, then load the program into the target, a process taking some ten minutes. Once loaded, *Wormhole* hides itself and the open line to the tapping computer. As long as that line is open, the hacker's computer will record everything the target computer does.

The *Wormhole* program has a *Security Rating* of 5: that is, a programmer (or automatic security program) in the target system must beat that number to find *Wormhole* once it has been successfully inserted.

Overview

Robots are an accepted part of modern life in 2021. Robots are routinely employed in many sectors of society, including farming, heavy industry, security, maintenance, and, of course, entertainment. Robots are utilized in applications deemed too dangerous for humans, such as toxic waste cleanup, bomb disposal, chemical manufacturing, nuclear power-plant maintenance, and inner-city education. Many upper-middle class households have home-maintenance robots (typically called "Hazels") to take care of cooking, cleaning and so forth.

The worldwide proliferation of robots is possible only because of the bio-technological advances garnered from study of the alien spacecraft (see the *Underground* rulebook). At the heart of most robots is a living cerebral cortex, typically animal, but on very rare occasions human. These organs control the more complicated activities of the robot, particularly movement and rapid sensory response. If computers were required to control these functions, robots would be far slower, far more clumsy, and far more expensive.

Unfortunately, the world's supply of cerebral cortexes is limited. The best cortexes come from the higher primates — monkeys, gorillas, humans, and the like. With the industrialization of the African continent, most of the "free-range" primates have vanished, and those remaining are protected. There are plenty of human brains around, of course, but acquiring them is very difficult (the best human cortexes come from pre-adolescents, and in most countries it's illegal to sell your brain until you reach the age of consent). Thus, the big robotic firms have had to institute their own primate breeding programs, raising huge numbers of monkeys, chimpanzees and gorillas, then yanking their brains out when they reach young adulthood.

This practice infuriates animal-rights activists, and they have waged protests, terror-attacks, and outright warfare against robotic manufacturers and purchasers. The anti-robot campaign of the Sierra Club have been particularly violent and effective. The organization has been declared illegal, and many of its members have gone underground. These "gorillas", as they call themselves, are dedicated, fanatical activists, often veterans and members of Underground as well. In fact, the two organizations often work together.

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more complicated activities : Most don't realize just how complex the problem of movement is. When a human picks up a box of CDs and walks downstairs with it, he is performing an incredible amount of data processing. He simultaneously acquires sensory input from millions of sources — the nerves in his eyes, ears, nose and skin — while at the same time he controls all of the millions of muscle-cells in his body. And he does this automatically, while stepping over the cat, shouting at the kid to get the hell out of the way, swearing as he bangs his knuckles on the banister, regaining his balance after skidding on a roller-skate, and so forth.

ROBOTS FILL A SPECIAL NICHE IN MODERN SOCIETY

LIVING BRAINS ALLOW ROBOTS TO PERFORM MUCH MORE EFFICIENTLY THAN COMPUTERS WOULD

INDUSTRY DEMAND FOR BRAINS IS HIGH

Security Robots

Security robots are employed in military installations, corporate headquarters, financial institutions, and wealthier private residences. Security robots are usually linked into the installation's security computer, allowing them to work closely with other elements in the security net. However, some installations also employ "rover" units — independent security robots *in communication with* the security net but not subordinate to it, and thus not subject to corruption in the event that the installation's security computer is breached.

TWD Guardian™ Mark II
Cost: $15,000,000; Avail: D

DEX: 2; STR: 3; SPD: 3; RES: 15; Gun Combat: 5; Detective: 2

Standard Equip:

- Video Camera with Infrared Attachment
- Microphone and Speakers; Speech Synthesizer and Recognition Programming
- Gripper Arm
- Rubber Treads
- Computer Radio-link
- Turbo Tazer: *Acc: -3; Pen: 12; Dmg: STN/KO/KO/LW; Rng: 2/4/6; Ammo: 1; Rate: 1*
- Light Weapon Mount
- 4 Grenade Mount (usually gas grenades)
- Fire Extinguisher

The TWD Guardian Mark II is a compact security unit, designed for indoor use, against lightly-armed opposition only. Its compact, low-to-the-ground chassis rides on rubber treads, providing for a small target profile with adequate traction at a reasonable price. However, the Guardian cannot mount stairs; thus, in multi-level installations, the Guardians have access to ramps, elevators or a Guardian is assigned to each level.

The Guardian uses its gripper-arm to drag obstacles weighing up to 200 pounds out of its way — important since the Guardian can't jump over anything. The gripper-arm is also used to open doors, punch in security codes, attain a hard-link with the security network, and so forth. Finally, the unit's tazer is mounted in the gripper-arm, making for an extremely effective handcuff.

Guardians aren't particularly bright; they are best employed under direct command of a security computer. They can operate as rovers, however. The level of aggression in a Guardian is up to the purchaser: Guardians can be ordered to demand surrender, or to shoot first and ask questions later. Most Guardians are programmed to use tazer and gas-grenades first, to minimize damage to the installation. If these prove ineffective or the unit is fired upon, they will use their guns.

TWD Prowler
Cost: $25,000,000; Avail: D

DEX: 4; STR: 2; SPD: 4; RES: 12; Acrobatics: 5; Dodge: 5; Gun Combat: 5; Martial Arts: 5; Detective: 4

Standard Equip:

- Video Camera with Infrared Attachment

- Microphone and Speakers; Speech Synthesizer and Recognition Programming
- 2 Sensi-Touch™ Arms
- 6 Gripper Arms
- Razor Beak: *Penetration: 7; Damage: STN/KO/LW/MW*
- Computer Radio-link
- Medium Pistol
- Flame Pistol
- Tangle Web

This robot, one of the most sophisticated models made, looks as if it came straight out of a Kafka nightmare. It's the shape of a spider, with eight arms, multi-faceted eyes, and huge, chittering razor-sharp fangs. The robot's body is about two-feet by two-feet by three-feet in size, allowing it to squeeze itself into surprisingly small spaces at need. At full extension, each gripper leg is five feet in length, the upper sensi-touch arms four feet long.

This security robot is designed to be a rover, working almost totally independently of a security computer. It has been programmed to be extremely inquisitive: it wanders about its assigned territory at will, poking into ventilation systems, using its gripper-legs to scuttle along rooftops, clamber up and down walls and along ceilings. The radio-link allows the Prowler to pass along information and to respond to computer commands — *at its own discretion.* Prowlers are not equipped with remote shutdown switches: they'll keep running until their battery power gets low (after around eight hours) and they return to their off-duty station to shut down and recharge.

The Prowler is commanded by a chimpanzee cortex assisted by an extremely powerful microprocessor. Unfortunately, the strain of controlling eight appendages simultaneously is great indeed, and the chimpanzee cortexes blow out after about two years of service. When the cortex blows out, the robot, in effect, goes insane — and probably violently insane. This can be extremely unpleasant for anyone in the immediate area. The rampage won't stop until the Prowler is incapacitated or runs out of power. Thus, prudence demands that the cortex be replaced before it blows, after around 18 months' use.

Rumor has it that some organizations have begun equipping the Prowler with special software and equipment and then sending the Prowler out as an assassin.

SecurCorp Neo Dobie™
Cost: $16,000,000; Avail: D

DEX: 4; STR: 4; SPD: 5; RES: 14; Dodge: 5; Martial Arts: 6; Detective: 3
Standard Equip:
- Video Camera with Infrared Attachment
- Microphone and Speakers
- Accu-Sniffer (see below)
- Razor Teeth: *Penetration: 7; Damage: STN/KO/LW/MW*
- Computer Radio-link

The Neo Dobie is a robot Doberman pinscher: a vaguely Doberman-shaped security robot with the cerebral cortex of a vicious attack dog. The video-cam gives it excellent night vision, the microphone good hearing, and the accu-sniffer a sense of smell only slightly inferior to that of a live dog (these senses are reflected in the Detective Skill of 3). The Dobie interprets this data itself; in addition, the video and audio images may be simultaneously transmitted to a security computer to monitor and record.

Neo Dobies are far too dangerous to be used around people. They are used exclusively where there is no legitimate human traffic — in deserted warehouses at night, between barbed-wire fences, and so forth.

A Neo Dobie is no brighter than a live Dobie, but it's much, much more dangerous and a damn sight harder to kill. Poison, for instance, has no effect on these brutes, since the unit neither eats nor breathes, the cerebral cortex sustained entirely on internally-supplied oxygen and nutrients.

Neo Dobies cannot be effectively controlled by computer. They must be trained in the same way as normal attack-dogs (typically the teeth aren't installed until *after* their training is complete). In the field, they respond only to their human handler. The best that a security computer can accomplish is to radio-transmit an electric shock directly to the Dobie's cortex — the digital equivalent of whacking the creature on the head with a baseball bat and saying "bad doggie" — which might discourage it from continuing unwanted behavior, or might not. If all else fails, the computer can send a shut-down command to the unit, turning off all of the Dobie's motor controls and causing it to drop like a sack of rocks.

War Robots

All of the militant corporations produce war robots. They're rather painfully expensive, not particularly cost-efficient when compared with boosted human soldiers, but there is still quite a great demand for them. For one thing, a war robot won't run away in battle. For another, it will follow orders. It won't get drunk and fall asleep on guard duty, and it won't give military secrets to the enemy in exchange for sexual favors.

Most importantly, however, war robots are really, really impressive-looking. A South American Generallisimo will cheerfully blow a billion or so of his people's money in exchange for an honor-guard of metal behemoths; so, for that matter, will a drug-dealer, vid star, or corporate executive. TWD, the leading manufacturer of war robots, estimates that over 60% of war robots sold are employed as private guards for extremely wealthy individuals.

Given this data, it is obvious that a war robot's first duty is to look cool. It's got to hulk over the human populace; it's got to have bigger and meaner weaponry than the competition; it's got to make a *statement*. It's got to say, "my boss is important enough to need something as nasty as me to keep him from being scragged. I bet nobody wants to kill you that bad, punk..." Of only secondary importance are the robot's actual combat skills.

Following are some of the more popular war robot models on the market.

TWD XKM770
Cost: $40,000,000; Avail: E

DEX: 2; STR: 15; SPD: 5; RES: 21; Gun Combat: 7; Military Science: 3
Standard Equip:

- Video Camera with Infrared Attachment
- Radar
- Radar Detector and Double Chaff Pack (6 Charges)
- Microphone and Speakers; Speech Synthesizer and Recognition Programming
- 2 Heavy Gripper Arms
- Legs
- 2 Auto-Gun Mounts
- Light Missile Rack
- Grenade Rack (holds 12 grenades)

Trans-World Devastation's XKM770 is their top-line model and an awesomely impressive weapon of destruction. Roughly humanoid in shape, standing eight-foot tall, bristling with guns, grenades, missiles, the TWD dwarfs everyone around it. It's faster than it looks, and it is extremely hard to kill, which is extremely important: when a XKM770 shows up on the battlefield, it instantly becomes the target of choice for all enemy missiles and heavy weapons-fire.

The XKM770 is not particularly bright, but it follows orders (as it interprets them) to the very letter, no matter what. As militant corps have put a great deal of time and energy into signal jamming, interception, and forgery, making robot-computer uplinks on the battlefield chancy and dangerous, XKM770s are rarely equipped with radio controls of any kind. Instead, the machines respond to direct, verbal instructions only, and only from the operator (or operators) they have been programmed to obey. They will aggressively defend themselves even without direct orders.

The XKM770 can operate for up to 96 hours on internal power, twice that if equipped with a somewhat vulnerable external battery pack (reduce RES to 18). The XKM770 usually carries a couple of thousand rounds of small ammunition, 12 grenades, and three missiles. It is programmed to return to the resupply point when it runs low on power or ammo, if practicable.

AMI Infiltrator™ Model VIIb
Cost: $35,000,000; Avail: E

DEX: 4; STR: 12; SPD: 7; RES: 15; Gun Combat: 5; Military Science: 3; Martial Arts: 8; Climbing: 6; Dodge: 6; Stealth: 6

AMI's Infiltrator "Cape Fear-ing" a ride with its target.

Standard Equip:
- Video Camera with Infrared Attachment
- *Stealth* Anti-Radar Coating
- Radar Detector and Chaff Pack (2 Charges)
- Microphone and Speakers; Speech Synthesizer and Recognition Programming
- 2 Sensi-Touch Arms
- Legs
- 1 Gun Mount
- Razor-Garrote MW/HW/IN/KL
- Grenade Rack (holds 3 grenades)

According to AMI's combat doctrine, on the battlefield, the enemy's soldiers aren't the primary target: the fight is against the enemy command. Disrupt the enemy's "3 C's" — Command, Control and Communications — and the enemy soldiers becomes far easier to beat. The Infiltrator is an intensely vicious and effective tool against the enemy command structure.

In fact, the Infiltrator is a battlefield assassin. It slips through enemy lines at night, evading sentries where possible, killing the sentries silently when they can't be evaded, then attacking the enemy commanders — preferably while they're asleep. If all goes well, the AMI forces then launch a surprise night attack to take advantage of the leaderless enemy's confusion.

Infiltrators are heartily hated and feared by all who face AMI troops in battle, particularly, as may well be imagined, by enemy commanders. Just the rumor of an Infiltrator on the battlefield will cause commanders to double their sentries and have a large guard assigned to their personal protection. Thus, the AMI side gains even if the Infiltrator's attack doesn't succeed: the enemy forces are nervous and tired, the enemy commanders distracted.

The Infiltrator can acquire targets in a number of ways: it can recognize enemy commanders from pictures or video images (or by their uniforms, if they foolishly dress differently from their troops); it can recognize voice patterns from recordings; or it can use its own judgment. The last method is not particularly effective: without guidance, the Infiltrator is hard-put to distinguish between enemy officers, their personal servants and aides de camp. (It isn't particularly cost-effective to expend a $35,000,000 robot wiping-out the enemy general's cook, mistress and a couple of batmen if the General happens to be off in the woods relieving himself during the assault.)

Like other battlefield robots, Infiltrators are not equipped with radio communications devices (see above). They accept verbal commands, and only from assigned operators. Infiltrators can be programmed to attack only if they judge that there is a reasonable chance of success (that is, they can get in and out without being spotted), or they can be ordered to attack no matter what the cost. If using their own discretion, Infiltrators are programmed to run away if spotted. An Infiltrator can operate for up to 24 hours on internal power.

As might be expected in the violent world of 2021, the utility of these robots as assassins *off* the battlefield has not been missed. In addition to the dozens of models sold to military organizations, a number (AMI won't tell exactly how many) have been sold to private organizations and individuals of dubious character.

DHI Juggernaut 2000™
Cost: $45,000,000; Avail: E

DEX: 2; STR: 13; SPD: 4 (10/15)*; RES: 23; Land Vehicle (itself only): 5; Heavy Weapons: 5; Military Science: 4

Standard Equip:
- Video Camera with Infrared Attachment
- Radar
- Radar Detector and Chaff Pack (3 Charges)
- Microphone and Speakers; Speech Synthesizer and Recognition Programming
- 1 Heavy Gripper Arm
- Heavy Treads
- 1 Heavy Weapon Mount
- 2 Light Missile Racks

This behemoth is more tank than robot. It's the size and shape of a compact car with a turret on top (holding the sensors and heavy weapons and missile rack mounts). The only thing which makes the Juggernaut even marginally a robot is the heavy gripper arm in the front-center of its body (included primarily to allow the machine to reload its own shells and power-packs).

In battle, the Juggernaut acts as light armor, advancing with a squad of troops, providing covering fire, knocking out enemy hardpoints, and so forth. The Juggernaut is usually programmed to respond to orders given by any member of its assigned squad, or orders from anyone on its side of Lieutenant-rank or higher: the operator programs in the faces and voice-patterns of legitimate commanders before the battle begins. In the event that all legitimate commanders are missing, the Juggernaut will return to the operator and request new commanders. The Juggernaut will accept orders only from legitimate commanders in direct sight and within three meters (this hopefully cuts down on the possibility that a captured commander could be forced to give the Juggernaut bad orders at gunpoint). The Juggernaut will defend itself even without orders.

The Juggernaut is equipped with two power-cells, each good for eight-hours of operation. When one of the cells begins to run out, the Juggernaut can go to the supply dump and exchange it for a new one without human assistance. The Juggernaut can also resupply itself with weapons and ammunition.

These machines are popular among generalissimos and other dictators: they look really awesome rolling ahead of the leader's limousine during parades, and they're quite good at quelling riots and demonstrations (particularly if the rioters are unarmed).

*When generating Initiative, the Juggernaut has a *Speed* of 4. For determining distance moved, the Juggernaut can attain a Speed of 15 (around 50 mph) on highway, and a Speed of 10 (around 17 mph) on broken battlefield terrain.

Other Robots

There are a large variety of other kinds of robots manufactured across the world. Following is a list of some of them.

Home and Office Use Robots

Hazel™ 14

Cost: $10,000,000; Avail: A

DEX: 2; STR: 3; SPD: 2; RES: 6; First Aid:

Standard Equip:
- Video Camera with Infrared Attachment
- Microphone and Speakers; Speech Synthesizer and Recognition Programming
- Radio Computer Link
- 2 Light Sensi-Touch™ Arms
- Fire Extinguisher
- Cleaning Fluid Receptacles

The Hazel 14 is J. Edgar International's most successful home maintenance robot. In addition to the standard maid Skills listed above, Hazel can take phone messages or make emergency calls to the local police, rescue squad, or fire department. If properly instructed by a home computer with the correct software, Hazel 14 can perform other, more complicated home maintenance tasks as well. In general, Hazels stay inside their owners' dwellings: they don't weigh much — about 200 pounds — and are easy targets for theft if they go outside alone.

Hazel 14 is powered by rechargeable batteries, good for 20 hours' operation on four hours of recharging.

When sold, Hazel 14s are given the personality module of a slightly bossy lower-class British nanny. Independent programmers have made a mint selling other personality modules: black southern maid, Irish nanny, Jewish mother-in-law, and so forth. These are often obnoxious in the extreme and infuriate various anti-defamation leagues, but are hugely popular nonetheless. There are a number of male personality modules available as well.

Copier King Executive Secretary Model DLA II
Cost: $25,000,000; Avail: B

DEX: 2; STR: 2; SPD: 2; RES: 6; Computer Programming 3; Charm: 3; Language: 3; Electronic Repair (specifically business machines): 1

Standard Equip:
- Video Camera with Infrared Attachment
- Microphone and Speakers; Speech Synthesizer and Recognition Programming
- Direct and Radio Computer Link
- 2 Light Sensi-Touch™ Arms

Copier king's DLA II model executive secretary robot is one of the most successful robots released in years. The "Della", as it is more familiarly known, is popular among higher business executives, particularly, for some odd reason, executives in the entertainment business. Della can answer phones, take messages, translate three languages (chosen by the exec at time of purchase), fend off salesmen, type, unjam a fax machine, operate a computer and all

the other electronic equipment found around an office. She can initiate calls on the telephone to make appointments, order business supplies, etc., etc. And she makes a great cup of coffee.

A standard model is equipped with power and data plugs on the outside of its left knee; when sitting at its special desk, the plugs extend and plug into hidden jacks. Thus the Della is in direct electronic communication with the computer, telephone, intercom, and other peripherals. Since it is recharging its batteries at the same time, the Della can stay active virtually 24 hours a day, seven days a week.

Dellas can be equipped with a variety of personality modules, the duller sold by Copier king and the more interesting by independent programmers. These run from frigidly efficient, through standoffish, friendly, slightly sultry, to minx in heat, in either gender and with whatever accent the exec desires.

Dellco Land Vehicle Maintenance Robot G17
Cost: $27,750,000; Avail: B

DEX: 2; STR: 4; SPD: 2; RES: 7; Mechanics (Land Vehicles Only): 3; Repair Any One Land Vehicle Type: 5; Operate Land Vehicle : 2

Standard Equip:
- Video Camera with Infrared Attachment
- Microphone and Speakers; Speech Synthesizer and Recognition Programming
- 2 Sensi-Touch Arms
- Built-in Tool Kit: arc welder; socket wrench set; pliers; hammer; screw driver; glue gun; autopilot diagnostic interface; etc.
- Spotlight

The Dellco model G17 in action.

These vehicle maintenance robots, more familiarly known as "Sparks", are especially popular with long-haul truckers. In addition to their repair skills, the robots can act as autopilots, taking over for the driver when he needs a little shuteye, thus allowing the rig to keep on the move 24 hours a day.

Sparks are equipped with Land Vehicle Mechanics skill of 3; they can apply this skill to any land vehicle type. In addition, Dellco sells advanced vehicle repair programming modules for each type of vehicle on the market. When purchased, Sparks are equipped with one module of the purchaser's choice, giving Sparks a Maintenance skill of 5 when repairing that vehicle type; additional modules can be purchased for $50,000 each. Spark's memory will hold only one specialty module at a time; it takes 20 minutes for Sparks to switch between modules.

When sold, Sparks are programmed to strictly obey all traffic laws. Overriding this programming is illegal — but quite simple, and routinely done.

Dellco Water Vehicle Maintenance Robot H2O17
Cost: $30,000,000; Avail: B

DEX: 2; STR: 4; SPD: 2; RES: 7; Mechanics (Water Vehicles Only): 3; Repair Any One Water Vehicle Type: 5; Operate Water Vehicle : 2
Standard Equip:

- Video Camera with Infrared Attachment
- Microphone and Speakers; Speech Synthesizer and Recognition Programming
- 2 Sensi-Touch™ Arms
- Built-in Tool Kit: arc welder; socket wrench set; pliers; hammer; screw driver; glue gun; autopilot diagnostic interface; etc.
- Spotlight

This model is virtually identical to the TY17 "Sparks" model, except that it is designed and programmed to maintain and operate waterborne vehicles. This model is nicknamed "Popeye." Specific waterborne vehicle repair specialty modules are available for most popular models.

Dellco Air Vehicle Maintenance Robot O217
Cost: $30,000,000; Avail: B

DEX: 2; STR: 4; SPD: 2; RES: 7; Mechanics (Air Vehicles Only): 3; Repair Any One Air Vehicle Type: 5; Operate Air Vehicle : 2
Standard Equip:

- Video Camera with Infrared Attachment
- Microphone and Speakers; Speech Synthesizer and Recognition Programming
- 2 Sensi-Touch™ Arms
- Built-in Tool Kit: arc welder; socket wrench set; pliers; hammer; screw driver; glue gun; autopilot diagnostic interface; etc.
- Spotlight

This model, nicknamed "Scotty", is virtually identical to the previous two Dellco maintenance robots, except that it is designed and programmed to maintain and operate airborne vehicles, with specific airborne vehicle repair specialty modules available for most popular models. Note that, despite its science-fictional name, Scotty cannot operate or repair space vehicles (Dellco does not believe that there is a big enough market to warrant the additional programming and tools required to adapt the robot to deep space).

EcumeniCo First Aid Robot Model I
Cost: $35,000,000; Avail: B

DEX: 4; STR: 2; SPD: 3; RES: 5; First Aid: 5; Medical Treatment: 2; Surgery: 2
Standard Equip:

- Video Camera with Infrared and Microscopic Lens Attachment
- Microphone and Speakers; Speech Synthesizer and Recognition Programming

- 1 Ultra Sensi-Touch™ Arm
- 1 Medium Gripper Arm
- Syringe Attachment
- First Aid Supplies: drugs; aerosol bandages; splints; scalpels; oxygen (and gas mask); nitrous oxide; clamps; needle and thread; etc., etc.
- Repulsor Engine

EcumeniCo's Model I first aid robot has saved many a life on the battlefield. It is designed to deal with simple injuries on its own, and to stabilize more critical patients so that they survive until they reach better facilities. The Model I can perform major surgery on its own, but not very well, and is programmed to do so only in the case of extreme emergency.

This robot, nicknamed "Hawkeye", often accompanies soldiers into low-intensity combat, so that it can deal with injuries on the spot. It's not very well armored, so it hangs back from more dangerous situations: there the victims must be brought to it.

SecurCorp Fang™: Personal Security Guard Robot
Cost: $12,000,000; Avail: D
DEX: 3; STR: 3; SPD: 4; RES: 10; Dodge: 3; Martial Arts: 4; Detective: 3
Standard Equip:
- Video Camera with Infrared Attachment
- Microphone and Speakers
- Accu-Sniffer™ (see below)
- Tazer Teeth: *Penetration: 12; Damage: Special*
- Radio Control Leash

This is a scaled-down version of SecurCorp's vicious Neo Dobie. Like the Neo Dobie, the Fang is a robot dog; it has many of the same capabilities and tendencies as the Dobie, but in a slightly smaller, less lethal frame.

Fangs are street-legal, as long as they are kept on their radio-control leash. This leash can transmit a shock to the Fang's living cerebral cortex, hopefully causing it to desist in any undesired behavior. A coded key sequence will also transmit a shut-down signal (see Neo Dobie, above). Beyond this, a Fang can be trained as well or as poorly as any other guard dog.

The Penetration Challenge of the Fangs' Tazer Teeth is a P/F. If the Challenge succeeds, the target must make a successful P/F RES Challenge against a Difficulty of 12 or fall unconscious immediately (as if affected by a KO result).

Fangs go mad slightly less often than Neo Dobies.

chapter three: medical equipment

Overview

THE STATE OF THE MEDICAL ARTS IN 2021 APPEARS IDYLLIC

Ain't medicine wonderful? I mean, lookit all the neat stuff we can do these days: replacement limbs, organs, eyes and even *brains;* anti-cancer pills; genetic enhancements at low, low everyday prices; over the counter mood-enhancing drugs; anti-insanity pills — I mean, Geez! A guy's gotta work at it to die in the fabulous '20s!

And the hospitals! Whooeee! C. Everett Coop Memorial Hospital (formerly Walter Reed) is the nicest place in the world to be sick in. Cheerful, comfortable rooms, each with private whirlpool bath and plush carpeting; attractive (and a little accessible-looking) nurses; doctors with just a touch of gray at the corners (to give them the Welby look); the fanciest hi-tech medical equipment to be found on the planet... Heck, it's worth getting an inoperable brain tumor just to spend a couple of weeks in that place!

Private hospitals– the best that money can buy!–

Now I know what you're thinking. You're thinking, "Well, that all sounds very well and good for the rich BaWash plutocrats, but what about us normal folks who can't afford to blow $1,000,000 a day on a stay in a hospital? Where do we go when we're sick?" Glad you asked. You know why? 'Cause health care in America *works*. By law, every American has free and equal access to doctors, hospitals, drugs, prosthetics and all the other technical marvels which make our health care system the best darn system in the world! And all this without socializing medicine like some Commie pinko reactionary dweebs wanted to in the '90s!

Here's how it works. Every American has a little plastic card, with his Social Security number imprinted on the back of it. If he needs health care, he just takes the card to his local health-care provider. This guy accepts the card as payment *in full* for all basic services, charging the patient only for any additional services he may desire. The provider submits a bill to the US Government Social Security Insurance Pool, God bless 'em, and the money comes right out of our taxes! What could be fairer?

And the beauty of the system is, to keep costs (and taxes) down, we don't have to pay health care for folks who choose the luxurious accommodations of places like Coop Memorial! Why? Because — get this — Coop Mem doesn't accept the Social Security card at all! If you go there, you or your personal insurance company pays, in full, without tapping into the general Social Security insurance pool! It doesn't cost the taxpayer a cent! Isn't that great?

Think about it: a fully fair and equitable health-care system. If you *want* to spend your own money, you can go to a private hospital and get any service you want! But if you don't, there are perfectly adequate local health care facilities, with perfectly adequate doctors, beds, and equipment, and it costs you nothing!
What a country!

Welcome to the Real World

Unfortunately, things aren't quite as rosy as they have been painted. Indeed, the private health care system in America cannot be matched anywhere in the world — either for quality of care, or for cost of services. However, the public health care system *can* be matched elsewhere

In America, all the good doctors, nurses and technicians naturally gravitate toward the private sector, where they have a chance to earn a very good living. Those providers in the public sector are, for the most part, incompetent

boobs. It must be admitted that a few good medical personnel *choose* to work in the public sector, choosing long hours, inadequate equipment and low pay over toadying to the rich and privileged plutocrats in the private sector. However, these Samaritans are far outnumbered by the whackos who simply aren't good enough to get into private practice.

Public hospitals, particularly inner-city public hospitals, are dangerous places indeed. The equipment is old, the drugs low-quality, the personnel burned out, overworked and underpaid. A large portion of the patients tend to be victims of street violence, often related to turf wars over control of the drug trade. These wars often spill into the hospitals themselves, and running gun-battles down hospital corridors are not unknown.

UNREGULATED
HEALTH CARE
ABOUNDS

Public hospitals– the worst that money can't buy.

The VA hospitals are much the same as other public hospitals, except that they are in general a bit safer, a bit quieter. Convalescing vets patrol the hospital's halls; these well-armed professionals are very good indeed at quelling incipient violence before it gets ugly. Unfortunately, there aren't enough VA hospital beds to go around. Emergency service is just adequate: generally, a badly-wounded vet will get treated before he dies of blood-loss. But the non-emergency system is strained to beyond capacity. A vet requiring major work — limb replacement, drug rehabilitation or liver repair, for instance — may have to wait up to a year for an open VA bed if he can't afford a private hospital.

Storefront public health clinics do their best to fill in the gaps, teaching basic nutrition, sanitation and birth-control, clandestinely providing free needles to stem the spread of infection, and generally attempting against all odds to keep the local people healthy. These clinics serve all who enter their doors without question. Though their funds are low, their equipment abysmal, their conditions squalid, these clinics are often all that stand between the people in a community and rampant disease.

The Underground Healthcare System

This sector of American healthcare has grown by leaps and bounds to fill in the gaps left in the legal system. Black-market organs and replacement limbs are available for below the cost of legal ones, and usually with a far shorter waiting period. Best not to think about where the parts came from, if you know what I mean... Similarly, drugs and prosthetics are available on the black-market, if you've got the dough and know where to look.

It is also possible to find doctors who will fix up a gunshot wound, get rid of an unwanted pregnancy, install a neural jack or cure the clap, no questions asked, no forms filed with the government. These medicos have probably been barred from legal practice, best not to ask why.

It goes without saying that these underground goods and services vary wildly in quality. Maybe the clozapine you bought from that guy on the street corner is pure; maybe its been cut two or three times with a common antihistamine. Maybe the back-alley abortionist is perfectly fine when she's sober; maybe she has an arrangement with an organlegger, selling her accidents for spare parts.

It's generally a good idea to get a recommendation from someone you trust before you let a stranger sell you a drug or put you under the knife.

Drugs

The following list of drugs are used to treat a variety of symptoms and diseases. Some of them are commonly misused in ways that are interesting or entertaining, but often quite dangerous as well.

Avail: A: These drugs are available over the counter at any drug store. **B:** These drugs are legal to purchase over the counter; however, they are carried only in larger cities. **C:** These drugs require a doctor's prescription to purchase; they are easy to acquire with such a prescription (or through the black market). **D:** These prescription drugs are available only in big cities (or from specialty black-marketeers). **E:** These illegal drugs cannot be gotten except through the black market.

Cost: Normally, for a standard three-week supply of the drug. Some drugs are sold per dose.

Treats: Standard use for the drug.

Additional Effects: Special effects of the drug.

Side Effects: Results of taking a drug over a long period of time.

Addiction Level: This number describes how addictive a drug is. After each week's use, the user must make a P/F WILL challenge against this number, failure indicating that the character has become addicted to the drug. If a character has been addicted to a drug in the past but has kicked the habit, increase the drug's addiction level by +2 for that character.

WP (Withdrawal Penalty): An addicted character suffers this penalty when he or she does not have access to the drug. Add the number to any Challenge the withdrawn Character attempts. (Example: A withdrawal penalty of "2" means that while in withdrawal the Difficulty of all of the Challenges the character attempts will be increased by +2.)

Kicking the Habit

To break an addiction to a drug, the character must stop using it for a solid week, during which time he or she will go through withdrawal. At the end of the week, the character makes a Standard WILL Challenge against a Difficulty of 5 plus or minus the Addiction Level of the drug. A result of "A" means that the character has kicked the habit entirely. A result of "B" or "C" means that the character no longer suffers the withdrawal penalty; however, he is still mentally addicted and must roll on this table again in a week. A result of "D" means that the character is still in withdrawal and suffers the appropriate effects for another week. Failure at this roll means that the character starts taking the drug again. He cannot make another attempt to kick the habit until a full week has passed.

> **Example:** The Pink Lady has a cyclonadine Jones and attempts to break the habit. She suffers the withdrawal penalties for a week (+1 Difficulty to all Challenges), then makes a WILL Challenge against a Difficulty of 6. She receives a "B" result: she's still addicted, but she does not suffer withdrawal. A week passes. She fails the next WILL Challenge entirely and goes back on the drug. After a couple of weeks she tries again. She suffers withdrawal for a week, then makes another WILL Challenge, this time receiving a result of "C". She expends two Karma Points to bring her result up to "A", kicking the habit entirely.

Cyclonadine
Cost: $300/7 standard daily doses or 2 triple doses; Avail: C

Treats: Melancholia, panic disorder, depression.

Additional Effects: At triple the recommended dosage, cyclonadine produces increased alertness accompanied by feelings of optimism and invulnerability. Character's INT is increased by +1; Will is decreased by -1. Effects last for

three hours, at the end of which the character takes 1 Stress point.

Side Effects: None for standard dosage; sweating, shivering and running nose after triple dose wears off. Character's Will is *permanently* reduced by 1 for each six months of addiction to this drug.

Addiction Level: None for standard dose; +1 for any week in which a triple dose was taken. **WP:** 2.

Trompadol

Cost: $200/dose; Avail: C

Treats: This is a very effective painkiller. Reduce the Difficulty modifier of Light, Medium, and Heavy Wounds by 1 for any character dosed with Trompadol. The effects last for 20 minutes, at the end of which time the character suffers the equivalent of a KO and must pass a RES Challenge of Difficulty 5 to stay conscious, otherwise falling into a very deep sleep. If he passes the RES Challenge, he stays awake but once again suffers the normal Difficulty modifiers for his Wounds. Another dose of Trompadol at that point will kill the pain once more, but each subsequent dose increases the Difficulty of the KO Challenge by +2.

Additional Effects: Trompadol has no dramatic effect upon a healthy body except to make it feel pretty good for 20 minutes, then very sleepy. A huge overdose may induce coma and rarely death.

Side Effects: After the drug wears off, the recipient feels very, very sleepy (and must make the KO roll to stay conscious).

Addiction Level: -3. **WP:** +1.

Scopex

Cost: $1000/dose; Avail: E

Treats: There is no valid pharmacological use for Scopex. It was originally used to combat various neurological disorders, but better drugs have been since developed.

Additional Effects: This so-called "truth drug" breaks down the ingester's willpower and clouds his thinking, making him far more susceptible to intimidation, suggestion, hypnosis, and so forth. (Reduce the victim's WILL by 2 and INT by 1 for three hours.) Scopex is illegal, but certain branches of the Federal government are rumored to use it during interrogations anyway. Scopex comes in a convenient pill form and has a slightly bitter taste. (Tricky INT Challenge to notice the taste in doctored wine, water, milk or the like; Very Difficult INT Challenge to notice it in coffee, bourbon, soda, etc.)

Side Effects: One hell of a hangover as it wears off.

Addiction Level: Not addictive.

Radoff

Cost: $275 (for a complete week's dosage); Avail: B

Treats: Radoff treats light bouts of radiation poisoning by purging the glands and organs in the body where radioactive material collects, particularly the pituitary and regenerative organs. It won't cure catastrophic radiation exposure, but it helps in light to medium exposure. (Increase the ingester's RES by 2 when resisting radiation poisoning.) To be most effective, the week's treatment of Radoff should be begun immediately after exposure.

Additional Effects: None.

Side Effects: Slight dizziness, nausea, palsy noticeable during treatment. Extremely large overdose (two weeks or more of Radoff taken at the same time) may cause coma and death.

Addiction Level: None. The stuff tastes horrible and it makes you feel like hell.

Mortocsin

Cost: $500/dose; Avail: D

Treats: Poisoning. Mortocsin is a liquid used to combat non-corrosive ingested poisons. Once taken, it paralyzes the patient's gastrointestinal tract, slowing or stopping the toxin from being absorbed into the bloodstream through the stomach or intestines. At that point, the victim is purged of the toxin through stomach pump, enema, induced vomiting, and so forth. The effects of Mortocsin wear off in about four hours.

Additional Effects: Mortocsin can be taken before a poison is ingested as well. As long as the stomach is purged within four hours, the poison will have little or no effect. (Increase the character's RES by 4 when fighting the effects of ingested poisons.) Mortocsin blocks the effects of alcohol and other ingested drugs as well, making it popular with executives who want to remain sober during long Japanese-style business dinners.

Side Effects: Prolonged use (four or more doses/month on a routine basis) can damage the user's G-I system, liver and kidneys. Frequent purging through vomiting will eventually injure the user's stomach and throat.

Addiction Level: None, normally. However, some bulimics are psychologically hooked: taking a dose, binge eating for four hours, then self-inducing vomiting before the Mortocsin wears off.

Florotex

Cost: $1500/dose; Avail: E

Treats: Nothing. This drug has no clinical value.

Additional Effects: When taken, this drug kicks the user's pheromone system into emergency high gear, causing him or her to literally exude attractiveness and sexuality to all within smelling distance. (Increase the user's AURA by 3 for four hours in personal contact.) Members of the opposite sex (and same-sex homosexuals) will be extremely attracted to the user. For that matter, so will members of the same sex (and opposite-sex homosexuals), and they may be somewhat disturbed and uncomfortable about it. Since pheromones work on the subconscious level, the victims will not know why they're suddenly so attracted to the user, but boy are they. (Unless pheromones are suspected for some other reason, a Phenomenal INT roll is required to realize what's going on.)

This drug is commonly used by entertainers and extremely expensive prostitutes, not to mention spies when baiting a "honey trap."

Side Effects: The user's pheromone-producers are exhausted when the drug wears off. (Reduce user's AURA by 1 for eight hours, in personal contact only.) Repeated use eventually causes the pheromone system to shut down except when the drug is taken.

Addiction Level: 1. **WP:** -2 to AURA and related Skills only.

Adrenol

Cost: $1000/mega-dose; Avail: D

Treats: Adrenol is a highly-concentrated adrenaline-based compound. It is used in emergency rooms to jump-start hearts which have stopped beating.

Additional Effects: If taken in mega-doses by a healthy user, Adrenol acts as a super stimulant, raising the user's blood-pressure, speeding up his reaction time, shutting down blood flow to his gastro-intestinal system and shunting extra oxygen to his brain and muscles. (This raises the user's *STR, DEX, SPD* and *RES* by 1 each for 20 minutes.) At

the end of that period, the user is exhausted and may collapse.

Side Effects: After the drug wears off, the user immediately takes 1 Stress Point. In addition, he must make an Impressive *RES* Challenge. Failure indicates that he takes a LW and collapses; a "C" or "D" result means that he takes a LW but doesn't collapse; an "A" or "B" result means that there is no particular effect.

Addiction Level: 3. **WP:** -1 to all Stats and Skills.

First Aid Equipment

TWD First Aid Pack

Cost: $5,000 (refill: $1,000*); Avail: B

RES: 7

This is the standard first-aid gear issued to TWD Coremen in the field. This plastic and metal backpack contains a variety of first-aid equipment, including antiseptics, painkillers, plastiflesh, splints, sutures, scalpels, eyewash, antitoxins, and so forth. Anyone in possession of a first aid pack adds +2 to his First Aid Skill.

*Assume that a first aid pack requires a refill after treating six casualties.

Surgical Equipment

TWD/JMC Mobile Surgical Theater

Cost: $500,000 (refill: $10,000*); Avail: D

Handling: -1; SPD: 12; RES: 15

This is a complete emergency surgical theater built into a heavy JMC van body. It contains everything necessary for emergency operations: surgical table, body-function monitors, anesthetics, scalpels, bandages, sterilizer, and a wide variety of drugs. In the field, the van drives into position under its own power or is airlifted in by heavy chopper. Normally, the van is painted a distinctive white with red cross/sickle symbol; if repainted, from the outside it is indistinguishable from any JMC heavy van equipped with light armor, heavy tires and reinforced suspension.

The mobile surgical theater can handle one case at a time. To be fully functional, it must be staffed by a surgeon with the Medical Treatment Specialty and an assistant with the Medicine skill. If no assistant is available, 1 is subtracted from the surgeon's Medical Treatment Specialty.

Note that the standard van *is not* equipped to deal with delicate neurosurgery: in other words, a doctor can give a patient a dead artificial leg, but he cannot attach a limb equipped with neuro-receptors or indeed a living replacement limb. The van can be equipped with specialized neurosurgical equipment for an additional $1,000,000.

Naturally, the van is superbly equipped to deal with most first aid problems; add +3 to the First Aid Skill of anyone working from a Mobile Surgical Theater.

Replacement Parts

Modern medicine has all but solved the problems of tissue rejection and nerve reconnection, making the success rate for organ and limb transplants quite high indeed. In addition, artificial limb technology has advanced to such a great

extent that it is virtually impossible to tell a good fake limb from a real one — except that a fake leg doesn't get athlete's foot, and its batteries must be changed once a week or it will go dead.

Thus, a wide variety of options are available to a patient who has been so careless as to misplace a body part — and who can afford the price of surgery, of course. Standard American health care insurance covers organ replacement when the patient's life is at risk. However, in the case of limb or eye loss, the health insurance pays for only the simplest, most primitive replacement: a dead, ugly, non-functioning arm or leg, a glass eye, etc. To get a working limb or non-vital organ, the patient must cough up his or her own cash or have additional private insurance.

Fake Limbs

The following limbs are the best that modern medicine can provide. Needless to say, they are not covered by standard health insurance. Health insurance will get you the plastic equivalent of a peg-leg or hook.

Limitations: As stated above, the artificial limbs of the 21st Century are almost as good as the original. Almost, but not quite, that is. Even with modern technology it is all but impossible to completely duplicate the living body's functions. The limb's limitations and flaws are detailed in its description.

Artificial Eye
Cost: $75,000; Avail: B

This is essentially an extremely high-resolution mini-cam which mimics the activities of the human eye. It is powered by oxygen taken from the bloodstream, and thus does not need a battery. The mini-cam shuts down when the eyelid closes. Artificial eyes are available in a wide range of colors and styles.

Customizations: For an additional $25,000, an artificial eye can be equipped with infrared scanners.

Limitations: The eye might burn out when directly exposed to extremely bright light — flash grenades exploding at very close range, nuclear explosions, staring directly at an eclipse, and so forth. (Note that real eyes also tend to burn out under the same circumstances, so many combat goggles are equipped with flash-protectors.)

Artificial Hand
Cost: $100,000; Avail: B

This metal and plastic prosthetic is equipped with neuro-receptors for near-normal sensitivity. It can be covered with plastiflesh, fake hair and creases to match the other hand. It is battery-powered and requires a new battery after a week's use.

Customizations: Mainly aesthetic: colored fingernails or flesh, knuckle spikes, scales, built-in watch, and so forth.

Limitations: The artificial hand is quite sensitive, but not as sensitive as some boosted vets' original equipment: if the vet's natural *DEX* is 3 or higher, subtract 1 from it when using this hand. Thus, if his left hand is artificial and the vet is right-handed, this will have virtually no effect except when the vet uses both hands simultaneously — when playing the

piano, for instance. Similarly, the hand may not be as strong as the vet's original: if the vet's natural *STR* is 5 or higher, subtract 1 from it when using this hand.

Artificial Arm (Including Artificial Hand)
Cost: $200,000; Avail: B

This is a replacement of the patient's entire arm, from shoulder to hand. Again, the replacement limb can be made to look natural or obviously artificial. An artificial arm's battery must be replaced after a week's use.

Customizations: The same cosmetic changes as for the artificial hand, above. In addition, a secret compartment can be built into the forearm for an extra $5,000, holding something about 1" by 1" by 3" in size. Note that the arm and hand will set off a metal-detector, as will any artificial limb (unless it's made out of wood, of course).

Limitations: When using this limb, subtract 1 from a boosted vet's *DEX* if the natural *DEX* is 3 or higher; subtract 1 from vet's *STR* if the natural *STR* is 5 or higher. In addition, the arm's *RES* is 6; if the vet's natural *RES* is higher than that, subtract 1 from it; if it's lower, add 1.

Artificial Leg and Foot
Cost: $150,000; Avail: B

This replaces the patient's leg, from hip to foot. With room to store a larger battery, an artificial leg's battery must be replaced every two weeks.

Customizations: The standard cosmetic changes are available. For $5,000 a secret compartment can be built into the thigh, holding something about 2" by 2" by 4".

Limitations: If a boosted vet's natural *SPD* is 5 or higher, subtract 1 from it when using this limb (like when running, for instance). In addition, the limb's *RES* is 6; if the vet's natural *RES* is higher than that, subtract 1 from it; if his natural *RES* is lower than 6, add 1.

Cloned Replacement Parts

For a rather larger price, a character can have a living, completely natural replacement limb grafted on. This limb is cloned from his tissue, force-grown, then surgically attached. It is completely indistinguishable from the original. A small organ like the eye takes one month to grow; a full arm or leg takes four to six months. Extremely wealthy individuals might clone arms, legs, or indeed an entire replacement body up front and then keep it in cold storage, ensuring that spare parts will be available without the normal waiting period.

These procedures can only be done in large, sophisticated facilities with extremely expensive genetic and neurosurgical equipment.

Note that the prices listed below include both the cost of the cloning and the surgery.

TECHNO

Cloned Replacement Eye
Cost: $100,000; Avail: D

Cloned Replacement Hand
Cost: $300,000 (plus $15,000 for each point of DEX above 4); Avail: D

Cloned Replacement Arm/Hand
Cost: $600,000 (plus $15,000 for each point of DEX and STR above 4); Avail: D

Cloned Replacement Leg/Foot
Cost: $450,000 (plus $15,000 for each point of SPD above 4); Avail: D

Cloned Replacement Body (brain not included)
Cost: $10,000,000 (plus $20,000 for each point of STR, DEX, SPD, and RES above 4); Avail: D
A replacement body takes a full 10 months to force-grow.

Cosmetic Surgery

Surgically-Implanted Watch
Cost: $10,000; Avail: B

This is another item brought to you by the miracle of alien bio-tech. Essentially, a piece of skin the size of a quarter is removed from your body, typically from the back of one of your hands, and replaced with a piece of genetically-modified skin. The cells of this new skin glow upon command. They have been biologically "programmed" to glow according to a rigid time-pattern, digitally-displaying the time.

This watch never needs winding and it runs off of oxygen supplied by the wearer's own blood. It is self-repairing if cut or otherwise damaged (unless too much has been destroyed). If the skin is running slow or fast, the wearer can go back to the shop and have it adjusted or take over the counter vitamins specifically engineered for just this purpose.

Other Surgical Cosmetic Changes
Cost: $5,000 to $1,000,000+; Avail: B

This runs the gamut from a standard middle-age "nip and tuck" to various augmentation implants to truly bizarre alterations. Note that the more appalling alterations are not AMA sanctioned: the patient must go out of the country or find a black-market chop-shop to get these done.

Following are price guidelines for cosmetic surgery: (Note that these changes are *cosmetic*: they do not affect the character's Attributes or Abilities one iota. They're just hip. Or weird. Or gross. Or whatever. See the section on *Medicine* in this book for details about more important physical alterations.)

Cosmetic Surgery

Basic Price

Standard Cosmetic Surgery: Nose job,
chin enhancement, eye-sag removal   100,000 +

Large (but normal) Change: Height
oincrease or decrease, hair-color change, eye-
color change, total facial makeover, etc.   25,000 +

Minor Weird Change: "Spockified" ears, forked
tongue, blue hair, animated tattoos, glow-in-
the-dark eyes, etc.   40,000 +

Big Weird Change: Cat's eyes, extra finger,
feathers in place of hair, 3-foot long tongue,
total skin color change (to natural
or unnatural color), fur, etc.   100,000 +

Monstrous Change: One big eye in place of
original two, eyes on stalks, spikes growing from
spine, double row of teeth, snake skin, etc.   500,000 +

"Hey man, ya need a watch?"

chapter four:
better living through chemistry

M MERKON INDUSTRIES

From the desk of the CEO

3/19

Roy, I understand that the only thing standing in the way of our last shipment of 20,000 barrels of A. Red to Brazil is Senator Hodgeson. Please send that nice mister Necromancipator over to the senator's house with a special token of my regard. I understand that Mrs. Hodgeson is expecting early next year.

Mom

A VARIETY OF CHEMICAL PRODUCTS ARE AVAILABLE IN 2021

Overview

This section of the book describes a variety of chemical concoctions available in the 21st Century. Many are controlled, some illegal; all might be of use to the boosted vet on the go.

Chemicals for Use on Humans

Aerosols

The following chemicals are often dispensed in aerosol form. They are either thrown like grenades or sprayed directly at the target. Note that high winds will really screw with the effectiveness of aerosols. (In other words, don't throw a Nova-Habanero grenade against the wind or it will end up in your face!)

Nova-Habanero Spray Grenade
Cost: $750; Avail: C

Accuracy: 0; Penetration: 12/0*; Dmg: STN/STN/KO/KO**; Blast: 3; Rng: 3/5/8; Rate: 1; STR: 0; RES: 11
The Nova-Habanero grenade, or "Nova-H" as it is called, is an effective riot-control device used by many metropolitan police forces. When thrown, the Nova-H lets off a thick, greasy cloud containing the concentrated essence of the hottest pepper in existence, making a gas which is far more painful than standard tear gas. Any contact with exposed skin is extremely painful, particularly if the gas gets in the eyes or is inhaled. Nova-H causes no permanent damage (except perhaps in cases of prolonged inhalation). Unless dispersed by high wind, the poison cloud will remain effective for 40 seconds (10 rounds).

*Use the Penetration of 12 when the victim has *any* skin exposed; use 0 when the target is in a full body-suit with internal life support.

**Damage: STN/STN/KO/KO. Nova-H doesn't actually stun or knock out the target; instead, the target is in so much agony he might as well be stunned or ko'ed — he can't do anything except run out of the cloud, frantically rub his eyes, tear off his clothing, vomit, cough up bits of lung, etc. Additionally, anyone who receives a STN or KO result suffers a -1 penalty to all attributes and skills for the next 30 minutes.

Nova-Habanero Personal Defense Spray
Cost: $300; Avail: C

Accuracy: +1; Penetration: 9/0*; Dmg: STN/STN/STN/KO**; Rng: -5/-3/-1; Ammo: 2; Rate: 1; STR: 0; RES: 9
This is a hand-held version of the Nova-H grenade (see above). It comes in a plastic dispenser about the size of a cigarette lighter and is often attached to the wearer's key chain. To use it, the wearer simply clicks off the safety, points it at the bad guy's face and presses the button. Each dispenser holds enough gas for two good squirts.

*Penetration and **DMG: See the Nova-H grenade, above for details.

Etherex Spray
Cost: $1200; Avail: D

Accuracy: 0; Penetration: 10/6/-2*; Dmg: STN/KO/KO/KO**; Rng: -4/-2/0; Ammo: 3; Rate: 1; STR: 0; RES: 9
Etherex is another personal-defense spray; but this one is designed to render the assailant immediately unconscious. In use, the spray is directed at the assailant's mouth and nose. If any of the spray is inhaled, the victim is almost certain to pass out.

Penetration: 10 if the target is surprised and not wearing breathing gear; 6 if he sees the attack coming and holds his breath; -2 if he is wearing breathing gear.

**DMG:* If stunned or Ko'ed, the target remains groggy and nauseous for 5 minutes after regaining consciousness: subtract -2 from all skills and attributes during that period.

Other Chemicals

Bondex™

Cost: $100/50 drops; Avail: A

Bondex is an extremely powerful super glue for use on non-porous surfaces (glass, metal, plastic). It comes in two parts: a clear liquid in a plastic applicator tube, and a small battery-powered wand. To use, apply several drops of glue to one surface of the item, press firmly together, then touch the wand to the seam and press the button. The wand emits a small electric charge which activates the glue. The glue sets in five seconds.

Doug the Bully demonstrates the best use for Bondex™...sticking superflous accessories on your gattage!

Bondex has a *STR/RES* of 20 or equal to that of the original material, whichever is *lower*. For instance, if an aluminum door (*RES* 9) has been glued shut with Bondex, anyone attempting to bust the door open has to beat the door's *RES* of 9, not Bondex's *RES* of 20.

Solvex™
Cost: $300/6 oz. application; Avail: B

This nasty substance will, given enough time, melt through just about anything. Solvex is comprised of two liquids sold in a twin applicator. When the single plunger is depressed, both liquids are squirted out simultaneously. Once the liquids come in contact with each other, they form a very potent acid.

The *STR* of the acid grows over time, doubling every ten rounds until it reaches a maximum *STR* of 32, at which point it begins to drop back down to zero. As a safety precaution, Solvex immediately becomes inert if it comes into contact with alcohol (so it's a good idea to have some booze standing by in case you spill the Solvex onto your hand or something).

Round	Acid Strength
10	1
20	2
30	4
40	8
50	16
60	32
70	16
80	8
etc.	etc.
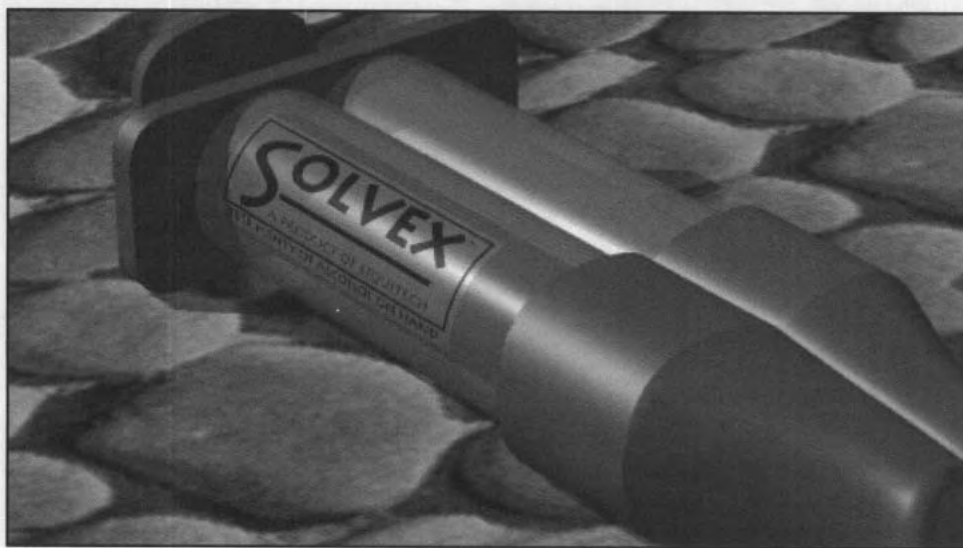
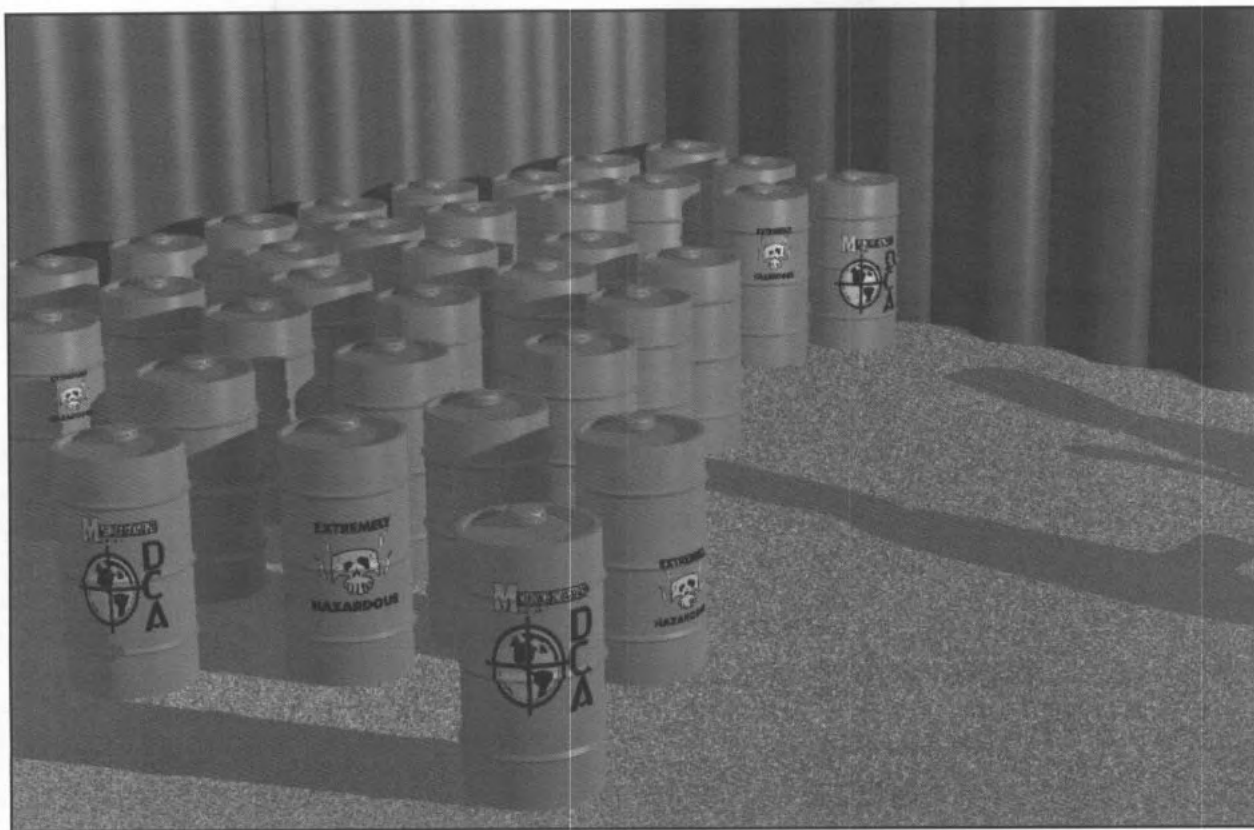## Slik Lik™

Cost: $400/16 oz. can; Avail: A

Slik Lik is a nearly frictionless super-lubricant used in high-performance engines such as aircraft, robots, race cars, and so forth. It's real slippery stuff — think of a million ball-bearings scattered on an oil-covered ice skating rink and you begin to get the idea. Slik Lik is really good at lubricating frozen keyholes, cleaning rusted metal, and so forth.

Staying upright while running across a Slik Lik-covered surface is a Phenomenal *DEX* Challenge (Difficulty 15).

Agent Red

Cost: $7500/50-gallon drum; Avail: D

This powerful defoliant is a direct ancestor of the Agent Orange used in the First Viet Nam war of the '70s. When Agent Red is sprayed over vegetation, the vegetation withers and dies in a couple of days, leaving a greasy, smelly sludge behind. Each 50-gallon drum contains enough Agent Red to kill off 2 1/2 acres of vegetation in eight hours. The manufacturer, Merkon Industries, Inc., of Wayne, NJ, guarantees that the substance is not harmful to human beings in the least. No, really: all those problems with Agent Orange have been fixed. They're sure. I mean, rats live on the stuff without hardly any problems at all (except for a statistically meaningless rise in birth defects and inoperable brain tumors, that is). But that's nothing to worry about....promise. Given these firm assurances, Agent Red is used in jungle warfare by many Conflict Organizations.

Melt-It™ Crystals

Cost: $300/5-pound bag; Avail: A

Melt-It is like rock salt, but far more powerful. When it comes in contact with water it dissolves, generating a good deal of heat as it does so. It is commonly used to clear frozen sidewalks, stairs, and so forth. A handful of Melt-It crystals will melt through two inches of ice in 30 seconds; a pound dropped in a bucket of water will boil the water away in under five minutes.

Melt-It is non-toxic, more or less. That is, if you swallowed down a handful of the crystals it would boil away the lining of your stomach, which you might find uncomfortable; however, water that has been heated by Melt-It is safe to drink (though it tastes a bit funny). In the field, many vets carry packets of Melt-It to boil water for coffee, heat up stew concentrates, and so forth.

Quik Ice™

Cost: $250 per 6 oz. packet; Avail: A

Quik Ice is pretty much the exact opposite of Melt-It. Quik Ice comes in a heavy plastic packet, inside of which are two liquid chemicals, separated by a plastic membrane. When the packet is struck, the membrane breaks, allowing the liquids to mix. As they mix, a chemical reaction causes the liquids to get very cold, very quickly. So cold that the package becomes almost painful to the touch. It will stay cold for 30 minutes.

Many vets carry Quik Ice with them in the field, ostensibly as an instant cold-pack to treat muscle-strain. However, it is also very good at chilling beer that has been carried through a hot jungle all day. Simply dig a hole in the ground, shake the packet, drop the 6-pack in the hole with the packet, and cover with dirt. Presto! In 20 minutes the beer is fit to drink.

communications gear

Overview

The electronic superhighway has dramatically expanded human communication. There are thousands of video channels available, catering to every conceivable taste. New networks are constantly coming into existence — all you need is a video cam, a fairly cheap line-rental fee and an FCC license — staying on the air for a few days, being studiously ignored by a jaded public, then disappearing again without a ripple.

And for those who can't get an FCC license, because the material they wish to broadcast is deemed to be seditious in nature, it is fairly easy to broadcast illegally. Any halfway decent programmer with access to a computer with a satellite-uplink modem can do it. Mind you, it is also easy for the FCC to track these pirates and shut down their operations after a couple of broadcasts: to be successful, the pirates must keep constantly on the move, broadcasting from different locations daily, staying one jump ahead of the video cops. Though it is tough, you *can* get your message out if you want to bad enough.

Personal communications too has benefited from the so-called "digital revolution." Portable phones and vid units are dirt-cheap, and the comm satellite coverage of the planet has reached almost one-hundred percent. In other words, if you want to talk to your New York broker and you happen to be lost in Rainforest National Park simply find a clearing, point your wrist phone at the sky, wait for the beep announcing a satellite link, then dial. If you can get past your broker's frigidly officious secretary, you're golden. Hell, if he *won't* talk to you, type an obscene message on your pack computer and fax it to the bastard.

One thing about instant, easy-access communication: despite all predictions to the contrary, it has hardly improved human friendship and understanding at all. People seem to fear each other and hate each other's guts just as much as they used to in the old days, when they had to cross oceans in leaky wooden boats to express their feelings. Funny, huh?

every conceivable taste: Among the thousands of channels available are the Jews for Jesus Network, The All Lucy Channel, The 24-Hour Thrash-Polka Station, The Good News Network, The Sex Network, The Violence Network, The Sex and Violence Network, and many more.

COMMUNICATION IN 2021 IS EXTREMELY EASY

INCREASED UNDERSTANDING HAS NOT COME WITH INCREASED COMMUNICATION

Personal Communications Gear

Phones
The generic name "phone" is used for both voice only models and voice and image units.

Tapping Phones
Tapping a phone is a Digital Security Challenge, the Difficulty depending upon Security Rating of the model. Standard models generally have a Security Rating of 4.

Standard Home Models
Avail: A; Cost: $700 (voice-only); $3,750+ (standard video/voice unit)
There are a wide variety of home models available — cheap, voice-only units through full-screen video displays with Dolby EXTM stereo surround sound. Everybody makes them: NorthAmericanBell, CandyTech, Cornermart, Crip Bros. Int., and anybody else you can name. All standard models operate through the digital cable connection in every home; virtually all are capable of home computer access and control.

Secure Home Phone
Avail: B; Cost: $4,000+ (see below)
These units are similar to the standard video/voice units described above, but they are designed to make tapping into their signals more difficult. This is done in two ways: by protecting the cable and by monitoring the signal.

The cable running from the unit to the connection-box in the street is heavily-shielded to make passive tapping difficult, if not impossible. In addition, the cable is designed to cease functioning if the outer casing is tampered with in any way.

To monitor the signal, the phone sends a companion signal to the other phone, which, if it is a secure phone itself, automatically returns the signal back to the original. If the returned signal is altered — that is, it is garbled, or weaker or stronger than the original — then the line might be compromised. If this is the case, a small red light flashes, letting the user know that the line might be tapped. Note that the monitoring system is effective only if both phone units are security models.

Following is a listing of the more popular secure phone models, listing each unit's price and security rating. If two different models are connected, use the *lower* Security Rating.

NorthAmericanBell SecurPhone™ Model I: (Cost: $4,000) Security Rating: 6.
NorthAmericanBell SecurPhone™ Model II: (Cost: $7,000) Security Rating: 8.
Crip Bros. Int. Security Communications System: (Cost: $9,000) Security Rating: 9.
Crip Bros. Int. Advanced Security Communications System: (Cost: $13,000) Security Rating: 10.

Higher Security Ratings

Phones with Security Ratings greater than 10 are available for vastly higher prices; they are used only by the richest and most paranoid — important government officials, business execs, mob bosses, vidstars and the like.

To achieve a Security Rating greater than 10, the phone must encode the signal in a format the other phone can understand. These phones are equipped with disc-drives to read encoding algorithms inserted by the user. In use, the caller makes the connection with a clear, uncoded signal and tells the person at the other end which encoding system he is going to use. From that point on, the signal is encoded. If the encryption is extremely complicated, there might be a transmission lag of as much as a second while the signal is encoded, sent and then decoded at the receiving end.

In places where security is extremely tight, the encoding algorithms might be of the "one use only" type: after receiving a .new code from disc, the phone automatically wipes the disc clean, so that the particular code can never be used again. This system is extremely expensive, of course, and only the wealthiest organizations can afford it.

The world's biggest living lout with his "cellular."

Secure Phones in Action

"American Embassy, good evening."

"Hello, this is the White House. We wish to institute a Security Level Three communication. Please activate code four-dash-two-oh-niner-niner-one."

"That's four-dash-two-oh-niner-niner-one, check. Activating now...."

"American Embassy, can you read me?"

"Loud and clear, White House. What can I do for you?"

"President Foster wishes to speak with Ambassador Green."

"Hold on, White House. I'll connect you now..."

"Yes, this is Ambassador Green..."

"Please hold for the President, Madam Ambassador..."

"Hello, Margaret? You there?"

"Yes, sir, Mr. President. How are you?"

"Oh, fine, fine. Listen, I know it's late over there, so I won't keep you long. I've got one quick question for you..."

"Fire away, Mr. President."

"Johnson over in State is taking Moscow and giving three points in tomorrow's Moscow-Berlin game. I'm thinking of putting ten bucks on Berlin. What do you think?"

"Er, well, Sir, I don't know... Hmm... I've heard that Kasparov, Moscow's goalie, strained a knee ligament in practice a couple of days ago... the backup goalie is pretty raw; Berlin and three might be a good bet..."

"Great! I'll make it twenty on Berlin. Do you want any of the action?"

"No thank you, Sir. I don't bet."

"Oh? Too bad. Well, excellent work, Margaret, excellent. I knew you were the right woman for a tough job. Well, I've got important matters of State to deal with. I can't sit around gabbing all night. Good night, Madam Ambassador." [*click*]

"Good night Mr. President...." [*SLAM!*] "Great Bloody Christ Almighty! He calls me at 3:00 am on a secure phone line costing 750 bucks a minute to ask advice on a lousy twenty-buck bet? Jesus! The man's a blockhead! I'm going back to bed... Huh? What do you mean I'm still transmitting? Oh sh.. —." [*click*]

"Hello, American Embassy, this is the White House. President Foster has disconnected. He did not receive the last part of the Ambassador's message. Shall I call him back to the phone?"

"Uh, negative on that call-back, White House. Ambassador Green says that it is not important. And, er, Fred, the Ambassador wants to know if, as a personal favor to her, you would erase everything after 'Good night Mr. President' from the record."

"Understood, American Embassy. Please give the Ambassador my regards and tell her I'll be happy to comply. Coded transmission ending. Please destroy code disc four-dash-two-oh-niner-niner-one immediately."

"Roger that, White House, destroying code disc four-dash-two-oh-niner-niner-one... now. Disc is destroyed... purging code from system...now. Transmitting in the clear."

"Thank you, American Embassy. The White House is signing-off now. Good night Louis. Over and out."

"American Embassy is signing-off also. Good night, Fred. Give my best to Joanie. Over and out."

A Fun Fact:

Hey, Kids!
Did you know that in 2020 the US Government's phone bill was $16,345,792,000?

Cellular Phones

Virtually everyone carries a cellular phone in 2021. As discussed above, the world satellite coverage is nearly one-hundred percent, making it possible to talk with anyone from anywhere.

Standard Cellular Phone
Cost: $4,000+; Avail: A

These models come in a variety of shapes and sizes, everything from Dick-Tracy-esque wrist phones to flip-phones that look as if they've come directly off of the set of Star Trek. Standard cellular phones have a Security Rating of 4.

Secure Cellular Phones
Cost: $7,000+ (see below); Avail: B

To be secure, these units broadcast extremely tight signals to security satellites, and are capable of picking up extremely low-frequency, low-power signals in return. In addition, they often broadcast in code. Note that because they must broadcast their signals, these units cannot be as secure as land-line units (with current technology, the top Security Rating possible is 9).

- **CellularOneThousand Low-Band Secure Phone I: (Cost:** $7,000) Security Rating: 6.
- **NorthAmericanBell Mobile SecurPhone Model IIa: (Cost:** $9,000) Security Rating: 7.
- **Crip Bros. Int. Advanced Security Communications System Mobile Unit (Cost:** $13,000) Security Rating: 8.
- **Sonisonic Ultra-Secure Cellular Phone: (Cost:** $20,000) Security Rating; 9.

"Past yer bedtime?"— The Big Nasty employs a little practical application of modern fax technology.

Don't You Dare Tread on Me!

UNDERGROUND ACTION PAPER NUMBER 437a:

SO YE WANTS TO BE A PIRATE?!?

Build Your Own Mobile Broadcasting Unit!

Want to get your message out to the people? Want to tell 'em the truth about what Unka Sam is up to? Got somethin' to say? Why not put together your very own mobile broadcasting unit? It's fun, it's easy, and it's a real pain in the you-know-where to the you-know-whos.

G'wan! Give it a try! Become a star overnight! You got nothing to lose but your chains.

Following is a list of what you'll need, and how much it costs. Note that this stuff is a lot cheaper if you get it used, and it's extra cheap if you borrow it from your local networks... [Remember, children: never, *ever* steal, not even from the Establishment. Stealing is bad! But it is okay to *borrow* stuff if you mean to give it back... someday.]

Illustration Key:

1. Van: $200,000. A rugged model with good suspension is important. If you can get your hands on one, we suggest the JMC Heavy Van costing $250,000 new. It should be painted in standard street colors, or it should have a nice, innocuous business logo on it.

2. Broadcast/Receiving Antenna: $25,000. CandyTech makes a fine model for home use. This should be clamp- or suction-mounted to the top of the van so you can remove it when not broadcasting.

3. Video Cams: $3,000+. You should have a bunch of these available, including high-contrast, low-light, infrared, microcams, and so forth. The more the merrier.

4. Pile of Other Stuff: $1,000+. Coaxial cables. Blank tapes. Various tools. Twine. Duct tape. Thermos of coffee. Makeup kits. Donuts. Clapper board. You get the idea.

5. Computer Control Unit: $12,000+. Any personal comp will do; the more powerful the better, of course. Any decent software pirate can provide the appropriate network infiltration software, probably for around $7,000. Contact your local bootleg software jobber or Underground sales rep for details.

6. Video Editing Station: $18,000. This unit accepts video-tape and direct digital imput. It allows you to edit, cut and paste the images to your heart's content. It also accepts input from your sound mixer [see following]. It can output to tape or directly to your comp for immediate transmission. We recommend the Cinimatronix 3500 model.

7. Sound Mixer/Editor: $15,000. This unit mixes sounds. Add a voice-over to your tape. Add a ProtoZap™ soundtrack to images of New York's Finest beating the snots out of a vet. Quote President Foster out of context. We recommend the AudioFox SoundPro™ line (the Zappa™ 2020 is the best).

8. Spotlights: $2,500. Two or three at minimum, preferably portable battery-powered models like the Consumer Electric HiLites™.

9. Microphones: $2,000+. Tho' most cams have a mike built right into 'em, it's a good idea to have some extra sound-gatherers handy. Boom mikes and shotgun mikes are real useful, as are personal clip-on radio-transceiver units. AudioFox makes the best mikes in the world; if you want to buy American, you should take a look at Westrex's products.

10. Mini-Generator/Converter: $18,000. This unit lets you run your equipment off of the van's battery. You'd best keep the van running while you do so; otherwise you'll suck the van's battery dry after a couple of hours' use. JMC makes a generator specially for its heavy van: the model number is 34-127a. The generator is normally used when the van is converted to a Emergency MedEvac unit; this is a good line to take when buying one.

So There You Have It!

That's everything you need to start your own pirate broadcasting station. Get this stuff together, and you're on your way to your own 15 minutes of stardom! Let's get cracking, bunkies!

Coming Soon! Action Paper 437b: How to Break into Broadcasting — Ten Tips on Accessing the Networks' Signals and Getting Your Message On the Air.

Don't You Dare Tread on Me!

chapter six: surveillance equipment
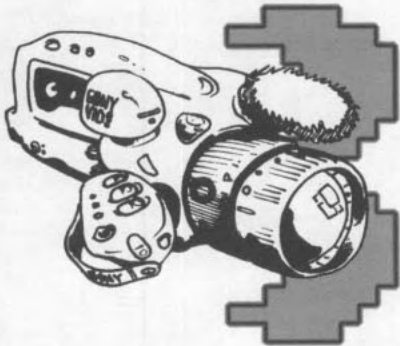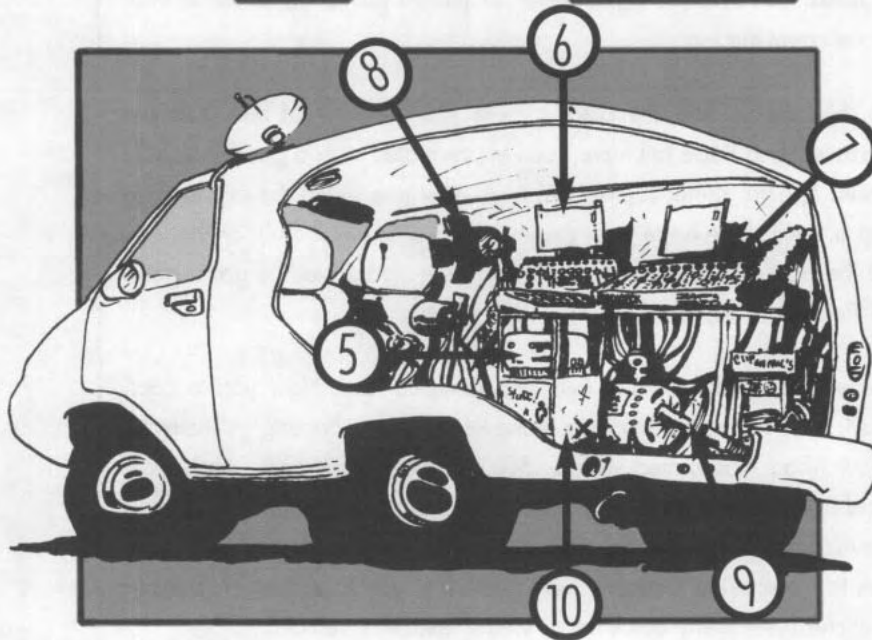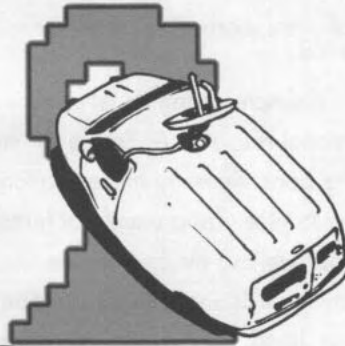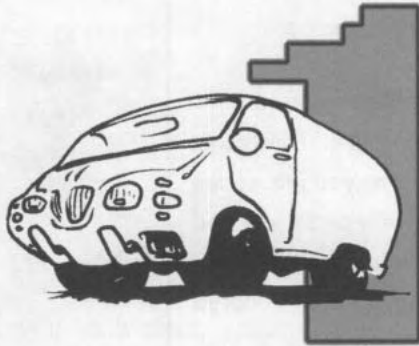
Overview

In 2021, when it's possible to track a man by satellite, knowledge of surveillance techniques and equipment is of particular importance to the revolutionary, criminal, corporate raider, or law-enforcement official on the go.

Here's a simple example: let's say you rob a bank for political or even strictly personal reasons. At first, everything seems to be going fine. You amble into the bank wearing the regulation hosiery over your face; you induce the cashier to give you a couple of hundred-thousand bucks; you amble out and into your waiting escape vehicle, zooming off in a fine hail of bullets as the security guards ineffectually pepper the reinforced skin of your armored Teheran Jihad. You're cool, right? Now all you've got to do is get to your hideout and count the loot.

Well, no. Not really. See, the cashier gave you a bundle of bills from her special drawer, and these bill have been impregnated with a goodly amount of radiation. Special sniffer-copters are even now quartering the city looking to pick up a trace. Sure hope your money-bag is lead-lined, bub, or that you geigered the bills and dumped off the "hot" ones. Hope you've got a good supply of Radoff™ pills, too!

So let's say you spotted the hot bills and dumped 'em. Now you're cool, right? Well, no. Not really. See, one of the Rent-a-Cops shooting so ineffectually at your Jihad was armed with a .50-cal Urban Nightmare. And every third round he fired was a squealer bullet. So, unfortunately, two of the slugs in your trunk contain tracers: they are constantly reporting your car's every movement to the chopper-coppers. Sure hope that you scan the car, bub, or that you exchange it pretty quick for a "clean" getaway vehicle...

Just ask any criminal: modern technology can be a real pain in the ass...

squealer bullet: a special slug, 50 cal. or larger, with a tiny transmitter inside. (See page 60 for more information.)

Bugs

Bugs are hidden listening-devices. Most bugs broadcast what they pick up to a receiver. Some don't broadcast; they instead record the data internally. At some later point the bug is retrieved, and the data removed. In general, the latter type are harder to spot electronically. Note that in the 21st century some bugs have built-in video cams, allowing them to pick up images as well as sounds. Bugs have several Ability Ratings which require explanation.

•**Distance:** This is the distance at which the bug can be picked up with a standard receiver.

•**Time:** If the bug is battery-powered, how long it will operate without requiring a change of batteries.

•**Visual Rating:** How difficult it is to find the bug by a standard visual search. That is, if a bug planted in a car has a *Visual Rating* of 6, anyone looking over the car must make a Difficulty 6 *INT* Challenge to notice the bug. If the character has the Security Skill (Thief Specialty) he can use this Skill in place of his *INT* score.

•**Security Rating:** How difficult it is to find the bug using electronic equipment. That is, if a bug planted in a car has a *Security Rating* of 6, anyone electronically scanning the car must make a Difficulty 6 Digital Security Challenge to pick up the bug's broadcast. Note that certain special electronic equipment (listed below) can make finding a bug far easier.

SecurCorp Micro Monitor
Cost: $15000; Avail: D

Distance: NA*; Time: NA**; Visual Rating: 3; Security Rating: 0

The Micro Monitor is what you would call a "self-bug," that is, it is a device for bugging one's own establishment. The Micro Monitor is a combination audio/visual pickup. It is installed into the wall or ceiling of a room, usually hidden behind a lighting fixture, air vent, decorative feature or other such place. The unit transmits the images and sounds it picks up to the installation's security station via wire cable.

* *Distance:* The unit transmits via cable so it has no *Distance*.

** *Time:* Similarly, the unit is wired into the installation's power source and doesn't require batteries.

Crip Bros. Int. Advanced Miniature Microphone — Model 13
Cost: $8,000; Avail: D

Distance: 3 miles; Time: 2 days; Visual Rating: 6; Security Rating: 4

Crip Bros. Int. has an exclusive license to manufacture listening devices and other espionage-related items for the countries of the European Common Market. In addition, Crip Bros. sells somewhat lower-quality devices via direct-mail and its on-line shopping service. Note that one should be circumspect when ordering such devices: it is suspected that the FBI keeps an eye on those who purchase high-tech security equipment in the US.

The Model 13 is one of the better bugs available on the open market. It is extremely small and it can be easily installed on almost any surface using common household materials; a favorite tactic is to stick it to the bottom of a chair with a piece of gum. For its size it has quite good sound clarity and broadcast range.

The Model 13's one drawback is its very limited duration. The device itself may be difficult to spot, but the risk of detection is greatly increased by the need to replace the bug or its batteries every 48 hours.

SecurCorp Ultra-Compact Broadcast Unit
Cost: $9,500; Avail: D

Distance: 1 mile; Time: 8 days; Visual Rating: 5; Security Rating: 5

Virtually as good as the models used by the Federal Government, SecurCorp's UCB is preferred by Organized Crime and most of the better private detective agencies. It's a bit larger than the Crip Bros. Model 13 and has a smaller broadcast range, but its 8-day battery and its tighter broadcast beam make up for these weaknesses.

SecurCorp Ultra-Compact Recorder
Cost: $8,000; Avail: D

Distance: NA; Time: 8 days; Visual Rating: 3; Security Rating: 10

The UCR is a close cousin to SecurCorp's UCB (see above). However, this unit does not broadcast a signal at all; instead, it records the sound it collects on an 8-day micro-cassette the size of a half a stick of gum. To collect the data, the tape must be retrieved manually. The unit is rather large (about 1" by .5" by .25") and thus hard to conceal from a determined visual search. On the other hand, since it doesn't broadcast a signal the UCR is quite difficult to spot using electronic detection gear.

Tracers

Tracers are special devices planted on a person, article or vehicle, allowing the subject to be tailed electronically. Tracers have the same Ability Ratings as bugs; see above for details.

Squealer Bullet
Cost: $500 each; Avail: D

Distance: 5 mile; TIME: 3 hours; Visual Rating: 0/4*; Security Rating: 0

A squealer bullet is a solid slug with a small but sturdy broadcast unit inside. Squealers are produced in most standard ammo-sizes .50-cal or larger. A squealer bullet has *Accuracy* and *Penetration* modifiers of one less than the standard ammo for the weapon. In addition, a squealer bullet does one level less *DMG* than a standard bullet. (Example: An Urban Nightmare firing a squealer bullet has Attributes of *Accuracy:* -1; *Penetration:* 10; and *DMG:* — /LW/MW/HW.)

If the squealer hits the target but doesn't Penetrate, it doesn't do any physical damage at all. However, if the *Penetration* roll was within four points of the *RES* roll, the bullet has lodged somewhere in the armor and it will broadcast the target's location. (Naturally, a bullet which hits and successfully Penetrates the target will also broadcast away.)

*Visual Rating: 0/4: Squealer bullets are regularly used by cops, security forces, and other government agencies, and they are well-known on the street and easily distinguished from normal bullets. Anyone who specifically checks for squealer bullets uses the *Visual Rating* Difficulty of 0. If he instead just makes a general check, he uses the Difficulty of 4.

SecurCorp Trakker™
Cost: $7,500; Avail: D

Distance: 30 miles; TIME: 9 hours; Visual Rating: 6; Security Rating: 4

The Trakker is especially designed to trace moving vehicles. It is built to withstand heat and vibrations, and thus can be hidden deep inside a vehicle's engine, where only a detailed examination will discover it. Of course, planting a Trakker deep inside an engine takes some time; if instead the tracer is slapped under a bumper or tossed in the trunk, it is far easier to detect (reduce the *Visual Rating* to 3, or even less).

Red Sun Personal Location Enunciator
Cost: $18,500; Avail: D
Distance: 100 miles; TIME: 1 week; Visual Rating: NA/3*; Security Rating: 3

This device is often used by business executives working in the Third World. It comes in a stainless-steel case, about the size of a small marble. The executives swallow the Enunciator; while it works its way through their intestinal tract, it broadcasts their location to the company's security personnel who can thus locate them rapidly if they are kidnapped (kidnapping being a fairly common occurrence in poorer countries). When the Enunciator is ejected, it is carefully sterilized, the battery is replaced and it can be swallowed again.

Note that may be somewhat difficult to trick an unwitting host into swallowing the Enunciator. So if you want to plant this bug on someone without his knowledge or consent, you'll probably have to sew it into the lining of his coat or hide it in the bottom of his briefcase.

*Visual Rating: Obviously, it's impossible to tell if someone has swallowed an Enunciator just by looking at him. However, standard medical scanning gear will find it automatically (at which point it can be removed via rigorous application of emetics and enemata, or, in extreme cases, surgery). Use the *Visual Rating* of 3 if the Enunciator is hidden somewhere in the victim's clothing, vehicle or effects.

Red Sun Passive Tracking Enhancer
Cost: $650; Avail: D
Distance: 2 miles; TIME: 2 hours; Visual Rating: NA/0*;
Security Rating: NA

Never so easy!– El Ojo Rojo tracks his tagged quarry into the alley of 42nd and Newman.

Red Sun Passive Tracking Enhancer, commonly known as "Hotfoot" is the result of creative cross-pollination between Red Sun's security, chemical, and pharmaceutical branches. Hotfoot is a thin, clear goop which is applied to a subject's shoes. As the subject walks, he leaves behind a minute bit of Hotfoot with each step. Tiny time capsules are suspended within the goop; as the chemicals inside the capsules are exposed to air, they combust, giving off a tiny amount of trace-heat for up to two hours. To someone wearing high-quality infrared goggles, the subject's footsteps are as clear as if he was tracking white paint across a black carpet.

A subject with Hotfoot on his shoes can be tracked for up to two miles if the exterior temperature is 75 degrees or lower. The range is shorter if it is very hot out, if it is raining, if the subject steps in a puddle, etc.

Visual Rating: NA/0: It's impossible to see Hotfoot with the naked eye. However, anyone with Infrared vision is almost certain to spot a fresh trail.

Long-Range Microphones

There are a large number of remote sound-enhancement devices on the market. Many of the best-quality microphones are in common use in the entertainment industry. Listed below are some specialized microphones which might be useful in clandestine operations.

AudioFox Shotgun Microphone
Cost: $22,000, Battery: $1,000; Avail: B

Range: 27 (1600 yards); RES: 10

This high-quality microphone is quite common in the vid industry. It is mainly used in scenes shot with a wide-angle lens, where a standard boom mike would be visible in the shot. It's somewhat fragile for the rough and tumble espionage game, but, if it can be set up on a stable platform and aimed at a relatively stationary subject, it is quite effective. Given decent conditions, a normal conversation can be heard at 1,600 yards, a whisper at 1,000 yards. High winds or background noise will, of course, lower its effectiveness.

The AudioFox Shotgun Mike runs off of standard household current — and it uses a lot of it. If household current isn't available, a six-hour battery pack can be purchased for $1,000.

SecurCorp's Laser Sound Pickup
Cost: $25,000, Battery: $1,000; Avail: D

Range: 34 (4 miles); RES: 9

This is a low-end copy of a piece of equipment in standard use among most major intelligence and law-enforcement organizations.

In order to understand how the Laser Sound Pickup works, a short discussion of sound is necessary. Sound is, of course, nothing more than waves of compression in the air caused by rapid movement. Our eardrums vibrate in response to these changes in air pressure, and our brains interpret these vibrations as sound. Naturally, these waves cause things other than just eardrums to vibrate: that's why glass shatters when the fat lady hits the right note.

The Laser Sound Pickup is designed to read vibrations off of rigid surfaces from a distance of up to four miles away. It bounces an ultraviolet laser beam off of the target surface — glass is the best conductor, but some grades of crystal, plastic or metal will work as well — then highly-sensitive instruments measure exactly how long it took the beam to reach the surface and return. This tells the system how the surface is vibrating, and a digital processor then translates these vibrations into sound. When aimed at a normal closed window, the Laser Sound Pickup will quite effectively relay noises taking place within, even if curtains or blinds cover the inside of the window. The Pickup will also work on vehicle windows. Indeed, if the conversation is taking place outdoors, the Pickup can read the vibrations off of a glass sitting on a table near to the targets.

Laser pickups are well known in intelligence and criminal circles and most high-security installations are designed to beat them. First, many buildings don't have any windows at all. If they do have windows, the windows are double-paned, with vacuum between the two panes and a UV-reflecting coating on the outer window. The vacuum doesn't transmit sound waves to the outer pane, and the UV-coat stops the beam from getting to the inner pane. This system isn't foolproof: there are lasers which will burn a microscopic hole in the outer pane; this lets in air, which will then transmit the vibrations. The only true defense against this device is to stay away from reflective surfaces altogether.

A rechargeable $1,000 battery-pack will keep this device operating for four hours.

Sight Enhancers

Sight Enhancers encompass everything from UV-coated sunglasses to electron microscopes. This section deals with the more useful or interesting enhancers used in security operations.

AMI 'I' in the Sky™
Cost: $15,000; Avail: B

Distance: 1 mile; TIME: 4 hours; Visual Rating: 1; Security Rating: 3; SPD: 6; RES: 10

This is your basic floating video cam, as used in many secure installations. It looks just like a floating silver basketball with a single large eye. It operates under direct radio control from a security officer or security computer monitoring the sounds and visual/infrared images the unit picks up (-1 modifier to operator's perception Skills).

When not under direct control, the "I-Sky" has a primitive autopilot feature which allows it to patrol its assigned area in a set or random pattern. If it encounters unauthorized movement or sounds while on autopilot, it sends an alarm to its controller and awaits a response. (The unit has perception Skills of 3 when on automatic.)

Customizations: For an additional $3,000 an I-Sky can be equipped with a light weapon mount (able to hold a weapon requiring *STR* 0 or less). It's rather difficult to fire a weapon via remote-control: subtract 1 from the weapon skill of the unit's controller. In addition, note that the maximum weapon skill possible when remote-firing the I-Sky is 5: if the operator's weapon-skill is 6 or higher, reduce it to 5. The unit itself has a skill of 3 when it fires the weapon without outside control. When the weapon runs out of ammo the unit must return to its maintenance station to be reloaded by a human or robot.

The I in the Sky on patrol in the halls of the Popsi Cola Corp.

I-Stalk™ Flexiscope
Cost: $10,000; Avail: B

Range: 18 (200 yards); Time: 6 hours; RES: 6

The I-Stalk™ Flexiscope is a tool much favored by private operatives and blackmailers. The I-Stalk consists of an ultra-miniaturized vidcam mounted at the end of an articulated "stalk," 3/8ths of an inch in diameter and two yards in length at full extension. Fiberoptic cable running inside the stalk carries the image to a small display screen in front of the wearer's eye or, optionally, projects the image onto his goggles. This allows him to look around corners, under doors, into second-story windows, and so forth. The I-Stalk can be set to view normal or infrared light. In either case, the image displayed is somewhat indistinct. (Increase the Difficulty of any vision-based Challenges by 2.) The camera's image processing system is fragile, and it can be burned out by sudden bright light (flash grenades, strobe lights, etc.).

The stalk's movement and camera focus are controlled by a small joypad, usually mounted on the wearer's chest or arm. When not in use, the stalk retracts fully and the display screen rotates up into the helmet, uncovering the wearer's eye.

Wish I had some doughnuts– just another day at the Sweeney's Old Fashioned's internal security office.

Vision King Ultrascope
Cost: $17,500; Avail: B

Distance: 3 miles, Time: 12 hours; RES: 7

This is a hand-held digital image-enhancement unit attached to extremely high-quality lenses. The technology is similar to that used in the snooper 'scopes on military surveillance satellites — in fact, the tech was stolen directly from the European Common Market's Space Surveillance Laboratories in Geneva. Be that as it may, the unit is already selling well in North America and the Far East. (The ECM is not likely to make a public stink about the matter, instead privately demanding a big cut of the profits from Vision King on threat of private, very nasty retaliation against the company's execs.)

Under perfect weather conditions, the Ultrascope provides brilliantly clear light and infrared images at great distance. In fact, the images are good enough to allow the user to zoom in and read the "close cover before striking" message on a matchbook three miles away. Naturally, haze, humidity, pollution and smoke limit the Ultrascope's range. The Ultrascope does not pick up infrared images.

The Ultrascope can transmit its data to a monitor, to goggles, to a computer, and/or directly onto high-resolution video tape. It runs off of standard household current or a rechargeable 12-hour battery pack.

Overview

This chapter contains rather a hodgepodge of security and law-enforcement equipment — barbed-wire fencing, anti-personnel radar, motion sensors, and the like. Taken with the security robots described elsewhere, they provide an overview of the defenses likely to be found in and around any medium security installation — Crip Bros. Int.'s US headquarters; TWD's weapon-testing labs; the Governor of New Jersey's private residence; Nanosoft Int.'s Customer Service offices; and so on.

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CIENT CRIMINALS
COME MORE EFFI-
CIENT SAFE-
GUARDS

Another day, another ducat– The Connoisewer brings home the bacon.

Videos

The following video equipment (or very similar equipment) may be found in the halls and on the grounds of many secure installations.

Standard Video Cam
Cost: $6,000; Avail: A

Distance: 125 yards; Visual Rating: -5; Security Rating: 2; RES: 3

This is your basic fixed camera unit, just like those found in banks and fast-food establishments today. It sends a picture of an area to a monitor located elsewhere, usually at the installation's security station. The basic unit is completely dumb: it doesn't react to anything that happens in its sight. In fact, an entire army could amble down the corridor unnoticed if the security officer wasn't looking at the monitor at the time. Note that any halfway professional security installation will record the cam's images and keep them on file for later study in the event of an incident occurring. These recordings are usually erased after 48 hours if there is no good reason to save them.

Dozens of different companies make video cams for security systems. The most popular brand in America is produced by SecurCorp, Inc.

Video Cam Customizations and Attachments:

Weatherproofing (Avail: A; Cost: $100): This allows the camera to be mounted outdoors.

Infrared Attachment (Avail: A; Cost: $700; *Distance:* 100 yards): A video cam with an infrared attachment can see in the dark. Note that when in infrared mode the viewing range is 25 yards shorter than when the camera is using visible light.

Sound Mike (Avail: A; Cost: $500; *Distance:* 100 feet): The directional mike is mounted below the lens, allowing limited monitoring of nearby sounds. This attachment is *not* used in highly-sensitive areas — the board of directors' washroom, for example — unless the people in charge have complete faith in the loyalty of the security staff.

Speaker (Avail: A; Cost: $250): A speaker allows the security officer to converse with subjects in the camera's view. The speaker can also blare out alarm signals and announcements.

Swivel Mount (Avail: A; Cost: $200): This allows the cam to sweep a larger area. The camera may turn in a set pattern or it can be remote-controlled from the security station.

Plasteel Plating (Avail: B; Cost: $2000; *RES:* 12): The camera is encased in clear, thick plastic-polymer plating, making it more difficult to destroy.

Sensors (Avail: B; Cost: Variable): The camera can be equipped with a variety of sensors, as discussed in the following section. If a sensor is tripped, the camera will focus on the thing which tripped it (if it is within the camera's field of vision) and it will alert the security station. It will sound an alarm if it has been equipped with a speaker and programmed to do so.

Sensors

Sensors are devices which record and possibly react to specific changes in their environment. As a simple example, most street-lighting is equipped with light sensors: the street lights turn on when the external light-level is low, like at night; when the sun rises, they turn off. An outdoor watering system could be equipped with light sensors as well, turning on the sprinklers during the nighttime hours then shutting down at dawn. Of course, security installations are equipped with far more sophisticated sensors than these, and the sensors are often directly tied into the installation's security comp, making them even smarter.

However, even the most sophisticated system can be fooled. If you paint the street light's sensor black, the sensor will always think that it is dark out, and the streetlight will stay on day and night. Similarly, someone can pass through the infrared beam of a motion-sensor without triggering an alarm — if he has the know-how and the proper equipment...

Sensitivity Level

Sensors have a special Ability Rating called *"Sensitivity Level."* This describes just how good the sensor is at noting changes in its environment. The *Sensitivity Level* is determined by the quality of the sensor itself, plus the quality of the people who installed it and the quality of those using it — ie, if a really good sensor is being monitored by an incompetent security officer, the system just won't work that well: the security officer will be misled by false data, will not pay close attention to the readouts, will fall asleep on post, and so forth. On the other hand, if the sensor is monitored by a really sharp security computer it will be much more effective.

In addition, the local environment may have a significant effect upon a sensor's *Sensitivity level*. Smoke will screw-up a visual sensor; heat sensors don't work so well on very hot days; a heavy thunderstorm will mess with external sound and motion sensors; and so on.

Use common sense and the Difficulty Chart to determine the *Sensitivity Level* of an installation's sensors. A bank's motion sensors would be Very Difficult to beat: they might have a *Sensitivity Level* of around 4. It would take Superhuman effort to break into the White House: it's sensors have a *Sensitivity Level* of around 30.
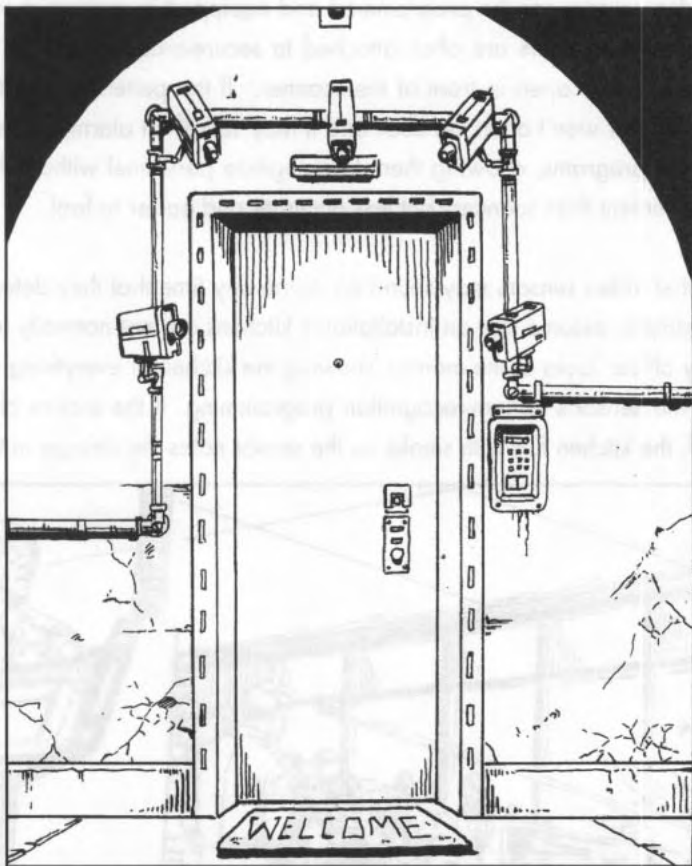
Welcome home!– the typical Securo-O-Door in the typical upper class home.

Outwitting a Sensor

When someone attempts to beat a sensor, he matches his Thief Skill (or Security Specialty) against the sensor's *Sensitivity Level*. Attempts to defeat a sensor without the proper tools are automatically Very Difficult (+4 to the *Sensitivity Level*).

If the intruder has access to the installation's security computer, he can of course use his Computer Science Skill or Digital Security Specialty to cripple or disable the sensors from within the system.

Sensor Types

Video Sensors

Cost: $3,000-7,000+*; Avail: B

Distance:: 125 yards; Visual Rating: -5; Security Rating: 2; Sensitivity Level: 0+; RES: 3*

Video sensors are video cameras equipped with image-recognition processors. Often, they are standard video cameras hooked into a security computer which contains the image-recognition software.

Video sensors can be programmed and equipped to perform a variety of different security functions. Simple retinal or key-card scanners are often attached to secure-area locks; if he wishes to get in, the entrant must flash a badge or hold his eye open in front of the scanner. If the pattern-recognition program doesn't recognize the badge or retina, the sensor won't open the door and it may set off an alarm. Some video sensors may be programmed with face-recognition programs, allowing them to recognize personnel without the need for badges or retinal scans. These are more convenient than scanners but less accurate and easier to fool.

Other video sensors may sound an alarm any time that they detect a visual change in the area they are scanning. For example, assume that an installation's kitchens are not normally in use from midnight to six a.m. At midnight, the security officer looks at the monitor showing the kitchen. If everything is okay, the officer "locks-in" that picture and sends it to the sensor's pattern-recognition programming. If the picture changes at any time — someone enters, the lights go off, the kitchen fills with smoke — the sensor notes the change in the picture and sets off an alarm.

Guess Mr. Anderson won't be making that security complaint after all.

*Cost and *Sensitivity Level*: A basic retina/badge scanner with *Sensitivity Level* of 0 runs about $3,000; a standard video camera costs about $7,000. To increase the *Sensitivity Level*, the unit must have better equipment and better software. The exact price depends upon just how sensitive the scanner is to be. *Sensitivity Level* 10 or less: $1,000 per point above zero. *Sensitivity Level* 11-20: $2,000 per point. *Sensitivity Level* 21 or greater: $4,000 per point. Examples: A scanner with a *Sensitivity Level* of 4 costs $7,000 (base cost $3,000 plus $4,000 for *Sensitivity Level* of 4). A video camera with a *Sensitivity Level* of 15 costs $37,000 (base cost $7,000 plus $30,000 for *Sensitivity Level* of 15).

Note that purchasing these items in bulk can dramatically reduce the cost.

Beating a Visual Scanner: A stolen badge or a false retina may fool a standard scanner. A portable holo-projector, chameleon clothing, or possibly something as simple as a big mirror might beat a more sophisticated video scanner. If the scanner is swivel-mounted you can attempt to slip past it while it is pointed away from you...

Radar
Cost: $50,000+*; Avail: B

Distance:: 1 mile*; Visual Rating: -3; Security Rating: -1; Sensitivity Level: 0+*; RES: 14

This is a standard radar unit, suitable for fixed-location outdoor use (vehicle-mounted radar is quite different). You've got your basic rotating dish which sends out waves of radio signals, then determines what's out there by reading the return signal. Radar is best at picking up metallic items, particularly metallic objects with flat surfaces and hard angles — the signal bounces off of them quite nicely. Radar isn't so good at detecting soft or non-reflective items — flesh, wood, textiles, radar-absorbent coating, and the like. Metallic chaff and radar-jamming devices will screw-up radar, but the operators will certainly be warned that *something* is coming, even if they can't tell exactly what.

When it picks up a bogey, a basic, low-sensitivity radar unit will tell the operator that something is coming, but that's about all. As the *Sensitivity Level* increases and the target approaches, the unit will be able to provide more and better information about the incoming object: speed, size, and so forth. Really good units will be able to determine exactly what the object is almost immediately.

> Example: Assume a 'copter tries to sneak up on an installation guarded by a radar unit with a range of 50 miles and a *Sensitivity Level* of 20. If the 'copter pilot fails his Thief Skill (or *Security*) roll, the radar-officer might make the following report to his commander: "Sir, radar has picked up a Heavy Striker 'Copter 50 miles to the northeast. It's inbound traveling at 120 mph, flying nap-of-earth. Looks as if the 'copter's carrying some missiles, probably Taurus heat-seekers from the size of 'em. If they are Tauruses he'll be in range to fire 'em in three-oh seconds... Shall I bring him down now, Sir, or try to make radio contact first?" With a lower-sensitivity radar unit, the officer might say, "Sir, vehicle approaching inbound, 50 miles to the north-east. Traveling at 120 mph. Will have an ID in 30 seconds. Your orders, Sir?"

*Cost; Distance; Sensitivity Level: The cost of a radar unit rises with the unit's *Distance* and *Sensitivity Level*. Use the following procedure to determine the cost of a radar unit: *Increased Distance:* Subtract the base *Distance* (in units) of 28 from the increased *Distance* (in units) multiply the difference by $1,000 and add this to the cost. Increased *Sensitivity Level:* 1 to 10: $1,000 per point; 11 to 20: $2,000 per point; 21-30: $4,000 per point. Examples: A 10-mile radar unit with *Sensitivity Level* 4 costs $64,000 ($50,000 plus $10,000 for increased *Distance* plus $4,000 for increased *Sensitivity Level*.

Beating Radar: As discussed above, radar doesn't do very well at picking up non-metallic objects. A wood and cloth biplane with a mostly plastic engine would be tough to pick up, as would a paraglider. Many warplanes are painted with a special radar-absorbent coating, which makes them more difficult to spot. Objects moving close to the ground (nap-of-earth) are harder to spot, as well. Electronic-counter-measures — signal-jammers and the like — will limit the radar's ability to pin down incoming objects. Finally, if there are a very large number of metallic objects in the air, the radar unit may become confused.

If the infiltrator has access to the computer system controlling the radar unit, he may be able to program the unit to ignore a specific type of signal, put up false readings, shut down altogether, or the like.

·Pressure Sensors
Cost: $1,000+*; Avail: B

Distance:: 3 feet; Visual Rating: 4+; Security Rating: 6**; Sensitivity Level: 4+*; RES: 10****

Pressure sensors react, surprisingly enough, to changes in pressure or weight — that is, they go off when somebody steps on them. The simplest example of a pressure sensor is a foot-switch hidden in the floor under a bank executive's desk. If somebody threatens him, he presses the switch and a silent alarm goes off in the security room. A shopkeeper might have a pressure switch under the rug in front of the door to his shop; a red light flashes if someone enters or leaves the shop while he is in the back room.

More theatrical and fiendish uses for pressure sensors include things like switches hidden on stairways, which, when tripped, cause the stairway to turn into a giant slide, sending anyone on the stair down into the nasty secret pit at the foot of the stairs; pressure switches which cause poisoned spears to shoot out of a nearby wall, the old "step here and a 16-ton weight drops on your head" trick, and so forth. Needless to say, these kind of traps are not usually found in corporate headquarters or government buildings; however, they might easily be discovered in the lair of an whacko ex-Vet who thinks of himself as a cartoon-type Evil Villain...

Cost; Visual Rating; Sensitivity Level: The *Visual Rating* of a pressure sensor can be increased (making it tougher to spot) for the following cost: *Visual Rating* 5-10: $1,000 per additional point; 11-20: $2,000 per point; 21-30: $4,000 per point. With a basic *Sensitivity Level* of 4, a pressure sensor will react to the weight of a normal-sized human's step. To increase the *Sensitivity Level,* increase the cost by $1,000 per point, up to a maximum of 10.

**Security Rating:* This applies only to units which are electronic in nature. For example, a unit which triggers an electronic alarm has a *Security Rating* of 6. However, a purely mechanical unit would not be detectable with electronic equipment, and thus would have no *Security Rating* at all. For example, let's look at your basic pit-trap in which a piece of flooring falls away when the trigger-area is stepped on, dropping the victims onto nasty, rusted spikes: if pressing the trigger mechanically jerks out a pin holding the floor up, the trap has no *Security Rating;* however, if pressing the trigger turns off an electromagnet holding the floor up, the trap would have a *Security Rating* of 6. Got it?

***RES:* This describes the sensor's resistance to basic physical damage. If the trap is damaged, it may jam and not trigger, or it may trigger immediately. Thus, one way to check an area for pressure sensor plates is to chuck a couple of grenades into the area. It's not a very good way... but it works.... sometimes.

Beating Pressure Sensors: The first step is to find them. Characters use their Thief Skill (or Security Specialty) to search an area for pressure sensors, or they use their Computer Skill (or Digital Security Specialty) along with scanning equipment to find electronic sensors. If one is found, the best way to beat it is to not step on it at all. Otherwise, a character can trigger the sensor from far away by tossing something heavy onto it or by pressing down with the old 10-foot telescoping pole.

Infrared Beam Sensors
Cost: $3,000 ; Avail: B

Distance:: 40 feet; Visual Rating: 16/0*; Security Rating: 4; Sensitivity Level: 4; RES: 3

These devices come in pairs. When turned on, one unit sends a steady infrared beam at the other. If something comes directly between the two units the beam is interrupted, alerting the sensor. The sensor may then send a silent alarm to the security office, sound a loud klaxon horn throughout the facility, fill the room with gas, flash the lights in an annoying fashion, spray the area between the sensors with automatic weapons-fire, or whatever else it is programmed to do.

* *Visual Rating:* The beams are very difficult to spot if you are not wearing infrared goggles (*Visual Rating* of 16), very easy to spot if you are wearing infrared goggles (*Visual Rating* of 0).

Beating Infrared Beam Sensors: If you know where the beams are, you can simply not move between them. If this is impossible, a very illegal portable infrared beam projector is available on the black market for around $7,500. This unit can be set to emit infrared beams matching those used by most standard infrared units. The projector is slipped in front of the receptor unit, making it possible to pass between the sensors without triggering the alarm. When attempting to slip the projector into the beam's path, make a P/F check of the user's Thief Skill (or Security Specialty) against the unit's *Sensitivity Level,* with failure indicating that the sensor has been triggered. Note that such an attempt is impossible unless the thief possesses a beam projector.

Fences

Fences are an important feature in the defense of an area. Even a normal chain-link fence can be a major pain in the ass if part of an intelligent, integrated security system. In order to get past a chain-link fence, an intruder must burrow under, climb over, or break through the fence. Digging a tunnel takes forever, and then there is the problem of getting rid of the dirt without being detected. While climbing a fence the intruder is starkly visible to sentries and visual sensors, particularly if the fence is swept by spotlights. Breaking

through a fence can be very noisy and almost always takes time, during which the intruder is again exposed to the aforementioned sentries and visual sensors. And if the fence is electrified or topped by barbed-wire (or both!), the problem is even worse. Following are descriptions of some standard exterior security fences.

Chain-Link Fence
Cost: $200/yard for 10' high; +$50/yard for each additional 5' in height); Avail: A
RES: 11
Your basic chain-link fence. When attempting to break through a chain-link fence, match the character's *STR* against the fence's *RES*. Heavy-duty wire-cutters will add 10 to the character's *STR* for this test. Note that explosives will blow holes in chain-link fences, but bullets and other small projectiles do no appreciable damage.

Barbed Wire
Cost: $100/yard; Avail: A
Entangling Level: 3; Penetration: 4; DAM: LW/LW/LW/LW; RES: 9
Barbed-wire is often laid atop chain-link fences, making them much more difficult to climb.

When attempting to pass through barbed-wire, a character must make a *DEX* Challenge against the wire's *Entangling Level*. The Difficulty of the Challenge is modified as follows: add 3 if the character is climbing; add the character's current *Speed* to the Difficulty as well. If he passes this Challenge, he makes it through the wire safely. If he fails the Challenge, he's caught in the wire. To get free, in subsequent rounds the entangled character can attempt further *DEX* Challenges against the wire's *Entangling Level;* each person helping to free the entangled character adds +2 to his *DEX* for this roll. Check for *Penetration* and damage each time an entangled character attempts to free himself from the wire and fails. (Note that the character is not damaged if he succeeds at the roll, or if he chooses to just hang there quietly and await rescue.)

A character can attempt to tear through barbed wire using brute strength: match his *STR* against the wire's *RES*. Any character attempting this with his bare hands must check for *Penetration* and damage whether he succeeds or fails. If the character is equipped with wire-cutters, add 10 to his *STR* and subtract 6 from the *Penetration* roll.

Again, explosives and certain other area-effect weapons will blow holes in barbed-wire; bullets won't.

Razor Wire
Cost: $200/yard; Avail: B
Entangling Level: 4; Penetration: 6; DAM: LW/LW/LW/MW; RES: 10
This stuff is just like barbed-wire, but nastier. It has been banned by the Geneva Convention for use in war — however, it is still perfectly legal to use it in the private sector, against civilians. (Makes you wonder, don't it?)

See Barbed Wire, above, for rules on passing over, getting entangled in, and breaking through razor wire (but note that razor wire has different stats).

Electric Wire
Cost: $100/yard, plus $2000 for the generator; Avail: B

*RES: 4; Security Level: NA/1/5/10**

This is, of course, a strand of wire carrying an electric current. When the wire is touched, the current sends an electric shock into whoever touches it. The level of damage done by the shock depends upon the current applied to the wire and can cause anything from a mild tingling sensation to a murderous heart-stopping jolt.

Note that most armor offers no protection from electricity: if a character takes a jolt, match his personal *RES* against the charge's *Penetration*. Any electronic equipment might be damaged by the charge as well.

Following are the five standard levels of electric charge (greater charges are possible but rarely used):
•Very Light: Scares animals and children away from fence without hurting them: Penetration: 0; DAM: —/—/—/STN
•**Light:** Hurts a bit; not likely to injure: *Penetration: 3; DAM: —/STN/STN/LW*
•**Medium:** Could do real damage: *Penetration: 6; DAM: STN/LW/LW/MW*
•**Heavy:** You'll smoke for days: *Penetration: 9; DAM: LW/MW/MW/HW* (Special license required to legally use in US — lots of folks use it illegally, without bothering to get the license.)
•**Lethal:** This is the same charge used in electric chairs: *Penetration: 12; DAM: MW/MW/HW/HW* (Special license required to use legally in US — lots of folks use it illegally, without bothering to get the license.)

*Security Level: Electric wire surrounding a cattle-field or a very low-security installation may not have any sensors, and thus not have a *Security Level* at all. That is, if the wire shocks something or is cut, no alarm is triggered and nobody notices.

Higher-security installations, on the other hand, often have sensors attached to the wire at various locations measuring the current running through the wire. If the wire is cut or is grounded (that is, it shocks something) the current in the wire changes and the sensor attachments sound an alarm. Standard electric wire sensors come in *Sensitivity Levels* of one, five, and 10, and cost $1,000 per point of *Security Level*. To beat an electric wire's sensors, a character matches his Thief Skill (or Security Specialty) against the wire's *Security Level*. The character must have proper equipment — insulated gloves and wire-cutters, wires with alligator clips, and so forth — to make the attempt. If not, add +4 to the wire's *Security Level*.

Other Security Gear
Security Briefcase
Cost: $10,000; Avail: B

Lock Difficulty: 4; RES: 10

Security briefcases are carried by diplomatic couriers, spies, drug carriers, and others who regularly transport secret documents. The briefcase is attached by handcuff to the courier's wrist, making it nearly impossible to steal without his notice. The case is electronically locked and the courier usually doesn't carry a key.
The case has a hunk of plastic explosive built into the frame; the courier can trigger the explosion by keying a simple three-digit code into the lock mechanism. The case explodes automatically if the case is forced open or if someone attempts and fails to pick the lock. The force of the explosion is enough to destroy any papers, discs, or other material inside the case. Anyone within five feet at the time the case detonates suffers *Penetration: 3; Damage: LW/LW/LW/MW*.

Overview

This chapter contains a listing of equipment commonly used by criminals, spies, and other anti-social types for illegal purposes. A lot of the equipment discussed here is outright illegal, but not all of it: shaped plastic explosives, for example, are in common use in the construction business, and any properly-licensed engineer can buy them. If you don't have a license, however, you've got to buy them on the black market (or steal them from someone who does have a license, of course).

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Buying on the Black Market

Some equipment listed here is illegal to own and is only available on the Black Market. Mobsters, street gangs and disreputable shopkeepers can be sources for "hard to find" bits of equipment. The GM can allow a character with Streetwise to make a Standard Challenge against a difficulty based on the desired item's availability.

MANY CRIMINAL ITEMS CAN BE PURCHASED ON THE BLACK MARKET

Availability	Difficulty
C	4
D	6
E	9

Failure means that the item could not be found. If successful, the Challenge Grade indicates the final black market cost of the item, taking into account any necessary bribes, haggling, etc.

Challenge Grade	Cost Multiple
D	x5
C	x4
B	x3
A	x2

This system can be used not only to find illegal items on the black market, but legal items which might be hard to find or which the character might not want to be publicly seen bnuying.

GOOD ROLE PLAYING CAN IMPROVE YOUR CHANCES OF GETTING BLACK MARKET GOODS

One point to remember: good role playing and plot considerations always take precedence over mere dice-rolling. If a character wants to find something really illegal, it's better to play-out the encounter rather than simply telling the player to roll dice. Let the character approach some shady type on the street, slip him a couple of big bucks and purchase the location of the nearest purveyor of illegal goods. He can walk into the dilapidated building past the dangerous-looking thugs sitting on the stoop, knock on the rein-

always take precedence over mere dice-rolling: Make a black market Check only if the challenge is particularly unimportant or if role playing the character's dealings with the underworld would unnecessarily bog down the current pace of the adventure.

forced ferrocrete door, and whisper "Benny-G sent me" to the suspicious voice within. The door opens — the player *then* attempts the BMarket Challenge. If he's successful, the character comes to some kind of agreement with the fat, greasy, wheezing sapien inside, hands over the cash, and leaves with the equipment. If he fails, well, you decide: Is he told to come back next week? Does the greasy character try to charge him triple the standard price? Is the greasy character an undercover cop?

9.4 seconds!– Savoir-Unfair stops by the First International for a late night withdrawal.

Lockpicks

Note that only characters with the Security Specialty can use lockpicks.

Quality: Lockpicks come in varying levels of effectiveness. A pick's *"Quality"* determines exactly how good the pick is. That is, a pick with a Quality of 4 works effectively on locks with *Security Ratings* of 4 or lower. When attempting to use a pick on a lock with a higher rating, add +2 to the Difficulty of the Challenge. For example: a character is using a lockpick with a *Quality* of 4 to pick a lock rated at 6. Since the lock's rating is higher than the pick's, the final Difficulty of the Challenge is 8 (lock's rating +2). A character with the Security Specialty can examine a lockpick to determine its *Quality*. This Automatic Action takes about one minute.

SecurCorp Lockmaster™
Cost: $2,000; Avail: C

Quality: 3

This is a largish toolbox containing a set of standard locksmith's tools: skeleton keys, electronic card blanks, drills, hole punches, and so forth. It can be used on most standard mechanical and electronic locks.

In the US, locksmithing tools can be sold only to licensed locksmiths. Locksmith licenses are awarded by State government and are valid only in that particular state. Licensing requirements vary from state to state, but generally any resident who hasn't been convicted of a felony offense is eligible. Note that some States require locksmiths to register with local police and to post a bond, perhaps as high as $500,000. Locksmith licenses cost around $2,000 and must be renewed annually.

Lockmaster™ sets are a hot item on the Black Market. The best way to get them is to steal them from a local locksmith (who of course probably has the best locks on his premises). They are usually snapped up as soon as they become available.

SecurCorp Lockmaster™ ElectroPro
Cost: $6,000; Avail: D

Quality: 5*

This smallish toolbox contains advanced equipment for electronic locking systems.

*Quality: The ElectroPro works only on electronic locks. It has no effect upon mechanical locks.

SecurCorp Lockmaster™ MechanoPro
Cost: $5,000; Avail: D

Quality: 5*

This toolbox contains advanced equipment for mechanical locking systems.

*Quality: The MechanoPro works only on mechanical locks. It has no effect upon electronic systems.

Mini Mechanical Lockpick Set
Cost: $12,000; Avail: E

Quality: 5

This is the standard mechanical lockpick set as used by criminals and secret agents and other such operators. It's a tiny article, about the size of a paperback book, and it contains a number of picks, probes, key blanks, tiny drills, long-nosed tweezers, and other delicate equipment.

Cutters

The following equipment is good for burning or cutting your way through stuff Normally, a cutter will cut a 1 foot swath of material per round. Cutters have these special statistics:

Strength: How powerful the tool's cutting power is. If the cutting-power is lower than the target's *RES*, the cutter isn't strong enough to do the job. If the tool's *Strength* is a range, say, 4-20, that shows that the tool's cutting-strength gets more powerful the longer it is pointed at the target, from the low number shown to the higher. When the tool's *Strength* matches the target's *RES*, it has cut through one foot of the target.

Increase: The rate at which the tool's cutting-strength increases each round.

Example: Say a thief is using an acetylene torch (*Strength*: 4-20; Increase: 1) to cut through a locked metal door, *RES* 12. The first round that the torch is pointed at the door it has a *Strength* of 4, not enough to cut through. The next round the torch's *Strength* is up to 5, still too low. By the 8th round the torch's *Strength* is 12, matching the door's *RES*, so the torch has cut a one-foot line in the door. If the total length needed is ten feet, it will take the criminal 80 rounds (320 seconds, or slightly less than 5 minutes) to complete the job.

Brake Light Special!– a little black market action goes down behind the Safe-way.

Laser Cutter
Cost: $10,000; Recharge: $400/additional rechargeable battery; Avail: B

Strength: 15-30; Increase: 5; Standard Charge Duration: 24 (15 min.); RES: 12

The laser cutter is used in heavy industrial applications, ie, in situations where it is useful to be able to burn through 1-inch-thick metal as if it were cardboard. The laser is designed to focus its beam at a maximum distance of three feet; it loses one point of *Strength* for each additional foot of distance it is from its target. The unit is bulky and awkward and fragile, making it a real pain to transport, but, once it is in position, there's nothing better for making quick holes in a target — as long as you can get to within three feet of the target and the target isn't moving around, that is. (If the target *is* moving, treat the cutter like a rifle with an *Accuracy* modifier of -8.)

The laser cutter will work off of standard household current. In addition, it is equipped with a rechargeable battery good for 15 minute's use. The batteries recharge off of standard household current; they take 8 hours to recharge fully. Big-city fire departments usually have one or two of these lasers in their rescue squad units.

Diamond Blade
Cost: $1,500; Recharge: NA; Avail: B

Strength: 34*; RES: 12

This consists of industrial-grade diamond fragments mounted on the edge of a small wheel. It is used by glass-cutters and it can be purchased at any good-sized hardware store. The diamond blade is designed to score lines in very hard, ultra-rigid surfaces — glass, plasteel, and so forth. Such material becomes very weak at the place where it has been scored, making it far easier to break through. Subtract 3 from the *RES* of glass-like materials for each full cut made in them by a diamond blade (at the standard rate of 1' per round).

> Example: A character wants to cut a man-sized hole in a plasteel wall (RES 24). Figuring such a hole to be a rectangle 3' by 2' in size, the character must make a 10' cut. After one circuit taking 10 rounds, the wall has been weakened by 3, reducing its RES to 21. After another circuit its RES will be down to 18, and so on. Eventually, the RES will be low enough to allow the man to kick the piece out and make good his escape.

Note that a diamond blade will cut through virtually *any* material with *RES* of 34 or lower — eventually — but if the material isn't as rigid as glass, it will take far, far longer: the character has to physically gouge out the line with what amounts to a very sharp but *very* tiny saw. To cut a line in more flexible material — wood, steel, concrete, etc. — takes ten times as long as to cut through glass: that is, it takes 10 rounds instead of one to cut a one-foot groove in non-glasslike items. And each cut is less effective, reducing non-flexible materials' *RES* by only 1 per cut, *not* 3.

*Strength: A diamond blade can cut through any material of *RES* 34 or lower. See above for details.

Explosives

Following are descriptions of some of the explosives available to the average thief or terrorist — ie, those explosives used in the construction business. This section does not cover grenades and other military-purpose explosives.

Explosive STR: The strength of the blast when the explosive is properly deployed — that is, if it is placed by someone with the Military Science Skill or Demolition Specialty who passes the appropriate Challenge (see "Chapter 6" of The *Underground* rulebook). Subtract 4 from the *Explosive STR* if the Challenge is failed or if the explosives are set by someone lacking the necessary Skill.

Note that an explosive's *Explosive STR* is not strictly additive: that is, doubling the amount of explosive does not double the Explosive STR of the explosive. For example, the *Explosive STR* of dynamite is listed as "12 (+1/stick)". That means that a single stick of dynamite has an *Explosive STR* of 12, two sticks have an *Explosive STR* of 13, three have an *Explosive STR* of 14, and so on.

Accuracy; Penetration; Dmg; Blast; Rng: Most of these explosives make very dubious weapons: they're difficult to throw with any accuracy, and they do wildly random amounts of damage. Still, they can be effective in a pinch: there's nothing more upsetting than to get a stick of dynamite with a sputtering fuse chucked into your lap when you're not expecting it. The second line of statistics in each description covers an explosive's effectiveness when used as a weapon.

Dynamite
Cost: $200/stick; Avail: C
Explosive STR: 12 (+1/stick); RES: 2/10*
Accuracy: -4; Penetration: 8; Dmg: LW/MW/HW/IN; Blast: 3; Rng: 1/3/5

Dynamite hasn't been much improved since its creation in the last century. The biggest improvement is in safety: unlike the original, the stuff available in the 21st Century rarely explodes just because it's hot out or someone drops a stick on the floor. Dynamite is available at larger construction retailers to anyone with a proper State license.

Dynamite explodes when it is exposed to flame. It will go off if you chuck a stick in the fire (not recommended for most day-to-day purposes); or you can use an old-fashioned flammable fuse. A better way to detonate dynamite is to use blasting caps set off electronically. Fuses and blasting caps are discussed below.

*RES: Dynamite has a *RES* of 2 when exposed to open flame or explosions. If dynamite is damaged by heat or explosives, it explodes. (No big surprise there, huh?) Dynamite also has a *RES* of 2 when exposed to water. In this case, the dynamite does not explode: it's just ruined. If subjected to other types of abuse — bullet-holes, falling off a cliff, concussion, etc. — dynamite has a *RES* of 10. If damaged in that way, there's a 50% chance that the dynamite will explode; otherwise it is just ruined.

Plastique
Cost: $500/1 lb. cube; Avail: D
Explosive STR: 14 (+1/cube); RES: 2/14*

Accuracy: -3; Penetration: 10; Dmg: LW/MW/HW/IN; Blast: 3; Rng: 1/3/5

This clay-like material is more stable and powerful than dynamite. It is sold in one-pound cubes. Plastique sticks to almost anything, and it can be molded into any desired shape. Plastique is detonated with a flame-fuse or with blasting caps.

*RES: Plastique has a *RES* of 2 when exposed to open flame or explosions (and yes, it does explode when damaged by same). Plastique is not affected by water at all. If subjected to other types of abuse (see "Dynamite," above), plastique has a *RES* of 14. There's a 25% chance that plastique will explode when subjected to casual damage.

Shaped Plastique
Cost: $900/1 lb. charge; Avail: D

Explosive STR: 18 (+2/charge); RES: 2/16*

This is standard plastique in a powerful metallic-ceramic casing which funnels the force of the blast in one direction, making it far more powerful.

This tends to dramatically limit shaped plastique's effectiveness as a thrown weapon: the charge is more than likely to land with the explosive side aimed at the ground or away from the target, meaning that it will do virtually no damage at all.

Shaped plastique is best detonated by blasting caps. If flammable fuses are used instead, the blast will be weakened somewhat (subtract 2 from the Explosive STR). Other than these things, shaped plastique has the same properties as normal plastique (see above).

Flammable Fuses
Cost: $10/foot; Avail: C

This is your standard sputtering flame fuse as seen in old western vids, useful for detonating dynamite and plastique. Flammable fuses are real simple to use: Poke one end of the fuse into a stick of dynamite, light the other end, and run. The flame sputters merrily along the fuse; when it reaches the dynamite, boom. Fuses are manufactured with a variety of burning-times: one foot/second, three feet/second, 10 feet/second, and so forth. They generally cost around $10 per foot.

If you happen to have some available, a trail of gunpowder or gasoline makes a fine substitute fuse. This stuff burns around 20 feet/second or faster, according to circumstances.

Blasting Caps
Cost: $50 each; Battery-powered detonator: $100; Avail: C

Blasting caps are small amounts of explosives with bare wires buried in them. When an electronic charge is applied to the wires, they heat up and melt almost instantaneously, setting off the cap's explosives, which, in turn, detonate whatever they are attached to: dynamite, plastique or shaped plastique. In the construction business wires are run from the caps to the detonator, hidden far away behind sandbags. When the plunger on the detonator is pressed, a current is sent through the wires, and blooey.

A detonator can be activated by more esoteric means, of course: anything that can be rigged to produce an electric charge can turn 'em on. They can be rigged to explode via radio signal; these and timer-detonators are very popular with the terrorists. Pressure-sensors are often used in guerrilla warfare: step on the wrong part of the rice paddy and you've had it. In fact, *any* sensor can be attached to a detonator and used to set off blasting caps; and since detonators are, of course, digital, a computer can set them off too. Isn't that nice?

The Bald Ego slaps a permenant foreclosure notice on some trouble-making punk.

Overview

There isn't really that much outdoors left in the 21st century, if you know what I mean. Most of the world's rainforests have been pillaged for short-term profit, resulting of course in long-term ecological devastation of the countries denuded. There are only a few pitiful remnants to be found in sub-tropical Asia. The largest surviving rainforest areas are in South America, and this is under constant attack from land-hungry cattle ranchers.

The US's wilderness areas have been slowly degraded for the past 50 years, victims of pollution, underfunding and overuse. Recently, however, the National Park Service has instituted a stringent recovery program, hoping to save what land remains. Except for NPS vehicles, all pollution-emitting vehicles are banned from wilderness areas — you can walk in, you can bike in, you can canoe in, you can ride a horse in, but you can't drive in the American wilderness. This has done a great deal to protect the interior parts of the areas: most casual tourists are unwilling to travel more than ten miles under their own power. Further, the number of visitors allowed into each areas has been dramatically lowered — in fact, there's a two-year waiting list to get a permit to camp in MacRaney's Yellowstone™ National Park.

Africa has been in some ways more lucky than the US in its attempts to protect its wilderness areas. The Green Party has targeted Africa for particular attention over the past 25 years, and several African nations, recognizing that their wilderness areas are great tourist attractions and the single largest source of hard currency, have put very pro-conservation policies in place. These countries take protecting their wildernesses very seriously indeed: when caught, poachers can expect to be executed immediately, without benefit of trial. In fact, the elephant population, virtually annihilated by the end of the 20th century, is making a small comeback despite the work of boosted big game hunters.

Given the general renewed interest in the wilderness, it isn't surprising that the outdoor survival gear business is thriving. Companies make a fortune selling trendy clothing and equipment to the intrepid and well-heeled vacationer. Even if the most powerful weapon you can *legally* take on an African safari is a camera, well at least you can *dress* like a Great White Hunter....

rainforest areas are in South America: Rain Forest National Park admits a mere 100,000 visitors each year, chosen by a $500,000 non-refundable international lottery.

Clothing

Active Camouflage Covering

Cost: $25,000; Avail: B

Active camouflage fatigues are popularly known as "chameleon suits." They were created by the folks at AMI, Inc., based upon the biotech found on board the alien spacecraft. Chameleon suits have since been manufactured by all of the major conflict firms — not to mention some extra-trendy outdoor clothing firms.

In essence, chameleon suits are composed of living tissue, cunningly woven into a lightweight yet sturdy cotton-like material. Tiny photo-receptors spread throughout the clothing "see" the colors around them, and cause the living tissue of the suit to assume that color. The suit can completely change colors in under a second's time. If you want to make a whole bunch of people nauseous, don a chameleon suit and go past the paintings in the Jesse Helms Memorial Museum of Modern Art at a fast trot. Chameleon suits can be worn over most armor or heavy-weather gear.

Add +2 to the Difficulty of the To Hit Challenge when firing at a chameleon-clad character at Medium or Long Range. Add +2 to the Tactics Unit Rating of chameleon-suited characters setting an ambush.

Chameleon suits draw the tiny amount of energy they need to survive from solar power. They pick up the trace chemical elements they require from human sweat. Assuming normal use, a chameleon suit should live for about two years. Chameleon suits are not affected by minor cuts or punctures, but serious damage (MW level to a character wearing them, particularly if caused by fire or explosion) will likely kill a suit.

Fire Protection Suit

Cost: $12,000; Recharge Cost: $400/battery; $50/air tank; Avail: B

This is for extreme heat, ie, the kind found in oil fires. Stunt men wear these suits when they stumble out of burning cars all covered with flames. This body-armor is asbestos-coated, triple-insulated, and contains a high-powered air-conditioning and recycling unit. A person in a fire protection suit might look like the Michelin Man, but he can wade through open flame without discomfort.

The suit's battery-pack and air tanks are good for one hour's use. The battery-pack recharges in eight hours from household current; the air tanks must be refilled with a compressor.

Mr. Conceilement slips scot free past two goons after dispatching their compadre.

If a character is wearing a fire protection suit, add +4 to his *RES* score when resisting damage from extreme heat or flame, *including* flame-throwers, napalm, and the like.

As you might expect, a fire protection suit is real bulky and cumbersome: subtract 2 from the *DEX* and *SPD* of any character in such a suit. A fire protection suit cannot be worn with other armor types.

Other Outdoor Survival Equipment

Water Purification Tabs
Cost: $200/2-week supply; Avail: A

Fill your canteen from the nearest stream or puddle, pop in a tab, wait five minutes, and hope. These tablets kill most bacteria and render most industrial waste a tad less toxic. However they won't provide protection against real nasty poisons like arsenic, for instance. Add +2 to a Character's *RES* when resisting the effects of tainted water if he's using water purification tablets.

Inertial Locator
Cost: $300; Avail: A

This is a small receiver, about the size of a double-thick credit card. It reads your current position off of the USGS satellites in orbit around the world, displaying them on a tiny video display unit. It also shows your heading (north, south, etc.,) and current altitude. It is accurate to within about ten feet. It runs off of solar energy or a small battery good for 6 month's operation.

Portable Neorubber Raft
Cost: $4,000; Avail: B

Handling: -3; SPD: (see below); RES: 5

This two-man raft can be deflated and slung from a back-pack when not in use. It is made of ultra-thin reinforced neorubber. It weighs about 50 pounds and measures about 12" x 8" x 6" when deflated. The raft comes with two collapsible aluminum and plastic paddles. A small battery-operated pump is used to inflate the raft; this takes around two minutes. The raft deflates in about two minutes if a couple of heavy guys sit on it to hurry it along.

"Where the _____ am I?"

The raft can hold around 500 pounds of weight, assuming that the weight is well-distributed. That is, the raft handles two 250-pound men just fine, while a 500-pound anvil might tear right through the raft's bottom.

The raft's speed depends upon circumstances: it will go a lot faster down the Colorado River, for instance, than it will go up the same river. On a flat, calm lake, with two competent rowers, the raft has a SPD of around 3.

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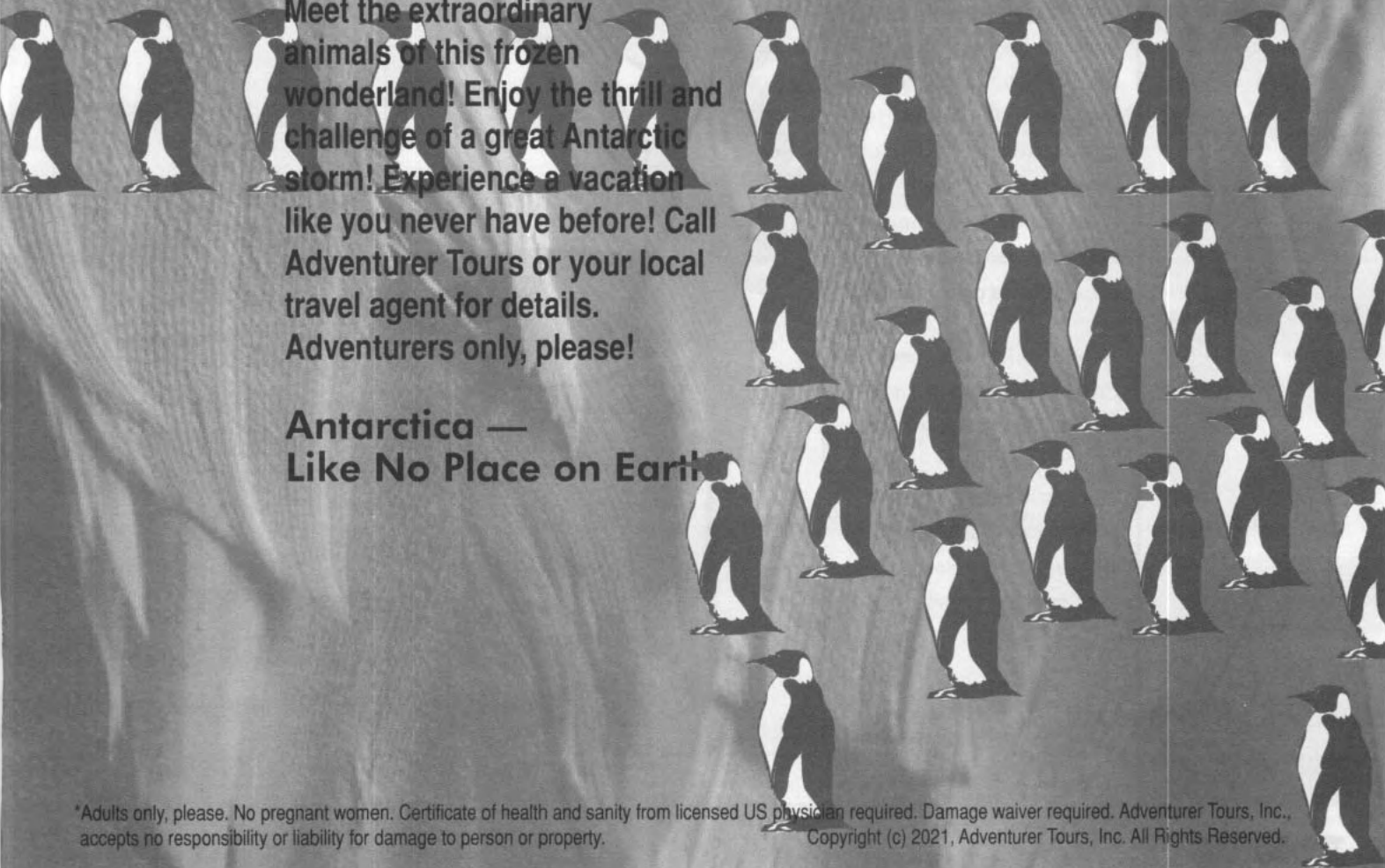
Overview

Mountain climbing is a popular diversion in the 21st century among the very wealthy and athletic — about 20 expeditions a year go up Mt. Everest, and easier, more accessible mountains are even more heavily-traveled. It is estimated that over 7,000 people a year climb (or attempt to climb) peaks of over 18,000 feet above sea level. Last year 257 climbing fatalities were reported worldwide.

City-climbing too has become popular. In this rather bizarre form of entertainment, the participants attempt to scale the outside of tall buildings. By all reports, this is an extremely exhilarating sport — not to mention extremely dangerous. In addition to the expected danger of falling off, the city-climber has to contend with angry civilians, annoyed pigeons, and the police. Since it is difficult to differentiate someone climbing a building for fun from someone climbing a building for profit (ie, perhaps engaging in a little breaking and entering on the way), the local gendarmes almost universally frown on this pursuit. Hefty fines and imprisonment await the sportsman unlucky enough to be apprehended.

The following equipment is useful to those who climb for fun or profit. Some of the gear is particularly useful in mountaineering, some is particularly useful for city-climbing, and some can be used in either venue.
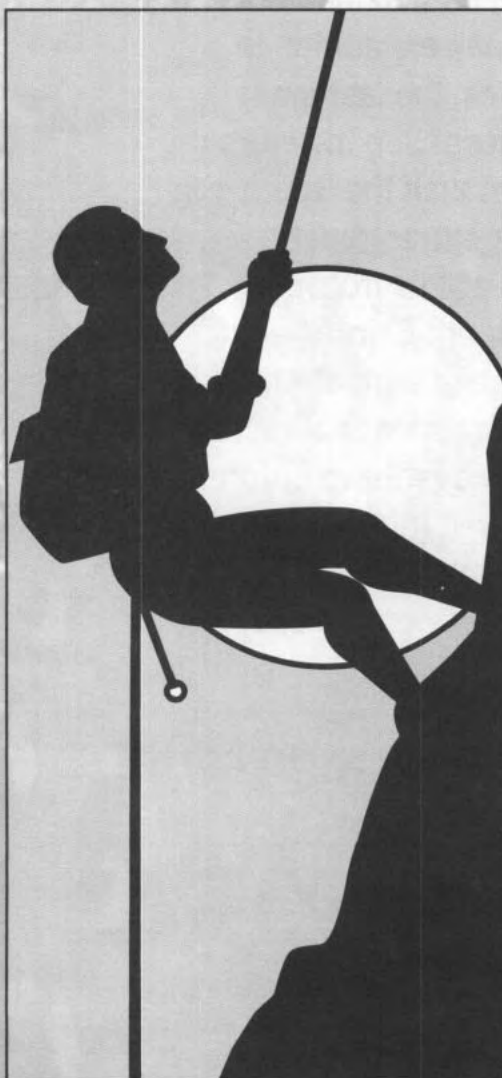
Rope

Flexi-Cable

Cost: $700/50 feet; Avail: A

RES: 11 (holds 1200 pounds)

This is a thin, pliable wire favored by casual climbers. Each 50 feet weighs 2.5 pounds.

Ultra Nylon Rope

Cost: $1,200/50 feet; Avail: B

RES: 13 (holds 2000 pounds)

This rope is far sturdier than flexi-cable. Each 50 feet weighs 3 pounds. Ultra Nylon is used by most expert climbers.

Braided Ultra Nylon Cable

Cost: $2,000/50 feet; Avail: B

RES: 14 (holds 2500 pounds)

Braided Ultra Nylon cable is several thin strands of Ultra Nylon rope braided together for additional strength. Each 50 feet weighs 5 pounds. This grade of cable is used for construction.

Grappling Hooks and Guns

Standard Grappling Hook

Cost: $50 each; Avail: A

RES: 11 (holds 1200 pounds)

The standard three-pronged grappling hook. It is tossed into position by hand (that is, this hook cannot be fired from a grappling hook gun).

Grappling Hook Gun

Cost: $2,000; Avail: B

Accuracy: -4; Rng: 3/6/9; Ammo: 1; Rate: 1/3; STR: 0; RES: 4

Actually, the name is somewhat of a misnomer: this is actually a smallish crossbow rather than a gun. There are two different kinds of hooks which can be fired from this gun; see the following.

Lightweight Collapsible Grappling Hook

Cost: $75; Avail: A

RES: 9 (800 pounds); Penetration: 0*; Dmg: STN/STN/STN/LW*
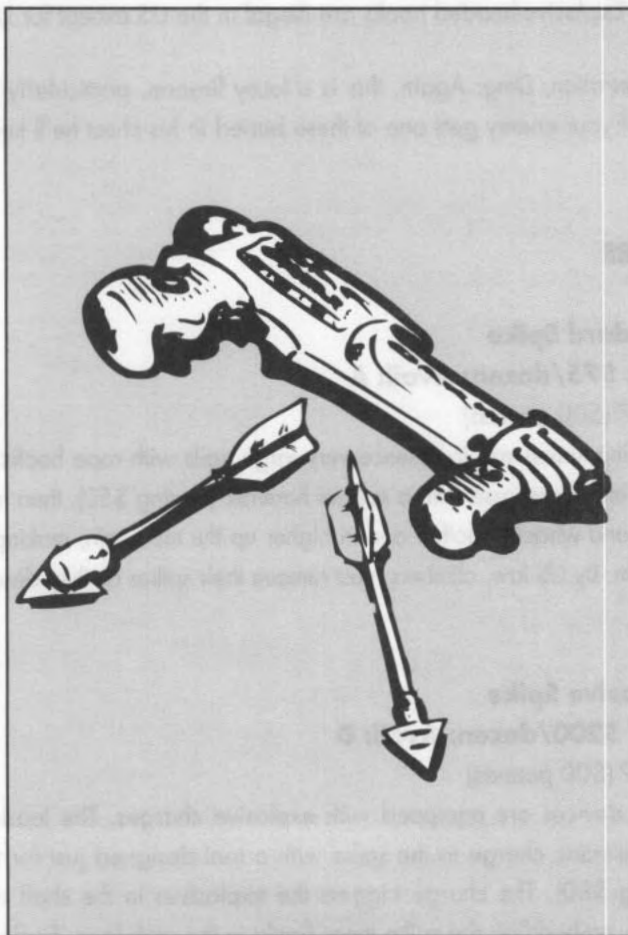
This lightweight hook is designed to be fired from a grappling hook gun (see above). When loaded into the gun, it collapses in a rather large arrow-shape with the cord trailing behind. When fired, the three prongs spread out, hopefully catching on an overhang or protrusion.

Penetration; Dmg: A grappling hook makes a lousy weapon. It's blunt, hard to aim, and very slow-firing. If you do manage to hit your target, the best you can hope for is to stun him (mind you, this can be enough if he's clinging to a cliff-face at the time...).

Explosive-Head Grappling Hook
Cost: $175; Avail: C

RES: 9 (800 pounds); Penetration: 10; Dmg: LW/LW/MW/HW**

This is another type of grappling hook designed to be fired from a grappling hook gun (see above). When the head of the hook hits a target, an explosive charge at the rear end of the shaft detonates, driving the head firmly into the rock. Explosive-headed hooks are illegal in the US except for US Park Service rescue teams.

Penetration; Dmg: Again, this is a lousy firearm, particularly when you remember that the "bullets" cost $175 each. Still, if your enemy gets one of these buried in his chest he'll know it.

Spikes

Standard Spike
Cost: $75/dozen; Avail: A

RES: 7 (500 pounds)

Climbing spikes are in essence very large nails with rope hooks at the non-pointy end. The lead climber whacks a spike firmly into a crevasse with a special hammer (costing $50), then hooks his rope onto it. He then stands on the newly-placed spike and whacks another one in higher up the mountain, making a chain of hand- and rope-holds for the climbers following him. By US law, climbers must remove their spikes as they descend the mountain or be fined for littering.

Explosive Spike
Cost: $200/dozen; Avail: D

RES: 9 (800 pounds)

These devices are equipped with explosive charges. The lead climber whacks the spike in normally, then applies a small electric charge to the spike with a tool designed just for that purpose (the device is built into a special hammer costing $80). The charge triggers the explosives in the shaft of the spike, causing its tip to split and "blossom" outwards, embedding the spike more firmly in the rock face. Explosive spikes cause a good deal of damage to the mountain. Explosive spikes are illegal in the US, except for licensed US Park Service rescue teams.

Building Grips

Suction Grip

Cost: $300/set of 2; Avail: C

RES: 5 (300 pounds)

These specialized tools are designed to allow the wearer to ascend sheer, smooth surfaces, like glass or steel buildings. The climber plants a grip firmly on the wall, then repeatedly presses the thumb button. This button sucks the air out of the space between the grip and the building, causing a partial vacuum to form, holding the grip tightly to the building. The climber can then climb onto the stuck grip and place another grip higher up, creating a ladder as he goes.

Note that some buildings have ripples on parts of their surface, making it impossible to use suction grips on these areas.

Magnetic Grips

Cost: $500/set of 2; Avail: C

RES: 6 (400 lbs.)

These work under the same principle as the suction grips, above, except that the grip is held to the building by a very powerful electromagnet. The climber places the grip on the metal surface of his choice, thumbs the button, and the electromagnet is engaged. The grips' batteries are good for about six hours' use before requiring replacement. In other words, if you clamber your way up a building, leaving a trail of magnetic grips behind, your ladder will fall down in about six hours.

Naturally, magnetic grips don't work on plastic or glass-sided walls. And there's an additional drawback: the climber's delicate electronic equipment may be scrambled if it is within a couple of inches of the grip when the electromagnet is turned on (make an electromagnetic "attack," *STR* 3, against the electronic equipment's RES).

Glue Grips

Cost: $75/set of 2; Avail: E

RES: 6 (400 pounds)

These grips are covered with a thin coating of superglue. The climber tears off the grip's paper backing and slaps the grip onto the wall, where it sticks. Naturally, these grips work only on very sheer surfaces: glass, steel, plastic, and the like. They don't work well at all on concrete, brick or other porous materials.

Glue grips are a lot cheaper than either of the other two types of wall grips; however, they are not reusable: once a glue grip is in place, it's stuck there until someone chips it off. Still, if you don't mind leaving a trail behind you, they're the economical way to go.
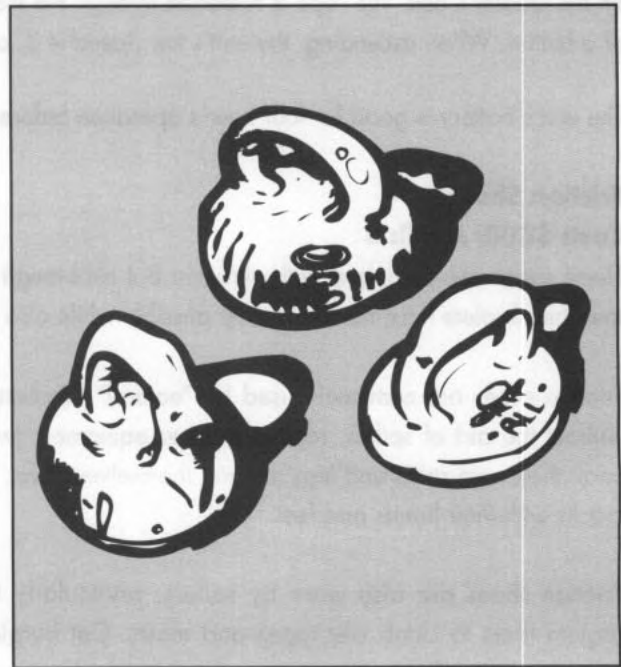
Other Climbing Gear

Safety Harness
Cost: $900; Avail: B

RES: 6 (rated for 400 pounds)

This harness straps around the climber's legs and torso and attaches to the cable or rope with a friction clamp. The clamp can be set to allow the rope to slide through in only one direction, locking if the rope moves in the other. This is the setting normally used during climbing: if the climber slips, the clamp automatically grips the rope and stops his fall as soon as it has begun.

The clamp can also be set for rappelling. In that setting the clamp grips the rope only partially, allowing it to slip through at a slower rate, letting the climber descend in a controlled fall. At need, the climber can hit a lever and close the clamp fully, putting the brakes on.

The standard harness can handle 400 pounds safely. If, God forbid, someone heavier than that needs a harness, it must be specially built: add to the cost $200 per point of *RES* above 6 required. A special harness takes four to six weeks to be completed (it can be done in as little as two weeks if the purchaser is willing to pay double the normal price).

Powered Harness
Cost: $6,500; Avail: B

RES: 6 (rated for 400 pounds)

This harness is identical to the safety harness, above. In addition, it is equipped with a battery-driven motor mounted on the wearer's belt. The rope is threaded through the motor, with draws the climber up or down the rope at the touch of a button. When ascending, the unit's top *Speed* is 3, or 5 ft/second.

The unit's battery is good for four hour's operation before requiring a recharge or replacement.

Friction Shoes
Cost: $800; Avail: B

These shoes are equipped with ultra-thin but ultra-tough neorubber soles, specifically designed to give the wearer's toes the absolute maximum sensitivity possible while also providing adequate protection.

Friction shoes are commonly used by "natural" climbers: those foolhardy souls who scale mountains and buildings without the aid of spikes, ropes, or other equipment (which they regard as "sissy-climbing"), instead relying solely upon their own arms and legs to keep themselves alive. These climbers must be able to find and cling to the smallest cracks with their hands and feet.

Friction shoes are also worn by sailors, particularly those who sail old-fashioned sailboats which periodically require them to climb wet ropes and masts. Cat burglars and certain Asian assassins seem to fancy this type of footwear, as well.

Friction shoes add +1 to a character's *Climbing Specialty, Acrobatics Skill* or *DEX* Attribute when the character is climbing.

## Paraglider
Cost: $7,500; Avail: B

Handling: -2; SPD: 7*; RES: 5 (max. weight: 300 lbs.)

Weighing only 15 pounds and folding into a small pouch when not in use, this miniaturized parachute is often carried by "natural" climbers both for pleasure and for emergencies. If a climber falls off of a sheer 3000-foot cliff without benefit of a rope, he has a chance of surviving if he is wearing a paraglider — assuming that he can twist his body face-down and pull the ripcord before he hits the ground, and also assuming that the wind doesn't immediately blow him and his paraglider right back into the cliff-face, collapsing the glider and sending him plummeting once again. (Well, it's not much of a chance, admittedly, but it is better odds than simply hoping that you hit a really, really deep pile of soft snow.)

Some climbers regularly use paragliders to descend from mountains they have climbed. And crazy city-climbers have been known to jump off of the top of buildings in them, braving treacherous cross-winds, air traffic, and angry pigeons.

Paragliders are flashy, dangerous, fragile things at best, used only by lunatics or showoffs. Saner fliers prefer safer vehicles — power-belts, hang-gliders, or normal parachutes — when risking their necks in the air. On the other hand, paragliders have so little metal in them that they're almost impossible to pick up on radar, which does have its uses from time to time.

*SPD: The *Speed* of 7 is the glider's standard rate of descent. Strong winds and/or updrafts will alter that, of course. A skilled user can increase his *Speed* by spilling air from the glider if he doesn't mind risking a few broken bones and a broken head.
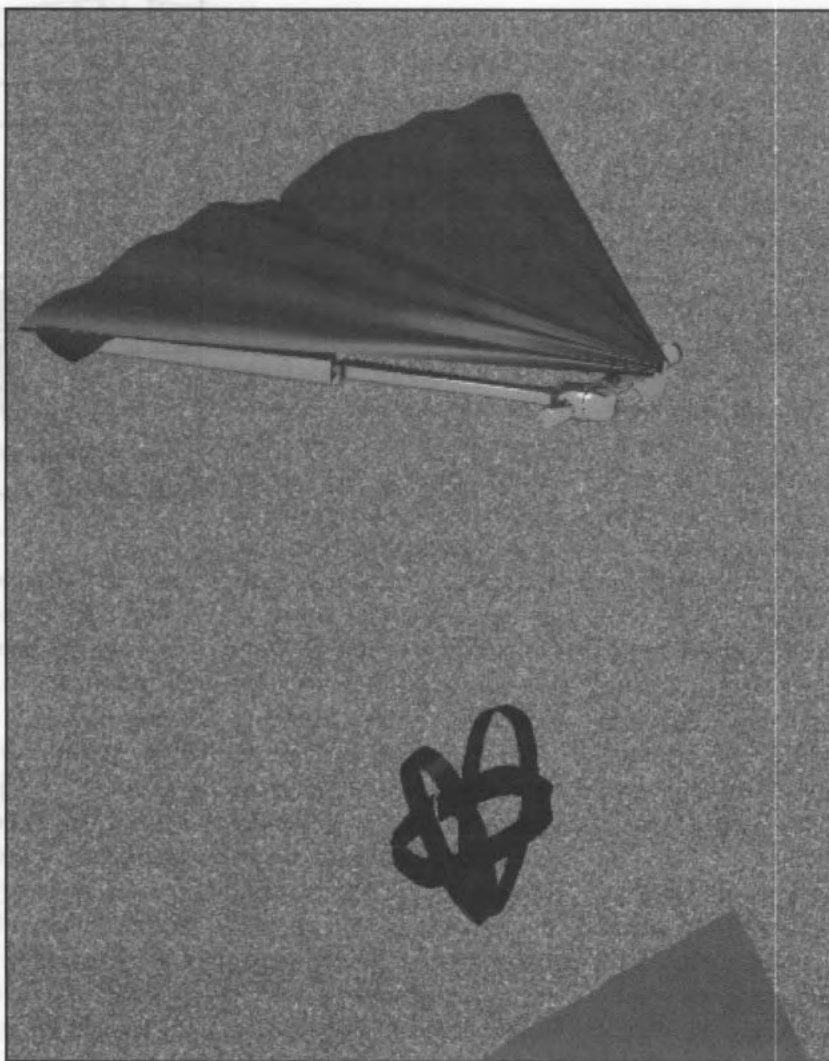
NIGHTWING GANG STRIKES AGAIN

Notorious paragang hits Fujihanna building, escapes with over $20,000,000 in gems

by Jennifer Fortunato
USA ALIVE

Los Angeles — "They got us good this time, " Henry Tsu, vice-president of Fujihanna security admitted ruefully, speaking to reporters in front of the Fujihanna building this morning.

"We haven't finished the detailed audit yet, but it looks as if they go away with twenty-million dollars-plus worth of gems. They only took the best rocks; it looks like they left another twenty- to thirty-million's-worth of goods behind."

"This is the third gem-importing outfit the Nightwings have hit this year, " Tsu added, "and I don't mind telling you that we're getting pretty sick of it."

The so-called "Nightwing" gang specializes in stealing small articles of high value — gems, jewelry, and the like. They cover the entire West Coast of the United States, having committed burglaries in Seattle, San Francisco, Los Angeles, and San Diego.

According to police experts, the Nightwings' method of operation appears to be as follows: They approach the target building late at night in a small air-transport vehicle, typically a helicopter or a flying van, carefully following standard traffic patterns. When they are within range of the building, four to eight members of the gang jump from the vehicle, deploying paragliders and gliding to the building's rooftop. They are not spotted by the building's security radar.

Once on the building, they appear to effortlessly evade whatever security monitors, patrols, and alarms are in their way, and unerringly reach and pilfer the building's most valuable property — as long as it is small and doesn't weigh much. They then return to the building's rooftop, leap off into the night, and sail away on their paragliders.

The police theorize that Nightwings must spend a tremendous amount of time, energy, research, and bribe money when planning a job. They appear to have detailed knowledge of the building's layout, security arrangements, computer codes, and personnel. In the last two thefts, rooftop monitors were tampered with and security personnel somehow rendered unconscious immediately before the gang's arrival.

Recently, the Nightwings appear to be branching out their operations into corporate espionage as well. Two months ago the Hagar Research Group, Inc., building was robbed of several experimental microchips.

The American Gem and Jewelry Association has offered a $5,000,000 reward for information leading to the arrest and conviction of any member of the Nightwing gang.

Overview

This section describes your basic building materials found in the world of *Underground*: walls, floors, ceilings, doors, windows, etc. It might not be readily apparent why you need to know anything about interior wall construction in the 21st century (unless you're an architecture freak), but, on the other hand, it may be useful to have an idea of just how tough it is for a character to bust through one with her bare hands. ....You just never know.

For our purposes, walls, floors and ceilings are divided into five categories: flimsy, standard, heavy, extra heavy, and bulkhead. There are, of course, variations between items in the same category — some extra-heavy walls might be stouter than others, for instance — but these subtle distinctions are cheerfully left up to the GM's discretion.

Cost: Each piece of material has been given a price. But frankly neither you nor I should really care how expensive building material is in the 21st century. If a character wants to build a house, an office building or a secret underground headquarters, don't quibble about how much each foot of material costs: charge him for the entire job. The prices listed here are for materials sold at your basic retail outlet; they more or less reflect the cost of replacing a section that has been damaged (say, by an angry vet shoving a traveling salesman through the wall of his apartment).

THE NATURE OF BUILDING MATE-RIALS IN UNDER-GROUND

Knock knock!!– MDSO introduces some mook to the business end of his boot!

Walls, Floors, and Ceilings

Here we got yer standard walls an' ceilings.

Flimsy Walls, Floors, Ceilings
Cost: $50/10 sq. ft.; Avail: A

RES: 6

Your basic tarpaper shack's walls, or the interior walls found in low-rent apartments. A surly teenager could kick one to pieces without much trouble.

Standard Walls, Floors, Ceilings
Cost: $250/10 sq. ft.; Avail: A

RES: 12

The walls of a suburban house and the walls separating apartment or office units in a normal building.

Heavy Walls, Floors, Ceilings
Cost: $500/10 sq. ft.; Avail: B

RES: 17

Brixblox is a heavy wall material. Exterior walls and fire-walls of normal buildings are considered heavy.

Extra-Heavy Walls, Floors, Ceilings
Cost: $1000/10 sq. ft.; Avail: B

RES: 24

Security-grade walls. The exterior walls of the White House are extra-heavy.

Bulkhead Walls, Floors, Ceilings
Cost: $3000/10 sq. ft.; Avail: B

RES: 30+

The kind of walls found around Fort Knox, the executive offices of AMI, and the Presidential Bomb Shelter under the White House. Heavier nuclear submarines have walls this thick.

Doors and Windows

Doors and windows are graded in the same fashion as above, ie, flimsy, standard, heavy, extra-heavy, and bulkhead. These items are a little more fragile than walls, floors or ceilings of the same grade — for example, a flimsy wall has a RES of 6, while a flimsy door has a RES of 5. Remember that doors and windows may be equipped with locks, monitors and sensors (see the appropriate sections of this book for details).

Flimsy Doors and Windows
Cost: $100; Avail: A

RES: 5

Standard Doors and Windows
Cost: $500; Avail: A

RES: 11

Heavy Doors and Windows
Cost: $1,000; Avail: B

RES: 16

Extra-Heavy Doors and Windows
Cost: $2,000; Avail: B

RES: 22

Bulkhead Doors and Windows
Cost: $6,000; Avail: B

RES: 28+

Crap apartment, great view

Stereo Sound System
Cost: $1,500 to $75,000; Avail: A

Plays CDs, downloads music and radio programs from the network, etc. The more you spend, the better the sound quality.

Stereo Neural Jack
Cost: $30,000 (plus $500,000 for the neurosurgery); Avail: B

For the ultimate music experience have the digital signal piped directly into your melon! You need to already have a computer neural jack plug in your brain to do this, of course (the neural surgery required for this costs $500,000; see the "Computers" chapter of this book for more details).

HoloTV
Cost: $15,000; Avail: B

This device converts digital signals into holographic images and then projects them into the center of your living room. HoloTV is still relatively new: only a few holographic TV programs — or "holovids" — are being broadcast now, but more are expected to be released in the next couple of years as the price of the unit comes down. Current holovids include: "PoliceQuest 2200," "America's Most Wanted," "48 Minutes," and "Wren and Stumpy: The Legend Continues."
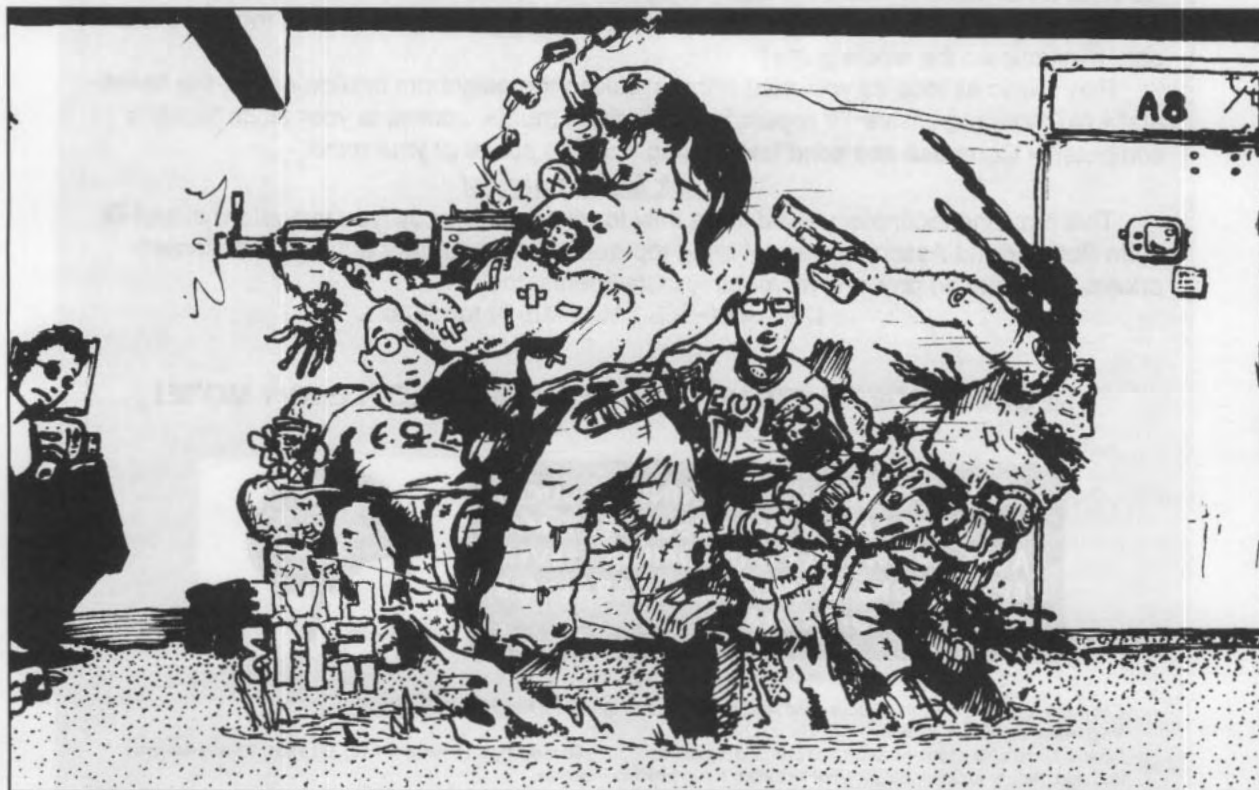
Armageddon Lite!– All the blood & guts, with none of the cleanup!

Holo Jack
Cost: $40,000 (plus $500,000 for the neurosurgery); Avail: B

Now you can get holographic TV programs broadcast directly into your noggin! Cool, huh? This isn't quite virtual reality — you can't interact with the programs — but it's pretty darn close: now you *really* feel like a part of the action! See the "Computers" section for details about neural jacks and such.

Robot "Companion"
Cost: $500,000; Avail: B

DEX: 2, STR: 1; RES: 9

Companions have human-like features, warm and lifelike skin-textures, and pretty darn advanced programming. Companions are available with a wide variety of physical characteristics: male, female, svelte, buxom, rugged, pumped, obese, black, white, Asian, Hispanic, etc. Adult book and vid stores and on-line services sell companion personality programs catering to most popular perversions.

MAINFRAME COMPUTERS

SUPER COMPUTERS

The largest computers currently made.

SHELLFISH 3000

Cost: $750,000,000; **Avail:** D
Storage: 6,000+, Processing 1,500, **RES:** NA
Size: Roughly the size of a city block.
Operators: 50

SHELLFISH 1000

Cost: $500,000,000; **Avail:** E
Storage: 4,500+, Processing 1,000; **RES:** NA
Size: 3,200 cu. ft.
Operators: 25

SHELLFISH 500

Cost: $250,000,000; **Avail:** E
Storage: 2,000+; **Processing:** 500; **RES:** 10
Size: 1,400 cu. ft.
Operators: 5

MINI COMPUTERS

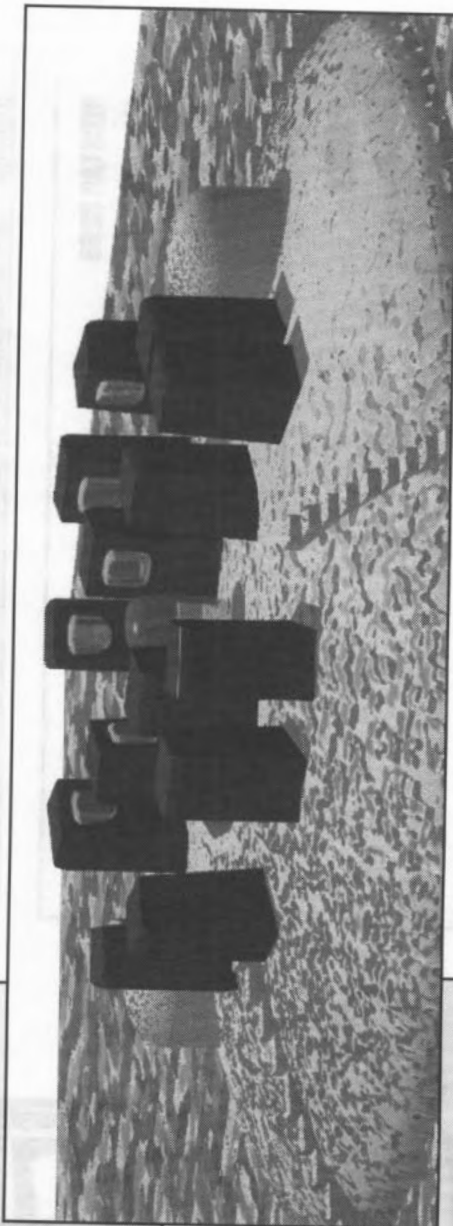Mini computers are larger than personal comps, smaller than super comps.

MYCROFT XLNT

Cost: $15,000,000; **Avail:** B
Storage: 250; **Processing:** 40; **RES:** 9
Size: 4' x 4' x 6'

CRIP BROS. BRAINIAC IIG

Cost: $11,250,000; **Avail:** B
Storage: 200; **Processing:** 25; **RES:** 8
Size: 2' x 3' x 6.'

PICT INFOPRO 15

Cost: $6,000,000; **Avail:** B
Storage: 100; **Processing:** 15; **RES:** 7
Size: 4' x 4.5' x 6'

PERSONAL COMPUTERS & PACKS

STANDARD MODELS

For home or office use.

GRANNYSMITH D12

Cost: $16,000; Avail: A
Storage: 16; Processing: 7; RES: 7

PICT 3286

Cost: $16,000; Avail: A
Storage: 16; Processing: 8; RES: 6

PICT 3286-X

Cost: $28,000; Avail: B
Storage: 18; Processing: 9; RES: 6

REDSTAR 3286

Cost: $12,000; Avail: A
Storage: 12; Processing: 6; RES: 5-7*
*Quality varies wildly from unit to unit. Their RES may be as low as 5 or as high as 7, depending upon brand and blind chance. Let the buyer beware.

CRIP BROS. MICRO

Cost: $40,000; Avail: C
Storage: 13; Processing: 7; RES: 9

REDSTAR MINIPACK

Cost: $25,000; Avail: A
Storage: 12; Processing: 6; RES: 6-8*
*Quality varies wildly from unit to unit. Their RES may be as low as 6 or as high as 8, depending upon brand and blind chance. Let the buyer beware.

PACKS

Personal computers, carried on the street.

SHELLFISH SUPERPACK

Cost: $32,000; Avail: A
Storage: 13; Processing: 7; RES: 7

POWER SUPPLIES

BATTERIES

Cost: See below; **Avail:** A

- **DISPOSABLE:**
  3-Day Battery supply: $100
  7-Day Battery supply: $250

- **RECHARGEABLE:**
  3-Day Rechargeable Battery: $1,000
  7-Day Rechargeable Battery: $2,500
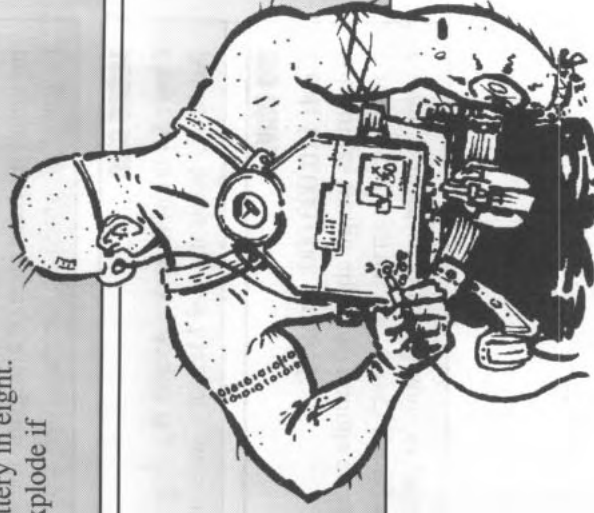
BATTERY RECHARGER

Cost: $500; **Avail:** A

The recharging unit plugs into any standard electric outlet. It recharges a three-day battery in four hours, a seven-day battery in eight. (Note: disposable batteries explode if placed in a recharger.)

SOLAR RECHARGER

Cost: $8,000; **Avail:** B

In bright, direct sunlight, a solar recharger will recharge a three-day rechargeable battery in two days, a 7 day rechargeable battery in four.

PACK PERIPHERALS

Note: Peripherals are not given Resilience values; if a peripheral is the subject of an attack, use the RES of the pack itself to determine damage.

PORTABLE LASER PRINTER

Cost: $20,000; **Avail:** A

The portable laser printer is about the size of a large book. It is battery-operated and will interface with any personal computer or pack. It prints on any kind of paper.

STANDARD CELLULAR MODEM

Cost: $15,000 plus $100/minute satellite fee; **Avail:** A
Security Rating: 4

A little radio pack the size of a deck of cards with a separate antenna. If user has headphones and microphone, he can use the system as a regular phone as well.

SECURE CELLULAR MODEM

Cost: $30,000 plus $500/minute satellite fee; **Avail:** D
Security Rating: 6

This unit broadcasts a tight and weak signal, picked up by powerful satellite receivers. The antenna must be outdoors to operate.

PORTABLE MONITOR

Cost: $15,000+; **Avail:** B

Packs come with tiny two to three-inch screens. The portable monitor allows full-screen viewing on the go. Packs are equipped with standard plugs so that they can run directly off of household current when used in the home or office. On the street, packs draw their power from battery packs about the size of a book of matches.

MEMORY DRIVES
HUMAN-COMPUTER LINKS

ULTRA-COMPACT DISC DRIVE

Cost: $5,000*; **Avail:** A

*All personal and mini computers are sold equipped with internal UCD drives. The price listed is the cost of an external UCD drive for a pack, a unit the size and shape of a Sony Walkman.

ULTRA-COMPACT DISC

Cost: $1,250/10-pack ; **Avail:** A

A UCD holds up to 6 Memory units of data.

MICRO DISC DRIVE

Cost: $10,000; **Avail:** B

The drive is about two inches square and 1/2-inch tall; it is usually mounted directly atop or alongside the pack. Micro disc drives can be serial mounted on the pack, one atop the other.

MICRO DISC

Cost: $3,000/10-pack ; **Avail:** B

An MCD holds up to 4 Memory units of data.

BIO-DRIVE

Cost: $10,000,000; **Avail:** B

Bio-drives weigh about 40 pounds each and they're the size of a bowling-ball carrier. Bio-drives are equipped with backup internal power sources good for 24 hour's operation.

REPLACEMENT BIO-DRIVE BRAIN

Cost: $2,500,000; **Avail:** B

If a user has carelessly let the brain in his bio-drive expire, he can get a replacement brain installed in the unit for about $2,500,000.

HEADSET WITH MICROPHONE AND EARPHONES

Cost: $8,000; **Avail:** A

HEADS-UP GOGGLES

Cost: $2,000; **Avail:** A

COMMUNICATIONS HELMET

Cost: $9,500; **Avail:** B

INDUCTION JACK

Cost: $100,000; **Avail:** B

NEURAL JACK

Cost: $500,000 for the surgery; $50,000 for the jack itself ; **Avail:** D
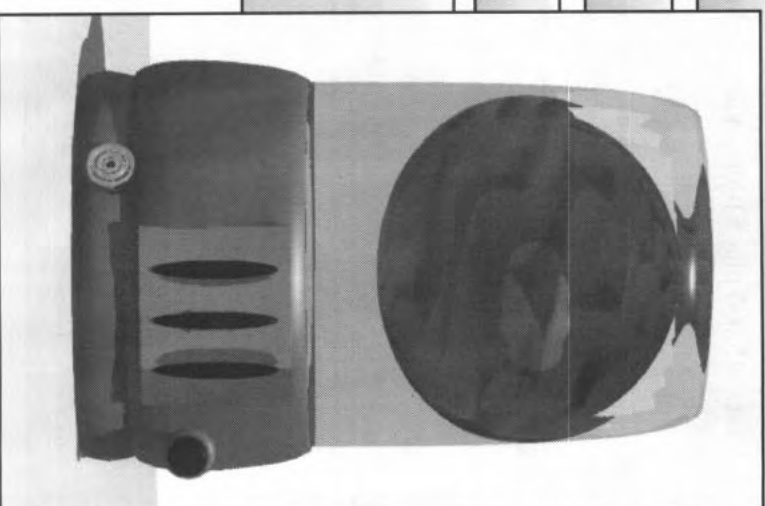
SECURITY SOFTWARE

LOCKOUT™ ALPHA
Cost: $2,000; Avail: A
Memory: 0; Security Rating: 1

LOCKOUT™ BETA
Cost: $4,000; Avail: A
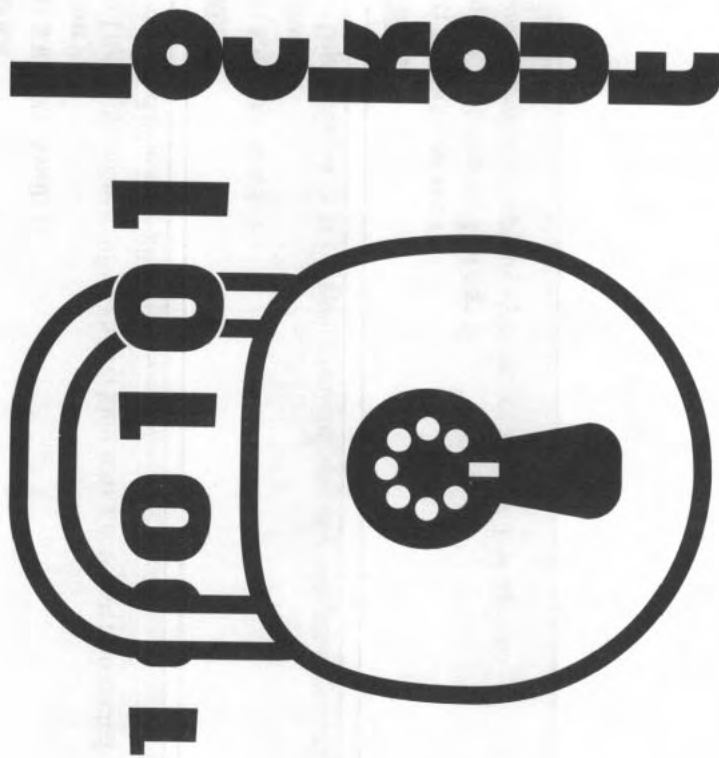Memory: 0; Security Rating: 2

LOCKOUT™ GAMMA
Cost: $6,000; Avail: A
Memory: 1; Security Rating: 3

LOCKOUT™ DELTA
Cost: $9,000; Avail: B
Memory: 1; Security Rating: 4

CUSTOMIZED SECURITY PROGRAMS
Avail: B

Security Rating	Memory	Cost
5	2	$12,000
6	2	$15,000
7	3	$20,000
8	4	$27,500

LOCKCODE

1 0101

INTRUSION SOFTWARE

LOCKPICK

Cost: $30,000; **Avail:** E
Memory: 4
+1 to Digital Security skill when breaking into a computer protected by Lockout Alpha through Gamma.
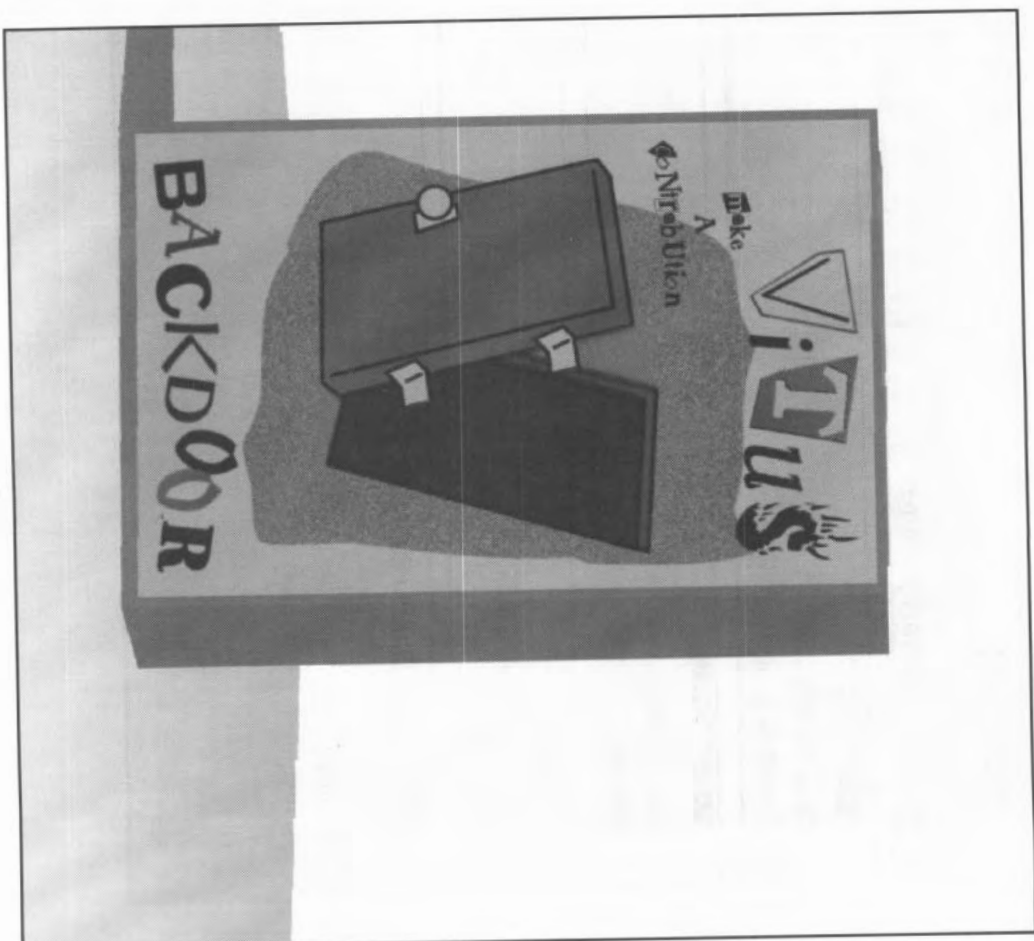
BACKDOOR

Cost: $50,000; **Avail:** E
Memory: 5
+1 to Digital Security skill when breaking into any computer system.

WORMHOLE

Cost: $70,000; **Avail:** E
Memory: 6; **Security Rating:** 6
A passive computer tapping system; see chapter 1 of Techno for details.

OTHER SOFTWARE

PUEBLO SNIPER!
Cost: $12,000; Avail: A

Memory: 3

An aiming program. Aim for 1 Turn, reduce Long Range Difficulty Modifier to +4; the Medium Range Difficulty Modifier to +2.

PUEBLO FIREFIGHT!
Cost: $15,000; Avail: A

Memory: 4

Reduce Long Range and Medium Range Difficulty Modifiers by 1; evaluate threats as Low, Medium or High based upon Enemies' STR and RES (see Underground rules).

ELIZA
Cost: $3,000; Avail: A

Memory: 2

A virtual receptionist: screens calls, makes appointments; sends faxes; etc.

SKILL SOFTWARE
Cost: $4,000+*; Avail: B

Memory: *

Duplicates the effects of Skill Specialties, particularly knowledge Specialties.

*Cost: $4,000 per Unit of Skill and have a Memory value equal to their Skill Ratings.

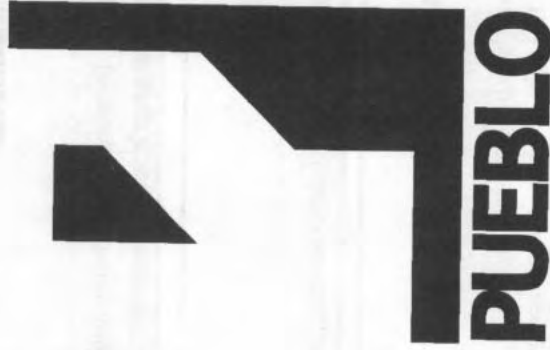### HOME APPLIANCE SOFTWARE
Cost: $3,000; Avail: A

Memory: 2

Allows computer to run VCR, turn on/off lights, control heat, a/c, and other appliances.

PUEBLO MAPIT!
Cost: $18,000; Avail: A

Memory: 3

Automatically maps any ground user covers; finds user's location on pre-recorded urban maps (maps cost $6,000 each).

PUEBLO

OTHER SOFTWARE

PORTA-TERM
Cost: $9,000; **Avail:** A
Memory: 2
Communications package allowing two different computers to communicate via modem/direct line-link.

LIBRARY LOAD
Cost: $3,000; **Avail:** A
Memory: 2
General knowledge encyclopedia. Specialty volumes also available.

VEHICLE NAVIGATION/MAINTENANCE
Cost: $8,000; **Avail:** A
Memory: 3
Tracks a vehicle's speed, location, diagnostics and other vital signs; projects output on combat goggles, heads-up display, or monitor.

PUEBLO RECORDIT!
Cost: $10,000; **Avail:** A
Memory: 4
Accepts digital input from video/audio sources, records data digitally.

ANTI-RADAR
Cost: $8,000; **Avail:** A
Memory: 1
Monitors signal from Punkbuster; sounds warning if radar-guided attack is imminent; fires chaff-pack automatically (if present).

VOCALIZER
Cost: $15,000; **Avail:** A
Memory: 2
A voice synthesizer, compatible with Eliza, Skill, and Library Load software.

PUEBLO

SECURITY ROBOTS

TWD GUARDIAN™ MARK II

Cost: $15,000,000; **Avail:** D
STR: 3; **DEX:** 2; **SPD:** 3; **RES:** 15; **Gun Combat:** 5; **Detective:** 2
Standard Equip:
- Video Camera with Infrared Attachment
- Microphone and Speakers; Speech Synthesizer and Recognition Programming
- Gripper Arm
- Rubber Treads
- Computer Radio-link
- Turbo Tazer: Acc: -3; Pen: 12; Dmg: STN/KO/KO/LW; Rng: 2/4/6; Ammo: 1; Rate: 1
- Light Weapon Mount
- 4 Grenade Mount (usually gas grenades)
- Fire Extinguisher
An indoor unit, designed for use against lightly-armed opposition only.

TWD PROWLER™

Cost: $25,000,000; **Avail:** D
STR: 2; **DEX:** 4; **SPD:** 4; **RES:** 12; **Acrobatics:** 5; **Dodge:** 5;
Gun Combat: 5; **Martial Arts:** 5; **Detective:** 4
Standard Equip:
- Video Camera with Infrared Attachment
- Microphone and Speakers; Speech Synthesizer and Recognition Programming
- 2 Sensi-Touch Arms
- 6 Gripper Arms
- Razor Beak: Penetration: 7; Damage: STN/KO/LW/MW
- Computer Radio-link
- Medium Pistol
- Flame Pistol
- Tangle Web
A spider-shaped prowler robot. Tends to go mad.
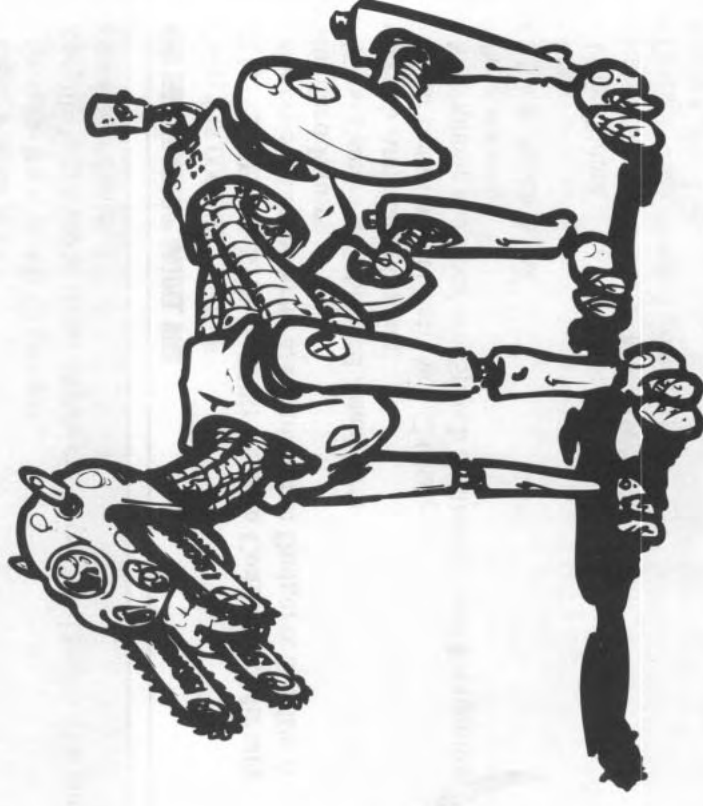
SECURCORP NEO DOBIE™

Cost: $16,000,000; **Avail:** D
STR: 4; **DEX:** 4; **SPD:** 5; **RES:** 14; **Dodge:** 5; **Martial Arts:** 6;
Detective: 3
Standard Equip:
- Video Camera with Infrared Attachment
- Microphone and Speakers
- Accu-Sniffer (see below)
- Razor Teeth: Penetration: 7; Damage: STN/KO/LW/MW
- Computer Radio-link
A robot Doberman pinscher.

WAR ROBOTS

TWD XKM770

Cost: $40,000,000; **Avail:** E

STR: 15; **DEX:** 2; **SPD:** 5; **RES:** 21; **Gun Combat:** 7; **Military Science:** 3

Standard Equip:

- Video Camera with Infrared Attachment
- Radar
- Radar Detector and Double Chaff Pack (6 Charges)
- Microphone and Speakers; Speech Synthesizer and Recognition Programming
- 2 Heavy Gripper Arms
- Legs
- 2 Auto-Gun Mounts
- Light Missile Rack
- Grenade Rack (holds 12 grenades)

Roughly humanoid in shape, stands eight-foot tall, bristles with guns, grenades, missiles.

AMI INFILTRATOR™ MODEL VIIB

Cost: $35,000,000; **Avail:** E

STR: 12; **DEX:** 4; **SPD:** 7; **RES:** 15; **Gun Combat:** 5; **Military Science:** 3; **Martial Arts:** 8; **Climbing:** 6; **Dodge:** 6; **Stealth:** 6

Standard Equip:

- Video Camera with Infrared Attachment
- Stealth Anti-Radar Coating
- Radar Detector and Chaff Pack (2 Charges)
- Microphone and Speakers; Speech Synthesizer and Recognition Programming
- 2 Sensi-Touch Arms
- Legs
- 1 Gun Mount
- Razor-Garrote: Damage: MW/HW/IN/KL
- Grenade Rack (holds 3 grenades)

Robot killer Ninja.

DHI JUGGERNAUT 2000™

Cost: $45,000,000; **Avail:** E

STR: 13; **DEX:** 2; **SPD:** 4 (10/15)*; **RES:** 23; **Land Vehicle (itself only):** 5; **Heavy Weapons:** 5; **Military Science:** 4

Standard Equip:

- Video Camera with Infrared Attachment
- Radar
- Radar Detector and Chaff Pack (3 Charges)
- Microphone and Speakers; Speech Synthesizer and Recognition Programming
- 1 Heavy Gripper Arm
- Heavy Treads
- 1 Heavy Weapon Mount
- 2 Light Missile Racks

Robot tank the size of a compact car.
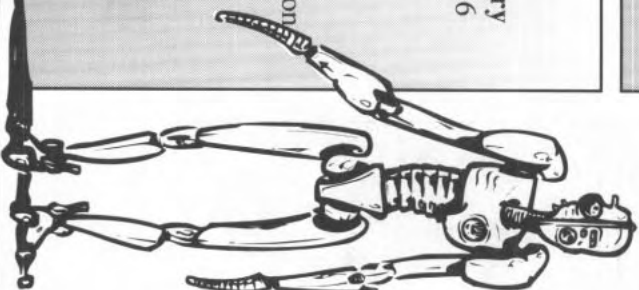
OTHER ROBOTS

HAZEL 14™

Cost: $10,000,000; Avail: A

STR: 3; DEX: 2; SPD: 2; RES: 6; First Aid: 2

Standard Equip:

- Video Camera with Infrared Attachment
- Microphone and Speakers; Speech Synthesizer and Recognition Programming
- Radio Computer Link
- 2 Light Sensi-Touch Arms
- Fire Extinguisher
- Cleaning Fluid Receptacles

A home-maintenance robot.

COPIER KING EXECUTIVE SECRETARY MODEL DLA II

Cost: $25,000,000; Avail: B
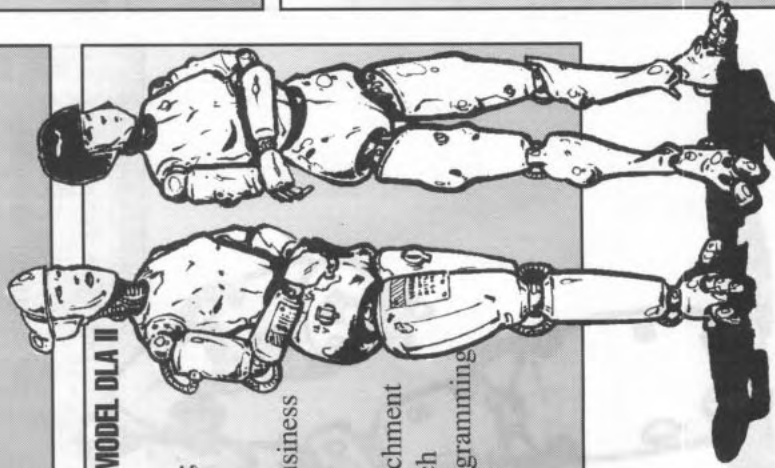
STR: 2; DEX: 2; SPD: 2; RES: 6;

Computer Programming: 3;

Charm: 3; Language: 3;

Electronic Repair (specifically business machines): 1

Standard Equip:

- Video Camera with Infrared Attachment
- Microphone and Speakers; Speech Synthesizer and Recognition Programming
- Direct and Radio Computer Link
- 2 Light Sensi-Touch Arms

An executive secretary robot.

ECUMENICO FIRST AID ROBOT MODEL I

Cost: $35,000,000; Avail: B

STR: 2; DEX: 4; SPD: 3; RES: 5; First Aid: 5;

Medical Treatment: 2; Surgery: 2

Standard Equip:

- Video Camera with Infrared and Microscopic Lens Attachment
- Microphone and Speakers; Speech Synthesizer and Recognition Programming
- 1 Ultra Sensi-Touch Arm
- 1 Medium Gripper Arm
- Syringe Attachment
- First Aid Supplies: drugs; aerosol bandages; splints; scalpels; needle and thread; etc., etc.
- Repulsor Engine

This robot deals with simple injuries in its own, and can stabilize more critical patients so that they survive until they reach better facilities.

SECURCORP PERSONAL SECURITY GUARD ROBOT "FANG"

Cost: $12,000,000; Avail: D

STR: 3; DEX: 3; SPD: 4; RES: 10; Dodge: 3;

Martial Arts: 4; Detective: 3

Standard Equip:

- Video Camera with Infrared Attachment
- Microphone and Speakers
- Accu-Sniffer (see below)
- Tazer Teeth: Penetration: 12; Damage: Special
- Radio Control Leash

The Penetration Challenge of the Fangs' Tazer Teeth is a P/F. If the Challenge succeeds, the target must make a successful P/F RES Challenge against a Difficulty of 12 or fall unconscious immediately (as if affected by a KO result).

OTHER ROBOTS

DELLCO LAND VEHICLE MAINTENANCE ROBOT G17

Cost: $27,750,000; **Avail:** B

STR: 4; **DEX:** 2; **SPD:** 2; **RES:** 7;
Mechanics (Land Vehicles Only): 3;
Repair Any One Land Vehicle Type: 5; **Operate Land Vehicle :** 2
Standard Equip:

- Video Camera with Infrared Attachment
- Microphone and Speakers; Speech Synthesizer and Recognition
  Programming
- 2 Sensi-Touch Arms
- Built-in Tool Kit: arc welder; socket wrench set; pliers; hammer;
  screw driver; glue gun; autopilot diagnostic interface; etc.
- Spotlight

These vehicle maintenance robots can fix and drive land vehicles.

DELLCO AIR VEHICLE MAINTENANCE ROBOT 0217

Cost: $30,000,000; **Avail:** B

STR: 4; **DEX:** 2; **SPD:** 2; **RES:** 7; **Mechanics** (Air Vehicles Only): 3;
Repair Any One Air Vehicle Type: 5; **Operate Air Vehicle :** 2
Standard Equip:

- Video Camera with Infrared Attachment
- Microphone and Speakers; Speech Synthesizer and Recognition
  Programming
- 2 Sensi-Touch Arms
- Built-in Tool Kit: arc welder; socket wrench set; pliers; hammer; screw
  driver; glue gun; autopilot
  diagnostic interface; etc.
- Spotlight

This model can fix and
drive air vehicles.

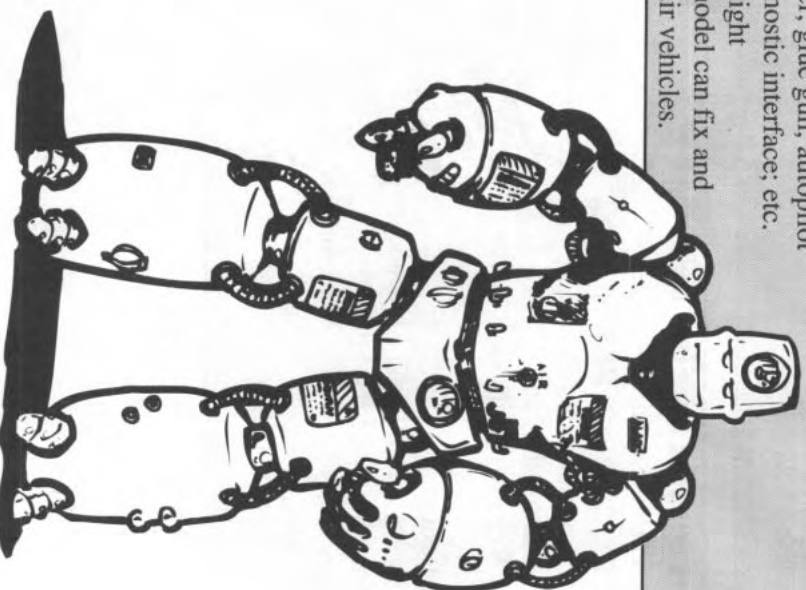## DELLCO WATER VEHICLE MAINTENANCE ROBOT H2017

Cost: $30,000,000; **Avail:** B

STR: 4; **DEX:** 2; **SPD:** 2; **RES:** 7;
Mechanics (Water Vehicles Only): 3;
Repair Any One Water Vehicle Type: 5;
Operate Water Vehicle : 2
Standard Equip:

- Video Camera with Infrared Attachment
- Microphone and Speakers; Speech Synthesizer and Recognition
  Programming
- 2 Sensi-Touch Arms
- Built-in Tool Kit: arc welder; socket wrench set; pliers; hammer;
  screw driver; glue gun; autopilot diagnostic interface; etc.
- Spotlight

This robot can fix and drive water vehicles.

DRUGS

CYCLONADINE

Cost: $300/7 standard daily doses or 2 triple doses; **Avail:** C

Treats: Melancholia, panic disorder, depression.

Additional Effects: If triple dose taken, Character's INT is increased by +1; Will is decreased by -1. Lasts for three hours, then Character takes 1 Stress point.

Side Effects: None for standard dosage; sweating, shivering and running nose after triple dose wears off. Character's Will is permanently reduced by 1 for each six months of addiction to this drug.

Addiction Level: None for standard dose; +1 for any week in which a triple dose was taken. WP: 2.

TROMPADOL

Cost: $200/dose; **Avail:** C

Treats: Pain. Reduce the Difficulty modifier of Light, Medium, and Heavy Wounds by 1 for 20 minutes, then Character suffers a KO and must pass a RES Challenge of Difficulty 5. Each subsequent dose increases the Difficulty of the KO Challenge by +2.

Additional Effects: Huge overdose may induce coma and rarely death.

Side Effects: After the drug wears off, recipient must make KO roll to stay conscious.

Addiction Level: -3. WP: +1.

SCOPEX

Cost: $1000/dose; **Avail:** E

Treats: None.

Additional Effects: Reduce user's WILL by 2 and INT by 1 for three hours.

Side Effects: One hell of a hangover as it wears off.

Addiction Level: Not addictive.

RADOFF

Cost: $275 (for a complete week's dosage); **Avail:** B

Treats: Increase ingester's RES by 2 when resisting radiation poisoning.

Additional Effects: None.

Side Effects: Large overdose may cause coma and death.

Addiction Level: None.

RADOFF

SCOPEX

TROMPADOL

CYCLONADINE

DRUGS

MORTOCSIN

Cost: $500/dose; **Avail:** D

Treats: Poisoning. Paralyzes user's gastrointestinal tract, slowing or stopping toxin from being absorbed into the bloodstream through the stomach or intestines.

Additional Effects: If taken before poison ingested, increase user's RES by 4 when fighting the effects of ingested poisons.

Side Effects: Prolonged use can damage the user's G-I system, liver and kidneys.

Addiction Level: None.

MORTOCSIN

FLOROTEX

Cost: $1500/dose; **Avail:** E

Treats: Nothing.

Additional Effects: Increase the user's AURA by 3 for four hours in personal contact.

Side Effects: Reduce user's AURA by 1 for eight hours after drug wears off.

Addiction Level: 1. WP: -2 to AURA and related Skills only.

FLOROTEX

ADRENOL

Cost: $1000/mega-dose; **Avail:** D

Treats: Jump-start hearts which have stopped beating.

Additional Effects: Mega-doses raise the user's STR, DEX, SPD and RES by 1 each for 20 minutes. At the end of that period, the user is exhausted and may collapse.

Side Effects: After drug wears off, user takes one Stress Point. In addition, he must make an Impressive RES Challenge. Failure indicates that he takes a LW and collapses; a "C" or "D" result means that he takes a LW but doesn't collapse; an "A" or "B" result means that there is no particular effect.

Addiction Level: 3. WP: -1 to all Stats and Skills.

ADRENOL

FIRST AID EQUIPMENT
SURGICAL EQUIPMENT

TWD FIRST AID PACK

Cost: $5,000 (refill: $1,000*); **Avail:** B

RES: 7

Anyone in possession of a first aid pack adds 2 to his First Aid Skill.

* A first aid pack requires a refill after treating six casualties.

TWD/JMC MOBILE SURGICAL THEATER

Cost: $500,000 (refill: $10,000*); **Avail:** D

Handling: -1; **SPD:** 12; **RES:** 15

An emergency surgical theater built into a van. Allows doctor to use Medical Treatment and Surgical specialties on patient. Add +2 to the First Aid Skill of anyone working from a Mobile Surgical Theater.

* Surgical equipment needs refilling/replacement after ten major operations (or six month's service).
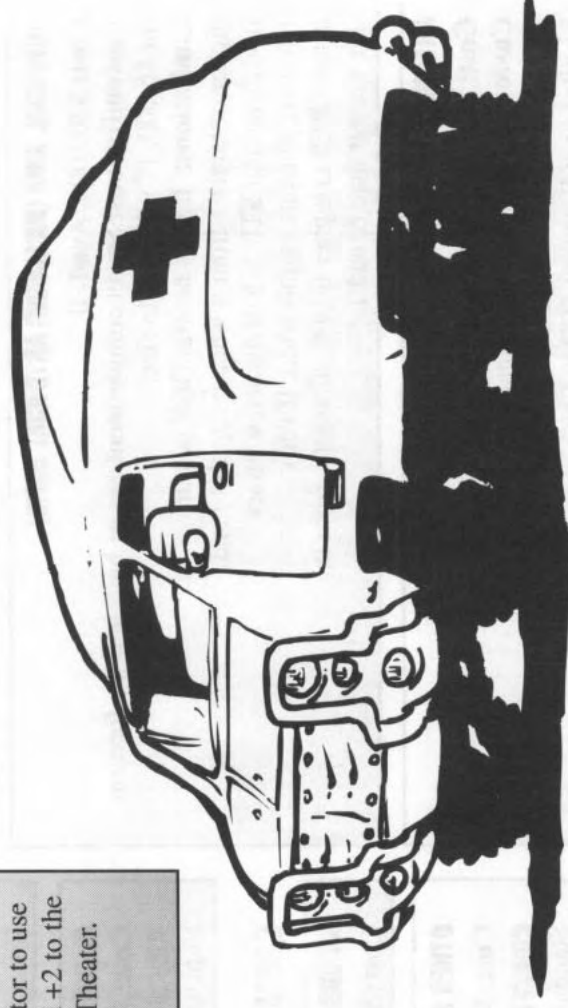
REPLACEMENT PARTS

ARTIFICIAL EYE

Cost: $75,000; **Avail:** B
Customizations: For additional $25,000, can be equipped with infrared scanners.
Limitations: Vulnerable to extremely bright light.

ARTIFICIAL HAND

Cost: $100,000; **Avail:** B
Limitations: If vet's natural DEX is 3 or higher, subtract 1 from it when using this hand. If vet's natural STR is 5 or higher, subtract 1 from it when using this hand.

ARTIFICIAL ARM (INCLUDING ARTIFICIAL HAND)

Cost: $200,000; **Avail:** B
Customizations: Secret compartment can be built into the forearm for $5,000, 1" x 1" x 3" in size.
Limitations: If vet's natural DEX is 3 or higher, subtract 1 from it when using this hand. If vet's natural STR is 5 or higher, subtract 1 from it when using this hand. If vet's natural RES is higher than 6, subtract 1 from it; if it's lower than 6, add 1.

ARTIFICIAL LEG AND FOOT

Cost: $150,000; **Avail:** B
Customizations: Secret compartment can be built into thigh for $5,000, 2" x 2" x 4".
Limitations: If natural SPD is 5 or higher, subtract 1 from it when using this limb. If vet's natural RES is higher than 6, subtract 1 from it; if RES is lower than 6, add 1.

CLONED REPLACEMENT PARTS

CLONED REPLACEMENT EYE

Cost: $100,000; **Avail:** D

CLONED REPLACEMENT HAND

Cost: $300,000 (plus $15,000 for each point of DEX above 4); **Avail:** D

CLONED REPLACEMENT ARM/HAND

Cost: $600,000 (plus $15,000 for each point of DEX and STR above 4); **Avail:** D

CLONED REPLACEMENT LEG/FOOT

Cost: $450,000 (plus $15,000 for each point of SPD above 4); **Avail:** D

CLONED REPLACEMENT BODY (BRAIN NOT INCLUDED)

Cost: $10,000,000 (plus $20,000 for each point of STR, DEX, SPD, and RES above 4); **Avail:** D
Replacement body takes a full 10 months to force-grow.

COSMETIC SURGERY

SURGICALLY-IMPLANTED WATCH

Cost: $10,000; **Avail:** B

COSMETIC SURGERY

Cost: $5,000 to $20,000,000+; **Avail:** B

OTHER SURGICAL COSMETIC CHANGES

Standard Cosmetic Surgery	$ 9,500
Large (but normal) Change	25,000+
Minor Weird Change	40,000+
Big Weird Change	100,000+
Monstrous Change	500,000+

CHEMICALS

CHEMICALS FOR USE ON HUMANS

AEROSOLS

NOVA-HABANERO SPRAY GRENADE

Cost: $750; **Avail:** C

Accuracy: 0; **Penetration:** 12/0*; **Dmg:** STN/STN/KO/KO**;

Blast: 3; **Rng:** 3/5/8; **Rate:** 1; **STR:** 0; **RES:** 11

The Nova-Habanero grenade lets off a thick, greasy cloud of gas which is far more painful than standard tear gas. Unless dispersed by high wind, the poison cloud will remain effective for 40 seconds (10 rounds).

*Use the Penetration of 12 when the victim has any skin exposed; use 0 when the target is in a full body-suit with internal life support.

**Damage: STN/STN/KO/KO. Anyone who receives a STN or KO result suffers a -1 penalty to all attributes and skills for the next 30 minutes.

NOVA-HABANERO PERSONAL DEFENSE SPRAY

Cost: $300; **Avail:** C

Accuracy; +1; **Penetration:** 9/0*; **Dmg:** STN/STN/STN/KO**;

Rng: -5/-3/-1; **Ammo:** 2; **Rate:** 1; **STR:** 0; **RES:** 9

This is a hand-held version of the Nova-H grenade (see above). Each dispenser holds enough gas for two good squirts.

*Penetration and
**DMG: See the Nova-H grenade, above for details.

ETHEREX SPRAY

Cost: $1200; **Avail:** D

Accuracy: 0; **Penetration:** 0; **Dmg:** STN/KO/KO/KO**;

Rng: -4/-2/0; **Ammo:** 3; **Rate:** 1; **STR:** 0; **RES:** 9

Etherex is another personal-defense spray; but this one is designed to render the assailant immediately unconscious.

*Penetration: 10 if the target is surprised and not wearing breathing gear; 6 if he sees the attack coming and holds his breath; -2 if he is wearing breathing gear.

**DMG: If stunned or Ko'ed, the target remains groggy and nauseous for 5 minutes after regaining consciousness: subtract -2 from all skills and attributes during that period.

NOVA-HABANERO

OTHER CHEMICALS

BONDEX

Cost: $100/50 drops; **Avail:** A

Bondex is an extremely powerful super glue for use on non-porous surfaces (glass, metal, plastic). The glue sets in five seconds. Bondex has a STR/RES of 20 or equal to that of the original material, whichever is lower. For instance, if an aluminum door (RES 9) has been glued shut with Bondex, anyone attempting to bust the door open has to beat the door's RES of 9, not Bondex's RES of 20.

SOLVEX

Cost: $300/6 oz. application; **Avail:** B

Solvex is a very potent acid.

The STR of the acid grows over time, doubling every ten rounds until it reaches a maximum STR of 32, at which point it begins to drop back down to zero. Solvex immediately becomes inert if it comes into contact with alcohol.

Round	10	20	30	40	50	60	70	80	Etc.
Acid Str.	1	2	4	8	16	32	16	8	Etc.

SLIK LIK

Cost: $400/16 oz. can; **Avail:** A

Slik Lik is a nearly frictionless super-lubricant. Staying upright while running across a Slik Lik-covered surface is a Phenomenal DEX Challenge (Difficulty 15).

AGENT RED

Cost: $7500/50-gallon drum; **Avail:** D

This is a powerful defoliant. Each 50-gallon drum contains enough Agent Red to kill off and melt 2 1/2 acres of vegetation in eight hours.

MELT-IT CRYSTALS

Cost: $300/5-pound bag; **Avail:** A

Melt-It is like rock salt, but far more powerful. A handful of Melt-It crystals will melt through two inches of ice in 30 seconds; a pound dropped in a bucket of water will boil the water away in under five minutes.

QUIK ICE

Cost: $250 per 6 oz. packet; **Avail:** A

Quik Ice is a cooling agent in a heavy plastic packet. When the packet is shaken, it gets very cold, very quickly. It will stay cold for 30 minutes.

PHONES

STANDARD HOME MODELS

Cost: $700 (voice-only); $3,750+ (standard video/voice unit); **Avail:** A

There are a wide variety of home models available — cheap, voice-only units through full-screen video displays with Dolby EXTM stereo surround sound. Standard home phones have a Security Rating of 4.

SECURE HOME PHONE

Cost: $4,000+ (see below); **Avail:** B

These units are similar to the standard video/voice units, but they are designed to make tapping into their signals more difficult.

- NorthAmericanBell SecurPhone Model I: (Cost: $4,000) Security Rating: 6.
- NorthAmericanBell SecurPhone Model II: (Cost: $7,000) Security Rating: 8.
- Crip Bros. Int. Security Communications System: (Cost: $9,000) Security Rating: 9.
- Crip Bros. Int. Advanced Security Communications System: (Cost: $13,000) Security Rating: 10.

CELLULAR PHONES

STANDARD CELLULAR PHONE
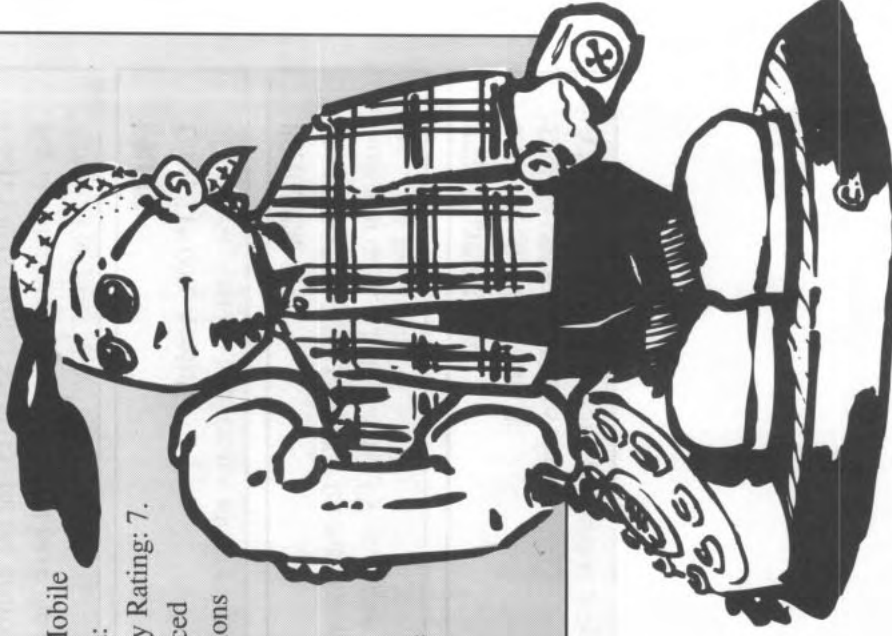
Cost: $4,000+; **Avail:** A

Standard cellular phones have a Security Rating of 4.

SECURE CELLULAR PHONES

Cost: $7,000+ (see below); **Avail:** B

These units broadcast extremely tight signals to security satellites, and are capable of picking up extremely low-frequency, low-power signals in return.

- CellularOneThousand Low-Band Secure Phone I: (Cost: $7,000) Security Rating: 6.
- NorthAmericanBell Mobile SecurPhone Model IIa: (Cost: $9,000) Security Rating: 7.
- Crip Bros. Int. Advanced Security Communications System Mobile Unit: (Cost: $13,000) Security Rating: 8.
- Panasoki Ultra-Secure Cellular Phone: (Cost: $20,000) Security Rating: 9.

ENTERTAINMENT GEAR

STEREO SOUND SYSTEM

Cost: $1,500 to $75,000; **Avail:** A

Plays CDs, downloads music and radio programs from the network, etc. The more you spend, the better the sound quality.

STEREO NEURAL JACK

Cost: $30,000 (plus $500,000 for the neurosurgery); **Avail:** B

For the ultimate music experience have the digital signal piped directly into your brain!
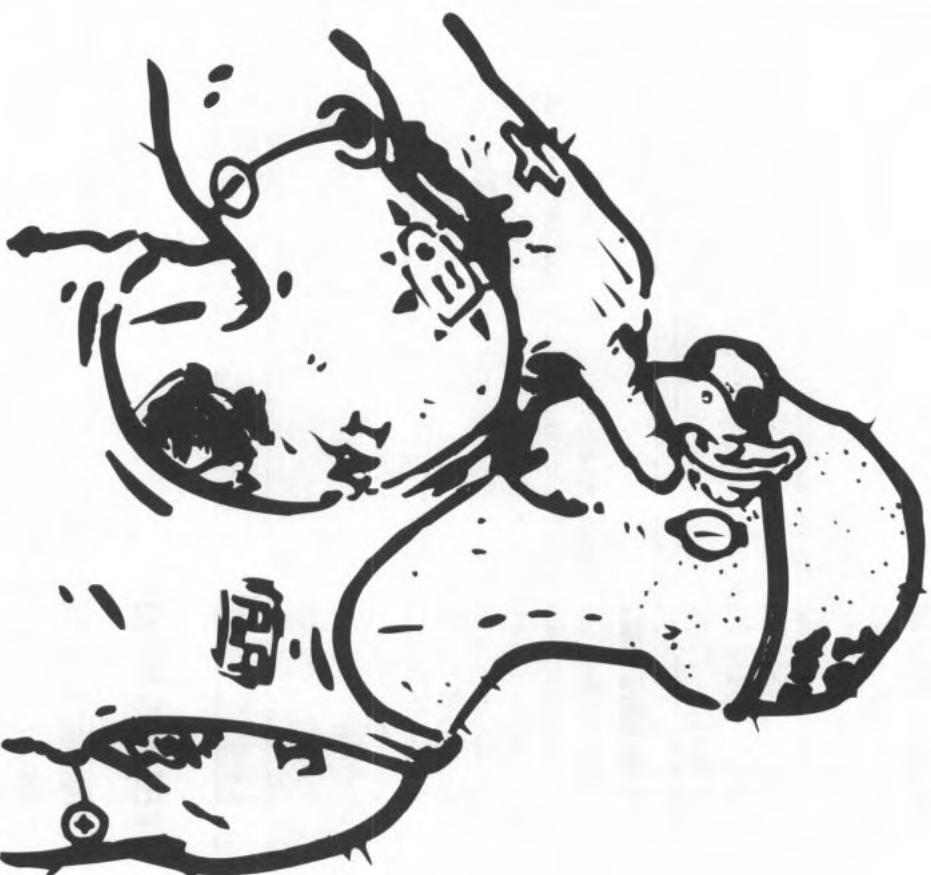
HOLOTV

Cost: $15,000; **Avail:** B

3D TV. New on the market; not many programs available yet.

HOLO JACK

Cost: $40,000 (plus $500,000 for the neurosurgery); **Avail:** B

Now you can get holographic TV programs broadcast directly into your brain!

ROBOT "COMPANION"

Cost: $500,000; **Avail:** B
DEX: 1; **STR:** 1; **RES:** 9; **Sex:** 4

A variety of body-types and perversion programming available.

SECURITY GEAR

STANDARD VIDEO CAM

Cost: $6,000; **Avail:** A

Distance: 16 (125 yards); **Visual Rating:** -5; **Security Rating:** 2; **RES:** 3

This is your basic fixed camera unit, just like those found in banks and fast-food establishments.

VIDEO CAM MODIFICATIONS AND ATTACHMENTS:

Weatherproofing (Avail: A; Cost: $100)

Infrared Attachment (Avail: A;

Cost: $700; Distance: 100 yards)

Sound Mike (Avail: A;

Cost: $500; Distance: 100 feet)

Speaker (Avail: A;

Cost: $250)

Swivel Mount (Avail: A;

Cost: $200)

Plasteel Plating (Avail: B; Cost: $2000; RES: 12)

Sensors (Avail: B; Cost: Variable)

VIDEO SENSORS

Cost: $3,000-7,000+*; **Avail:** B

Distance: 125 yards; **Visual Rating:** 0+*; **Security Rating:** 2;
Sensitivity Level: 0+*; **RES:** 3

Video sensors are video cameras equipped with image-recognition processors. Often, they are standard video cameras hooked into a security computer which contains the image-recognition software.

*Cost and Sensitivity Level: A basic retina/badge scanner with Sensitivity Level of 0 runs about $3,000; a standard video camera costs about $7,000. Better sensors are more expensive.

RADAR

Cost: $50,000+*; **Avail:** B

Distance: 1 mile*; **Visual Rating:** -3; **Security Rating:** -3; **Sensitivity Level:** 0+*; **RES:** 14

This is a standard radar unit, suitable for fixed-location outdoor use.

*Cost; Distance; Sensitivity Level: The cost of a radar unit rises with the unit's Distance and Sensitivity Level. Better radar with longer range is more expensive.

PRESSURE SENSORS

Cost: $1,000+*; **Avail:** B

Distance: 3 feet; **Visual Rating:** 4+*; **Security Rating:** 6**; **Sensitivity Level:** 4+*; **RES:** 10***

Pressure sensors go off when somebody steps on them.

*Cost; Visual Rating; Sensitivity Level: The Visual Rating and Sensitivity Level of a pressure sensor can be increased (making it tougher to spot) for additional cost.

**Security Rating: This applies only to units which are electronic in nature. For example, a unit which triggers an electronic alarm has a Security Rating of 6. However, a purely mechanical unit would not be detectable with electronic equipment, and thus would have no Security Rating at all.

***RES: This describes the sensor's resistance to basic physical damage. If the trap is damaged, it may jam and not trigger, or it may trigger immediately.

INFRARED BEAM SENSORS

Cost: $3,000; **Avail:** B

Distance: 40 feet; **Visual Rating:** 16/0*; **Security Rating:** 4; **Sensitivity Level:** 4; **RES:** 3

These devices come in pairs. When turned on, one unit sends a steady infrared beam at the other. If something comes directly between the two units the beam is interrupted, alerting the sensor.

* Visual Rating: The beams are very difficult to spot if you are not wearing infrared goggles (Visual Rating of 16), very easy to spot if you are wearing infrared goggles (Visual Rating of 0).

OTHER SECURITY GEAR

CHAIN-LINK FENCE

Cost: $200/yard for 10' high; +$50/yard for each add'l 5' in height);
Avail: A; **RES:** 11

Your basic chain-link fence.

BARBED WIRE

Cost: $100/yard; **Avail:** A
Entangling Level: 3; **Penetration:** 4; **DAM:** LW/LW/LW/LW;
RES: 9

When attempting to pass through barbed-wire, a character must make a DEX Challenge against the wire's Entangling Level. Add +3 if the character is climbing as well as the character's current Speed. If he fails the Challenge, he's caught in the wire. Check for Penetration and damage each time an entangled character attempts to free himself from the wire and fails. To tear through barbed wire, a character must match his STR against the wire's RES. Any character attempting this with his bare hands must check for Penetration and damage whether he succeeds or fails.

RAZOR WIRE

Cost: $200/yard; **Avail:** B
Entangling Level: 4; **Penetration:** 6; **DAM:** LW/LW/LW/MW;
RES: 10

This stuff is just like barbed-wire, but nastier.

ELECTRIC WIRE

Cost: $100/yard, plus $2000 for the generator; **Avail:** B
RES: 4; **Security Level:** NA/1/5/10*

This is a strand of heavy-grade wire carrying an electric current. Following are the five standard levels of electric charge:

- Very Light: Penetration: 0; DAM: —/—/—/STN
- Light: Penetration: 3; DAM: —/STN/STN/LW
- Medium: Penetration: 6; DAM: STN/LW/LW/MW
- Heavy: Penetration: 9; DAM: LW/MW/MW/HW
- Lethal: Penetration: 12; DAM: MW/MW/HW/HW

*Security Level: Depends upon the sensors attached.

SECURITY BRIEFCASE

Cost: $10,000; **Avail:** B
Lock Difficulty: 4; **RES:** 10

The briefcase is attached by handcuff to the courier's wrist. The case is electronically locked and the courier usually doesn't carry a key. The case has a hunk of plastic explosive built into the frame. The case explodes automatically if the case is forced open or if someone attempts and fails to pick the lock. Anyone within five feet at the time the case detonates suffers Penetration: 3; Damage: LW/LW/LW/MW.
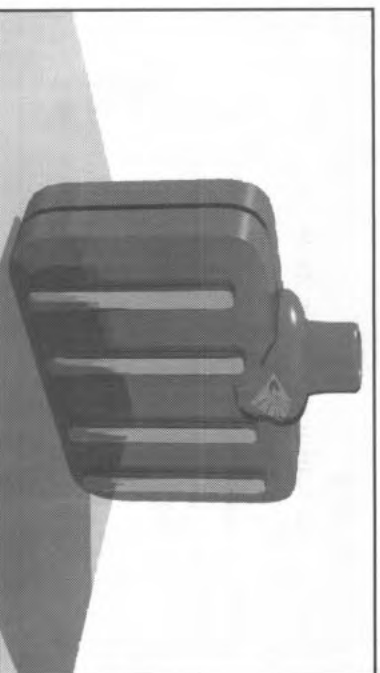
LOCKPICKS

SECURCO LOCKMASTER

Cost: $2,000; **Avail:** C

Quality: 3

This is a largish toolbox containing a set of standard locksmith's tools — skeleton keys, electronic card blanks, drills, hole punches, and so forth. It can be used on most standard mechanical and electronic locks.

SECURCO LOCKMASTER ELECTROPRO

Cost: $6,000; **Avail:** D

Quality: 5*

This smallish toolbox contains advanced equipment for electronic locking systems.

*Quality: The ElectroPro works only on electronic locks.

SECURCO LOCKMASTER MECHANOPRO

Cost: $5,000; **Avail:** D

Quality: 5*

This toolbox contains advanced equipment for mechanical locking systems.
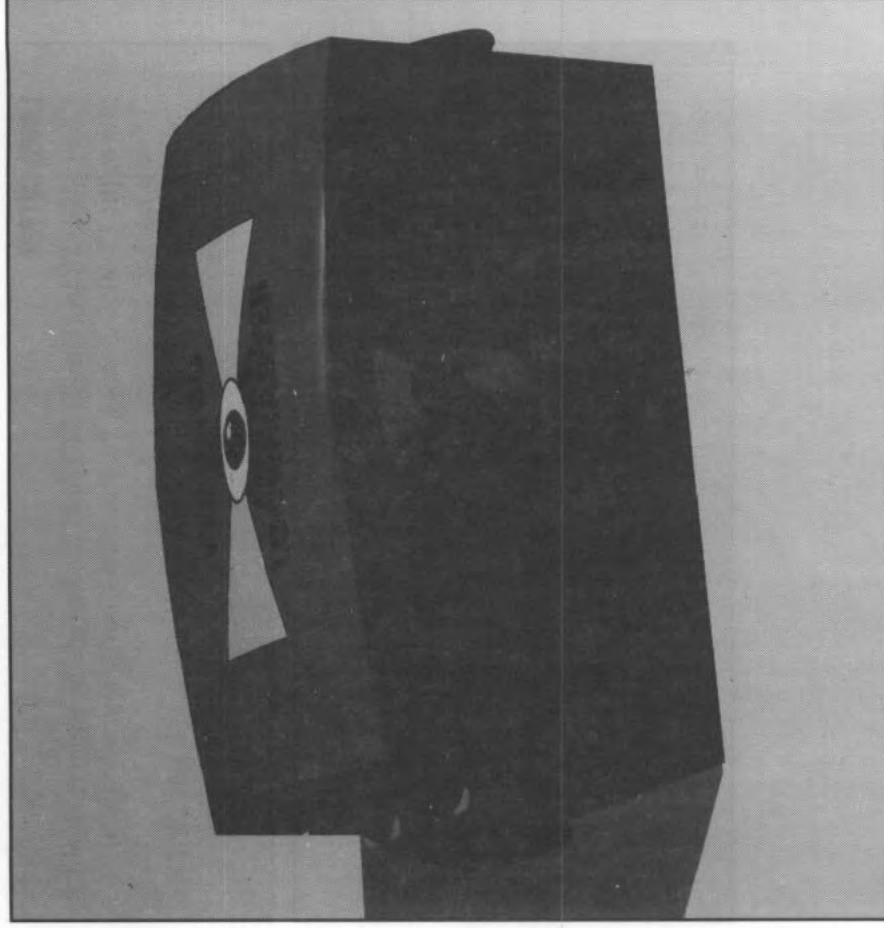
*Quality: The MechanoPro works only on mechanical locks. It has no effect upon electronic systems.

MINI MECHANICAL LOCKPICK SET

Cost: $12,000; **Avail:** E

Quality: 5

This is the standard mechanical lockpick set as used by criminals and secret agents and other such operators, about the size of a paperback book.

CUTTERS

LASER CUTTER

Cost: $10,000; **Recharge:** $400/add'l rechargeable battery; **Avail:** B
Strength: 15-30; **Increase:** 5; **Standard Charge Duration:** 24
(15 min.); **RES:** 12

The laser is designed to focus its beam at three feet; it loses one point of Strength for each additional foot of distance. If the target is moving, the cutter has an Accuracy: -8.

DIAMOND BLADE

Cost: $1,500; **Recharge:** NA; **Avail:** B
Strength: 34*; **RES:** 12

This consists of industrial-grade diamond fragments mounted on the edge of a small wheel. Subtract 3 from the RES of glass-like materials for each full cut made in them by a diamond blade (cutting rate of 1' per round). If the material isn't as rigid as glass — wood, steel, concrete, etc. — it takes far longer. It takes 10 rounds instead of one to cut a one-foot groove in non-glasslike items. And each cut reduces non-flexible materials' RES by only 1 per cut, not 3.

*Strength: A diamond blade can cut through any material of RES 34 or lower. See above for details.

EXPLOSIVES

DYNAMITE

Cost: $200/stick; **Avail:** C

Explosive STR: 12 (+1/stick); **RES:** 2/10*

Accuracy: -4; **Penetration:** 8; **Dmg:** LW/MW/HW/IN; **Blast:** 3;
Rng: 1/3/5

Dynamite explodes when it is exposed to flame. A better way to detonate dynamite is to use blasting caps set off electronically.

*RES: Dynamite has a RES of 2 when exposed to open flame, explosions or water. If subjected to other types of abuse, dynamite has a RES of 10. Dynamite might explode when damaged.

PLASTIQUE

Cost: $500/1 lb. cube; **Avail:** D

Explosive STR: 14 (+1/cube); **RES:** 2/14*

Accuracy: -3; **Penetration:** 10; **Dmg:** LW/MW/HW/IN; **Blast:** 3;
Rng: 1/3/5

This clay-like material is more stable and powerful than dynamite. Plastique is detonated with a flame-fuse or with blasting caps.

*RES: Plastique has a RES of 2 when exposed to open flame or explosions. Plastique is not affected by water at all. If subjected to other types of abuse plastique has a RES of 14. Plastique might explode when damaged.

SHAPED PLASTIQUE

Cost: $900/1 lb. charge ; **Avail:** D

Explosive STR: 18 (+2/charge); **RES:** 2/16*

This is standard plastique in a metallic-ceramic casing which funnels the force of the blast in one direction, making it far more powerful. Shaped plastique is best detonated by blasting caps. Shaped plastique has the same properties as normal plastique (see above).

FLAMMABLE FUSES

Cost: $10/foot; **Avail:** C

This is your standard sputtering flame fuse. Fuses are manufactured with a variety of burning-times: one foot/second, three feet/second, 10 feet/second, and so forth. They generally cost around $10 per foot.

BLASTING CAPS

Cost: $50 each; **Battery-powered detonator:** $100; **Avail:** C

Blasting caps are small amounts of explosives with bare wires buried in them. When an electronic charge is applied to the wires, they heat up and melt almost instantaneously, setting off the cap's explosives, which, in turn, detonate whatever they are attached to: dynamite, plastique or shaped plastique.

MISC.

TECHNOLOGY

EVENTS

ORGANIZATIONS

PLACES

PEOPLE

366
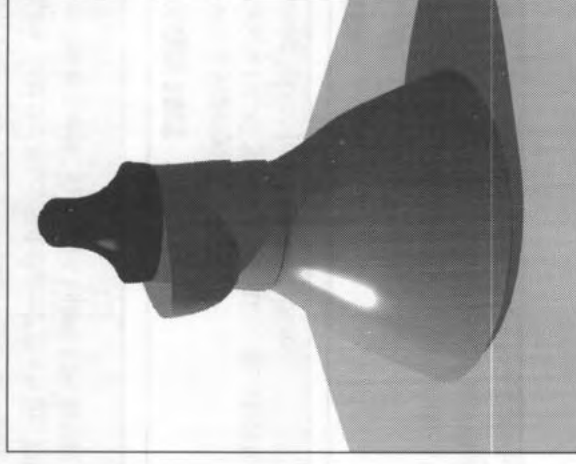
ACTIVE CAMOUFLAGE COVERING

Cost: $25,000; **Avail:** B

Active camouflage fatigues are popularly known as "chameleon suits." Add +2 to the Difficulty of the To Hit Challenge when firing at a chameleon-clad character at Medium or Long Range. Add +2 to the Tactics Unit Rating of chameleon-suited characters setting an ambush.

FIRE PROTECTION SUIT

Cost: $12,000; **Recharge Cost:** $400/battery; $50/air tank; **Avail:** B

This body-armor is asbestos-coated, triple-insulated, and contains a high-powered air-conditioning and recycling unit. The suit's battery-pack and air tanks are good for one hour's use. Add +4 to character's RES score when resisting damage from extreme heat, including flame-throwers, napalm, and the like. Subtract 2 from the DEX and SPD of any character in such a suit. This suit cannot be worn with other armor types.

WATER PURIFICATION TABS

Cost: $200/2-week supply; **Avail:** A

Add +2 to Character's RES when resisting the effects of tainted water if he's using water purification tablets.

INERTIAL LOCATOR

Cost: $300; **Avail:** A

This small receiver reads current position off of the USGS satellites in orbit around the world. It also shows heading (north, south, etc.,) and current altitude.

PORTABLE NEORUBBER RAFT

Cost: $4,000; **Avail:** B

Handling: -3; **SPD:** (see below); **RES:** 5

This inflatable raft can hold around 500 pounds of weight. The raft's Speed depends upon the current. On a flat, calm lake, with two competent rowers, the raft has a SPD of around 3.

CLIMBING GEAR

FLEXI-CABLE

Cost: $700/50 feet; **Avail:** A

RES: 11 (holds 1200 pounds)

This is a thin, pliable wire favored by casual climbers. Each 50 feet weighs 2.5 pounds.

ULTRA NYLON ROPE

Cost: $1,200/50 feet; **Avail:** B

RES: 13 (holds 2000 pounds)

This rope is far sturdier than flexi-cable. Each 50 feet weighs 3 pounds.

BRAIDED ULTRA NYLON CABLE

Cost: $2,000/50 feet; **Avail:** B

RES: 14 (holds 2500 pounds)

Each 50 feet weighs 5 pounds. This grade of cable is used for construction.

STANDARD GRAPPLING HOOK

Cost: $50 each; **Avail:** A

RES: 11 (holds 1200 pounds)

The standard three-pronged grappling hook. It is tossed into position by hand.

GRAPPLING HOOK GUN

Cost: $2,000; **Avail:** B

Accuracy: -4; **Rng:** 3/6/9; **Ammo:** 1; **Rate:** 1/3; **STR:** 0; **RES:** 4

This smallish crossbow fires either of the two following hooks:

LIGHTWEIGHT COLLAPSIBLE GRAPPLING HOOK

Cost: $75; **Avail:** A

RES: 9 (800 pounds); **Penetration:** 0*; **Dmg:** STN/STN/STN/LW*

*Penetration; Dmg: If fired at a man, the best you can hope for is to stun him.

EXPLOSIVE-HEAD GRAPPLING HOOK

Cost: $175; **Avail:** C

RES: 9 (800 pounds); **Penetration:** 10*; **Dmg:** LW/LW/MW/HW*

An explosive charge drives the hook firmly into the rock.

*Penetration; Dmg: This is a lousy weapon, but it will do some damage.

STANDARD SPIKE

Cost: $75/dozen; **Avail:** A

RES: 7 (500 pounds)

Standard big nails with a rope hook on them.

EXPLOSIVE SPIKE

Cost: $200/dozen; **Avail:** D

RES: 9 (800 pounds)

These spikes are equipped with explosive charges to set them more firmly.

CLIMBING GEAR

SUCTION GRIP

Cost: $300/set of 2; **Avail:** C

These allow the wearer to ascend sheer surfaces, like glass or steel buildings.

MAGNETIC GRIPS

Cost: $500/set of 2; **Avail:** C
RES: 6 (400 lbs.)

These are held to the surface of metal buildings by a very powerful electromagnet. The grips' batteries are good for about six hours' use before requiring replacement.

GLUE GRIPS

Cost: $75/set of 2; **Avail:** E
RES: 6 (400 pounds)

These grips are covered with a thin coating of superglue. They work only on very sheer surfaces: glass, steel, plastic, and the like. They don't work on porous materials.

SAFETY HARNESS

Cost: $900; **Avail:** B
RES: 6 (rated for 400 pounds)

This harness straps around the climber's legs and torso and attaches to the cable or rope with a friction clamp.

POWERED HARNESS

Cost: $6,500; **Avail:** B
RES: 6 (rated for 400 pounds)

This harness is equipped with a battery-driven motor mounted on the wearer's belt. When ascending, the unit's top Speed is 3, or 5 ft/second.

FRICTION SHOES

Cost: $800; **Avail:** B

These shoes are equipped with ultra-thin but ultra-tough neorubber soles. They add +1 to a character's Climbing Specialty, Acrobatics Skill or DEX Attribute when climbing.

PARAGLIDER

Cost: $7,500; **Avail:** B
Handling: -2; **SPD:** 7*; **RES:** 5 (max. weight: 300 lbs.)

This is a small, dangerous, mini-parachute.

*SPD: The Speed of 7 is the glider's standard rate of descent. Strong winds and/or updrafts will alter that.

SURVEILLANCE EQUIPMENT

BUGS

SECURCORP MICRO MONITOR

Cost: $15000; Avail: D
Distance: NA*; Time: NA**; Visual Rating: 3;
Security Rating: 0

The Micro Monitor is a combination audio/visual pickup. It is installed into the wall or ceiling of a room, usually hidden behind a lighting fixture, air vent, etc.

* DISTANCE: The unit transmits via cable so it has no DISTANCE.
** Time: Similarly, the unit is wired into the installation's power source and doesn't require batteries.

CRIP BROS. INT. ADVANCED MINIATURE MICROPHONE – MODEL 13

Cost: $8,000; Avail: D
Distance: 3 miles; Time: 47 (2 days); Visual Rating: 6;
Security Rating: 4

The Model 13 is one of the better bugs available on the open market. It is extremely small and it can be easily installed on almost any surface using common household materials.

SECURCORP ULTRA-COMPACT BROADCAST UNIT

Cost: $9,500; Avail: D
Distance: 1 miles; Time: 53 (8 days); Visual Rating: 5;
Security Rating: 5

The UCB is a bit larger than the Crip Bros. Model 13 and has a smaller broadcast range, but its 8-day battery and its tighter broadcast beam make up for these weaknesses.

SURVEILLANCE EQUIPMENT

SECURCORP ULTRA-COMPACT RECORDER

Cost: $8,000; Avail: D
Distance: NA; Time: 53 (8 days); Visual Rating: 3;
Security Rating: 10

The UCR does not broadcast a signal at all; instead, it records the sound it collects on an 8-day micro-cassette the size of a half a stick of gum.

SURVEILLANCE EQUIPMENT

TRACERS

SQUEALER BULLET

Cost: $500 each; **Avail:** D
DISTANCE: .5 mile; **TIME:** 35 (3 hours); **Visual Rating:** 0/4*;
Security Rating: 0

A squealer bullet is a solid slug with a small but sturdy broadcast unit inside. A squealer bullet has Accuracy and Penetration modifiers of one less than the standard ammo for the weapon. In addition, a squealer bullet does one level less DMG than a standard bullet. If the Penetration roll was within four points of the RES roll, the bullet has lodged somewhere in the armor and it will broadcast the target's location.

*Visual Rating: 0/4: Anyone who specifically checks for squealer bullets uses the Visual Rating Difficulty of 0. If he instead just makes a general check, he uses the Difficulty of 4.

SECURCORP TRAKKER

Cost: $7,500; **Avail:** D
DISTANCE: 30 miles; **TIME:** 53 (1 week); **Visual Rating:** 6;
Security Rating: 4

The Trakker is especially designed to be inserted in the engine-space of vehicles.

RED SUN PERSONAL LOCATION ENUNCIATOR

Cost: $18,500; **Avail:** D
DISTANCE: 100 miles; **TIME:** 53 (1 week); **Visual Rating:** NA/3*;
Security Rating: 3

This device is swallowed; while it passes through the intestinal track, it broadcasts its location to the receiver.

*Visual Rating: Obviously, it's impossible to tell if someone has swallowed an Enunciator without medical scanning gear. Use the Visual Rating of 3 if the Enunciator is hidden somewhere in the victim's clothing, vehicle or effects.

RED SUN PASSIVE TRACKING ENHANCER

DISTANCE: 2 miles; **TIME:** 33 (2 hours);
Visual Rating: NA/0*; **Security Rating:** NA
Cost: $650; **Avail:** D

Red Sun Passive Tracking Enhancer ("Hotfoot") leaves an infrared trail visible through infrared glasses. A subject with Hotfoot on his shoes can be tracked for up to two miles.

*Visual Rating: NA/0: It's impossible to see Hotfoot with the naked eye. However, anyone with Infrared vision is almost certain to spot a fresh trail.

SURVEILLANCE EQUIPMENT

LONG-RANGE MICROPHONES

AUDIOFOX SHOTGUN MICROPHONE

Cost: $22,000; **Avail:** B

Range: 27 (1600 yards); **RES:** 10

Using this high-quality microphone, a normal conversation can be heard at 1,600 yards, a whisper at 1,000 yards. High winds or background noise will lower its range.

SECURCORP'S LASER SOUND PICKUP

Cost: $25,000; **Avail:** D

Range: 34 (4 miles); **RES:** 9

The Laser Sound Pickup is designed to read vibrations off of rigid surfaces from a distance of up to four miles away.

SIGHT ENHANCERS

AMI 'Y' IN THE SKY

Cost: $15,000; **Avail:** B

DISTANCE: 1 mile; **TIME:** 36 (4 hours); **Visual Rating:** 1;

Security Rating: 3; **SPD:** 6; **RES:** 10

This is your basic floating video cam, as used in many secure installations.

I-STALK™ FLEXISCOPE

Cost: $10,000; **Avail:** B

**Range:** 200 yards; **Time:** 38 (6 hours); **RES:** 6

The I-StalkTM Flexiscope has a small camera mounted on an articulated stalk. It allows the wearer to look around corners, under doors, etc.

VISION KING ULTRASCOPE

Cost: $17,500; **Avail:** B

Distance: 3 miles, **Time:** 41 (12 hours); **RES:** 7

This is a hand-held digital image-enhancement unit attached to extremely high-quality lenses. The Ultrascope does not pick up infrared images.
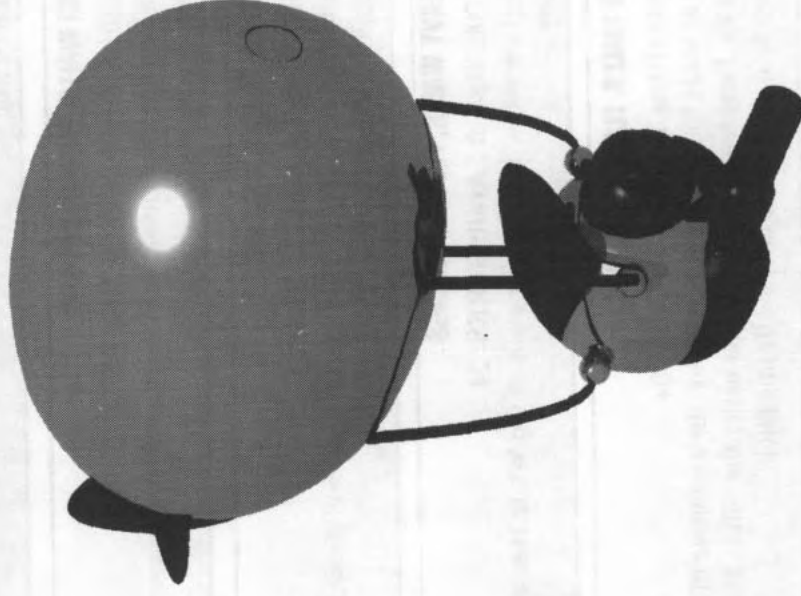
BUILDING MATERIALS

WALLS, FLOORS, AND CEILINGS

FLIMSY WALLS, FLOORS, CEILINGS

Cost: $50/10 sq. ft.; **Avail:** A; **RES:** 6

Your basic tarpaper shack's walls, or the interior walls found in low-rent apartments. A surly teenager could kick one to pieces without much trouble.

STANDARD WALLS, FLOORS, CEILINGS

Cost: $250/10 sq. ft.; **Avail:** A; **RES:** 12

The walls of a suburban house and the walls separating apartment or office units in a normal building.

HEAVY WALLS, FLOORS, CEILINGS

Cost: $500/10 sq. ft.; **Avail:** B; **RES:** 17

Brixblox is a heavy wall material. Exterior walls and firewalls of normal buildings are considered heavy.

EXTRA-HEAVY WALLS, FLOORS, CEILINGS

Cost: $1000/10 sq. ft.; **Avail:** B; **RES:** 24

Security-grade walls. The exterior walls of the White House are extra-heavy.

BULKHEAD WALLS, FLOORS, CEILINGS

Cost: $3000/10 sq. ft.; **Avail:** B; **RES:** 30+

The kind of walls found around Fort Knox, the executive offices of AMI, and the Presidential Bomb Shelter under the White House. Heavier nuclear submarines have walls this thick.

DOORS AND WINDOWS

FLIMSY DOORS AND WINDOWS

Cost: $100; **Avail:** A; **RES:** 5

STANDARD DOORS AND WINDOWS

Cost: $500; **Avail:** A; **RES:** 11

HEAVY DOORS AND WINDOWS

Cost: $1,000; **Avail:** B; **RES:** 16

EXTRA-HEAVY DOORS AND WINDOWS

Cost: $2,000; **Avail:** B; **RES:** 22

BULKHEAD DOORS AND WINDOWS

Cost: $6,000; **Avail:** B; **RES:** 28+

BRIXBLOX
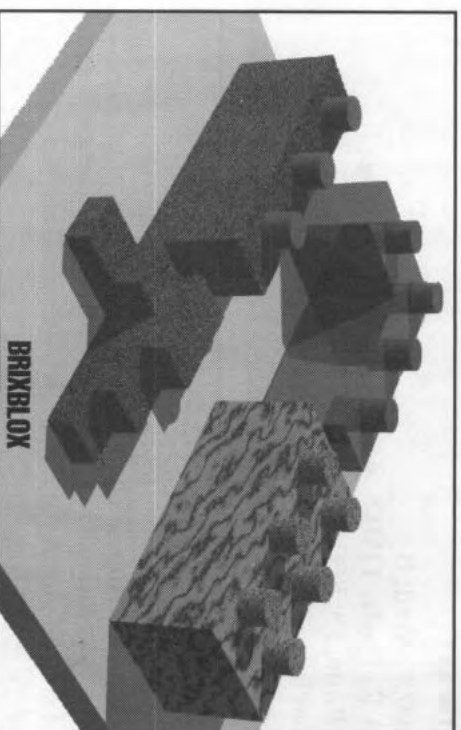
Slap down ya' Dutches!

Want a little sumthin' to strap on where that failure of an arm used to be?

Need a new "Hazel" to chase after the brats?

Wanna listen in on that damn neighbor when he's abusin' the little woman?

Baby, this is the 21st Century... Sit back, kick up your feet and shop at home!

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- Robots?
- State of the art medical technology?
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- Replacement limbs?
- Fully-licensed lockpicks?
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- Ultra-chic digital watch implants?

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