

GURPS

Fourth Edition

PSI-TECH™



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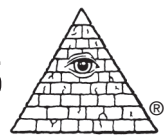
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INTRODUCTION

In settings that feature psionic powers, especially in horror and science fiction, there's often a paranormal interface between mind and machine, a place where psi and science meet. This may mean simple testing . . . or miraculous technology. The innovations can be sufficiently world-changing – or the experiments, so horrific – that they're capable of motivating heroes and inspiring scenarios, even entire campaigns. This is the realm of *GURPS Psi-Tech*.

Where *GURPS Psionic Powers* gives you the psi, these pages add the -tech and show you how to incorporate the resulting combination into your campaign. Described within are psychotronic machines and biotechnologies that enhance or emulate psionic powers, as well as devices that work on the same principles as psionics. The examples run the gamut from mundane lab equipment repurposed for paranormal research to out-and-out superscience – gadgets, drugs, genetic engineering, and surgery that become possible in a world with psi.

RECOMMENDED BOOKS

GURPS Psionic Powers is the only supplement *required* to make proper use of *Psi-Tech*. However, *GURPS Psionic*

Campaigns offers useful advice to GMs regarding the origin of psi and the place of psychotronics in the game world, while *GURPS Psis* is of similar value to players. In addition, *Psi-Tech's* rules for bio-psi technology work well with those for genetics and biotechnology in *GURPS Bio-Tech*, and many of its gadgets complement items described in *GURPS Ultra-Tech*.

PUBLICATION HISTORY

Much of the material in *Psi-Tech* was adapted from *GURPS Psionics*, also by David L. Pulver. The rules for brain-tissue grafts are derived from *GURPS Psionic Campaigns*, by Jason “PK” Levine.

ABOUT THE AUTHOR

David L. Pulver is a freelance writer and game designer based in Victoria, British Columbia. He is coauthor of the *GURPS Basic Set, Fourth Edition* and author of *Transhuman Space*, *GURPS Mass Combat*, *GURPS Spaceships*, and numerous other gaming products.

About GURPS

Steve Jackson Games is committed to full support of *GURPS* players. Our address is SJ Games, P.O. Box 18957, Austin, TX 78760. Please include a self-addressed, stamped envelope (SASE) any time you write us! We can also be reached by e-mail: info@sjgames.com. Resources include:

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Bibliographies. Many of our books have extensive bibliographies, and we're putting them online – with links to let you buy the resources that interest you! Go to each book's web page and look for the “Bibliography” link.

Errata. Everyone makes mistakes, including us – but we do our best to fix our errors. Up-to-date errata pages for all *GURPS* releases, including this book, are available on our website – see above.

Rules and statistics in this book are specifically for the *GURPS Basic Set, Fourth Edition*. Page references that begin with B refer to that book, not this one.

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CHAPTER ONE

THE SCIENCE OF PSI

“Ladies and gentlemen, I am honored to introduce Nobel laureate Dr. Paul Wixom, director of our bio-energetics division at Chulan Laboratories. The young woman beside him, wearing that rather outlandish helmet, is subject AL-19, who I am sure some of you recognize from the partial report leaked last week to the tabloid press. Dr. Wixom?”

“Thank you, Dr. Severin. I’m glad so many of you could make it on such short notice. We have a peer-reviewed article awaiting publication, but recent events have convinced us that a demonstration before the press is in the public interest.

*“Ladies and gentlemen, the term **psi** has denoted the existence of anomalous processes of energy or information transfer that are presently unexplained in terms of known biophysical mechanisms. Despite more than a century of scientific inquiry, psi has been too unpredictable or weak to measure clearly. Many doubted its existence.*

*“That changes now. Using the Wixom-Coldwell mind amplifier and her own unique mental gifts, the young woman known to you as AL-19 – who I can reveal is Alexandra Lodge, 19 years old – will today demonstrate unequivocal proof of the psi function known as **psychokinesis**.*

“And yes, your eyes are not deceiving you: Alex is now levitating herself one meter above the ground.”

If psionic powers are understood by science, then they can be joined with advanced technology to produce effects unobtainable by natural psionic gifts. This is the essence of *psi-tech*.

Timeline of Psi-Tech Research

For over a century, psi has been the subject of scientific (or *pseudoscientific*) research. This has mostly been under the banner of parapsychology, aimed at exploring the nature of psychic phenomena in human subjects. However, some study has involved *technological* developments. The GM may wish to incorporate such elements into the campaign background when using the real world as a setting for psionic adventures:

- 1919-1922** – Albert Abrams, an American, popularizes the concepts of a human energy field and psychic healing via “radionic” devices that emit such life energy.
- 1924** – German doctor Hans Berger is the first to record human brainwaves (EEG), inspired by his interest in telepathic research.
- 1939** – First Kirlian photographs taken, in the Soviet Union. Techniques remain largely unknown in the West until the 1970s.
- 1973** – First International Congress on Psychotronic Research, in Prague. It’s noted for demonstrating the “psychotronic generators” developed by Czech inventor Robert Pavlita and for popularizing the term “psychotronics” as a synonym for psi-enhancing gadgetry (rather than as an alternative term for psi, its original coinage).
- 1975** – United States Psychotronics Association founded, making it one of the earliest Western organizations to focus on psychotronic psi-tech.

SCIENCE AND PSI

Psionic technology falls into three broad categories:

Mundane psi technology consists of ordinary equipment adapted for psi research or enhancement. An example is the use of photographic and electrical equipment to detect auras (Kirlian photography). Similarly, if astral projection is associated with near-death experiences, then medical equipment used to stop a subject’s heart and then revive him might trigger astral travel.

Bio-psi technology is based on the assumption that psionic capabilities are generated by the brain and have a biochemical basis. It typically involves affecting or creating psi powers through drugs, genetic engineering, and neurosurgery.

Psychotronics (a portmanteau of “psychic electronics”) refers to superscience equipment specifically designed to generate, jam, or enhance psi abilities artificially. A typical device is a helmet that uses electrical impulses to stimulate the brain precisely enough to boost a particular psi power.

Such technology is based on the assumption that working psi capabilities aren't inexplicable phenomena but something that science can successfully study, amplify, and simulate.

CHICKEN OR EGG?

Psi-tech might be the outgrowth of a scientific investigation of observed natural psi phenomena. Researchers study test subjects, using mundane laboratory equipment to help prove the existence of psi powers to their satisfaction. Further research then determines the biological or physical principles under which these gifts operate. This paves the way for the development of psychotronic or biological technologies which go beyond natural abilities.

However, it doesn't *have* to be the case that natural psionic capabilities come first and scientific enhancement follows! An equally valid alternative is that psi-tech is the *cause* of psi powers – or at least those strong or reliable enough to be useful. The first effective psi abilities might be an accidental side effect or deliberate product of drugs, implants, or genetic engineering. It's also possible that most or all psis need a psychotronic device of some sort to awaken their gifts.

PSI AND PHYSICS

Many psi abilities appear to break physical laws that are fundamental to our current understanding of the universe. Precognition, time travel, and (thanks to relativity) any form of faster-than-light telepathic communication or matter transmission would seem to violate the principle of causality: that an event's observable cause must precede the event itself. Psychokinetic feats may require far more energy than the few dozen watts that the human metabolism can conceivably produce. Teleportation implies space warps; telekinesis, the ability to defy gravity. And so on . . . all with no apparent mechanism beyond the human brain!

It may be that psi is understood in a rote, cook-book fashion – people know how to do or build things, but not why they work. However, a scientific study of phenomena that seem to

violate natural laws might instead reveal flaws in our understanding of physics, catalyzing breakthroughs. Applications of the resulting knowledge could in turn lead to psi-tech, revolutionizing engineering and yielding superscience technologies. A few of the endless possibilities include:

- ESP might lead to time machines, time viewers, parachronic technology, or para-radar sensors.
- Psychic Healing may give rise to regeneration rays or similar bio-tech innovations.
- Psychokinesis might catalyze force screens, contragravity, reactionless drives, or exotic power sources or energy weapons.
- Telepathy and Psychic Vampirism may beget mechanical psychic probes, neural weaponry, stunners, or universal translators. If telepathic signals are shown to travel faster than light, the result might be faster-than-light communicators, star-drives, or sensors.
- Teleportation might unlock matter transmission, stardrives, or even disintegrator weapons. As with Telepathy, faster-than-light teleportation can have many spinoffs.

Psi could even result in a “Grand Unified Theory” that not only integrates gravity and quantum mechanics, but also encompasses the nature of the mind and the existence of other dimensions (such as hyperspace or astral space).

WHO BENEFITS?

This brings things back to the science where it all started: psychology. Psi-tech might be developed and used to benefit psis, enhancing their gifts and their capacity to control them. People who lack psi powers (“mundanes”) might use psi-tech, too. If they perceive psis as a mutant race that threatens to supersede humanity, they may regard the capacity to create “artificial psis” through psychotronics or bio-psi – allowing *everyone* to gain psionic abilities – as a way to head off the threat. Less optimistically, psi-tech could become a way for mundanes to fight or suppress psis, giving them the means to create psionic weapons, or the gadgets, drugs, surgery, tailored viruses, etc. to enslave psis or suppress their capabilities.

AVAILABILITY OF PSI-TECH

The role that a particular psi-tech innovation plays in the campaign will depend on when it's developed and how obtainable it is.

TECH LEVEL

All psychotronic and bio-psi technology is superscience (TL⁺); see pp. B513-514. Thus, the GM may assign *any* tech level to *any* psi-tech development. These rules mostly assume that psychotronics is a specialized field of electronics and cybernetics, while bio-psi tech is a spinoff of pharmaceutical, transplant, and genetics research. As such, psi-tech should be at least TL7, when these enabling technologies appear. Certain forms of bio-psi are notable exceptions; things like drugs derived from natural plants and animals may be available at very low TLs.

The GM should determine the tech level at which psi-tech first appears in his game world, remembering that the actual TL of a given innovation could be *any* TL. Consider a modern-day (TL8) campaign with secret psi: The GM might go through **Psi-Tech** and assign the devices and procedures he wants to be commonly available to TL7 (invented during the Cold War era) or TL8 (current technology); classify those that he feels might be available in the near future as TL9 (the heroes may encounter them in the form of top-secret experiments or prototypes); and kick everything else to TL10+ (only accessible to super gadgeteers, visiting ultra-tech aliens and time travelers, etc.).

Such assignments need not be uniform across the setting. Different nations or races might develop psi-tech on dissimilar schedules. Some could be more or less advanced in distinct fields; e.g., in a near-future Earth campaign, the Japanese or Russians may have much better psychotronic devices, while the U.S. or China leads in bio-psi.

Finally, it isn't necessary to use every piece of bio-psi in the book. Some technologies might not yet have been invented by *anyone* in the GM's universe. Others may emerge in the near or far future. Still others could be impossible!

COST AND ACCESSIBILITY

The existence of a given piece of psi-tech in the campaign doesn't imply that it's easy to purchase – or even that it's for sale! A device might be a unique prototype or an alien artifact; a psi-drug could be an experiment-in-progress, not yet fully tested.

Mysterious Artifact

The GM may wish to restrict some (or all!) forms of psi-tech to particular alien races – or have them exist only as artifacts of the long-dead Precursors, ancient Atlanteans, or other lost civilizations. Perhaps due to differing psionic wavelengths or brainwave patterns, certain alien devices might not work for humans without adjustment . . . and the same would apply when aliens use human technology. If a human used an alien psionic amplifier without adjustment, it could burn out his brain, while a mindscanner designed to detect a narrow range of human thought patterns may fail to register alien minds, or might detect them as animals rather than as sentient. Alien psi-drugs are likely to be dangerous or unpredictable, if they have any effect at all. Discovering exactly what a gadget does, and how to modify it to work safely for humans, calls for successful rolls against Engineer (Psychotronics) – or against Bioengineering, for bio-psi tech.

Psi-Tech in Genre

Psi-tech is a classic trope of the modern-day technothriller and supers genres, in which psi-powered heroes fight sinister government agents or ruthless psionic villains. However, there are other ways to use it:

Horror: Bio-psi technology nicely complements techno-horror and personal horror, combining dramatic paranormal effects with grotesque transformations and invoking the fear of bodily invasion.

Space: Psi powers are popular in ultra-tech space settings, where it's natural that technology would be deployed to enhance or counteract them. Psi-tech can also help justify otherwise-inexplicable superscience, like faster-than-light drives or comms, without the need to worry (much) about physics. And by emphasizing untapped human potential, it can counterbalance robotics and computers.

Steampunk: The Victorian era saw the founding of psychic research societies and a renewed interest in spiritualism, spirit photography, and the like. Modern psychotronics owes more to pseudoscientific extrapolation on radio waves and electronic or quantum phenomena . . . but it doesn't take much to assume that steampunk gadgeteers might combine ether theory, Steam Age mysticism, and Tesla coils to come up with divergent psi-tech.

Sword-and-Planet: Mars may have collapsed into colorful mosaic of barbarian kingdoms by the time Earth's atomic rocket ships visited it – but in the past, it was home to a powerful super-civilization in which psionics assumed the role of both science and magic. Some of the long-fallen empire's great psychotronic artifacts can still be found in its canal-side towers and bazaars . . . and not all their uses have been forgotten!

One form of alien technology that *should* work is any device specifically designed for cross-race contact; e.g., a mental translator. But an alien artifact could look very different from its human equivalent, even if it works identically. A psionic computer might be a featureless black monolith controlled entirely through hidden telepathic switches . . . or it may resemble a glob of green jelly!

Experimental

The technology is available only as an experimental prototype, which is unlikely to be for sale. All examples are "hand-made" by individual labs or researchers, customarily in secret military installations or psionics institutes. Individual instances of a given device may look radically different, depending on who built them. Weight is typically two to 10 times normal, and implants might have bulky and visible external components. The same multiplier applies to cost – and *one-of-a-kind* prototypes could be much more valuable! Higher-TL items might also exist in experimental form, and ought to be even *more* expensive; apply the pricing modifiers on p. B27 as well.

Experimental items, especially those of higher TLs, might well be unreliable or totally untested, with dangerous side effects. The GM may opt to roll on the *Gadget Bugs Table* (p. B476). If such a device is damaged, repairing it is liable to be very difficult!

Emerging

The technology has been around for some years, but it's still in the early stages, and mass, cost, and volume are three times the base values. Only a few specialized labs or institutes manufacture the item. It's still hard to get, and there's usually a waiting period of weeks or months before it arrives. Emerging combat- or espionage-type equipment is most likely limited to government authorities (or extremely wealthy corporations). Even relatively harmless psychotronic devices such as dreamscanners and psi scanners might be restricted to licensed researchers or psychologists – although there could be a black market for them. Such hardware may have "bugs," or be fragile and require frequent maintenance by skilled technicians.

Mature

The technology is well-understood, mass-produced, and widely available. Cost is as listed. This is typical of things designed at TLs below the campaign's current one. Drugs may still be hard to get, but psychotronic devices are sold just like any other electronic hardware. Psionic weaponry, and gadgets with military or intelligence applications, are probably restricted to military units, corporate security forces, or specially licensed individuals – but there's doubtless a thriving black market. Common civilian gear, such as thought globes and psi testing equipment, is easily purchased and available to anyone who can afford it. End users might even start "hacking" the technology, putting it to unintended uses that could lead to further innovations!

CHAPTER TWO

PSYCHOTRONICS

The Ilshani star fleet drops out of hyperspace near Arcadia's outer moon. Their sensors confirm what their spies have already told them: The planet below lacks ground or orbital defenses, and has only a tiny fleet. An easy conquest for the Domination!

On Arcadia, Sarah Blake, the duty World Web coordinator, floats peacefully in a sensory deprivation tank, her brain connected to a powerful telepathic amplifier throne, tubes feeding psi-drugs into her body. One of a handful of highly skilled telepaths serving in the Arcadian Defense Force, it is her fate to be on duty when sensors detect the invasion fleet.

She sounds the alarm. All across the planet, citizens drop what they are doing and plug into their World Web terminals – normally just another gadget built into the home computer, but now a matter of life and death. Sarah feels their warm closeness as they join their minds to hers in defense of their planet.

The sensors show the hostile starships 30,000 miles away from the planet and closing rapidly to bombardment range. That can't be allowed. Sarah watches the numbers projected into her brain: within 10 minutes of receiving the invasion alert, 87 percent of Arcadia's population has joined the World Web – 28 million minds. They will have to be enough.

Power floods into her, and Sarah's expanded mind stretches toward the enemy fleet, her inborn talent boosted by the planetary mind and the amplifiers, focused by the Mind Hype and her long hours in the tank. Searching the fleet, her telepathic senses locate the Ilshani admiral, piercing his primitive psi shields and entering his mind. Looking through the admiral's eyes, she surveys the flagship's bridge, taking note of each crew member. None suspect her presence. She reaches out, taking a grip on the leader's mind . . .

Wasp-like, Sarah sends her mind flitting from ship to ship, administering her painful sting. Captains and gunnery officers fall unconscious or begin to behave irrationally. Some ships begin firing on each other. Aboard others, firefights break out as crewmen suspect their leaders of treachery. Sarah visits each vessel only for long enough to maximize confusion. Within minutes, she has thrown the Ilshani fleet into chaos. With the invader's cohesion destroyed, the outnumbered Arcadian space forces are easily able to hold off the attackers.

Only one Ilshani warship, under computer control, gets within range of Arcadia. Sarah knows that in less than 10 seconds, it will begin launching nuclear weapons. There is no way she can disable the ship's computer – she lacks ergokinetic ability. There is no time to summon another coordinator, and only one way to save the planet. A quick flash of thought gets approval from the Arcadian Council.

Sarah visualizes the Arcadian Defense Force armory, focusing on the small fusion bomb canister she sees there. Catching hold of its actuality shield, she exoteleports it into the enemy vessel. An expanding globe of light indicates that the battle for Arcadia is over.

Some mundane hardware is “psi-tech” in the sense that it can help scientists deduce the physical laws that govern psi. Discovering those principles will enable engineers to build true *psychotronic* devices that exploit them. As the invaders of Arcadia learned, such technology can seriously affect outcomes – conceivably on a large scale! The GM who doesn't want powerful psi-tech in his campaign may limit certain types, restrict it to rare alien artifacts, or ignore it altogether; see *Availability of Psi-Tech* (pp. 5-6) for further discussion.

The pyramids could have been a kind of psychotronic device. They could have been used as mass mind control . . .

– Bernard Heuvel, *The Mysteries*

EQUIPMENT STATISTICS

The following terminology and statistics are used to describe the equipment here (and to an extent in Chapter 3):

Tech Level (TL): Psychotronic devices are TL[^], indicating superscience; the GM should choose the actual TL to suit his campaign. *Mundane* items have a specified TL.

Cost: The gadget's price in generic **GURPS** “\$” (see *Tech Level and Starting Wealth*, p. B27). This *doesn't* include batteries, power cells, fuel, or ammunition. Experimental psi-tech can be much more expensive! If psi-tech devices are laboratory prototypes or the product of secret black programs, see *Cost and Accessibility* (p. 6).

Weight: The gadget's weight in pounds (lbs.) under Earth-normal gravity (1G).

Power: Some gadgets have a power requirement. Since superscience psychotronics can appear at *any* TL, power requirements and operating times are listed for both modern batteries and an equivalent weight of ultra-tech power cells. The weight of these batteries or cells is included in the equipment's weight; the cost is not. Requirements are given in terms of a number of batteries or cells (if more than one), an abbreviation for their type (see *Batteries and Power Cells Table*, p. 8), and an operating duration; e.g., “2×XS/6 hrs. or 4×B/1 day” means “two Extra-Small batteries can run the device for six hours, or four ultra-tech B power cells can run it for a day.” Power-hungry machines sometimes call for *external power*, meaning that they must be plugged into a building or vehicular power system, or a large generator.

Legality Class (LC): The Legality Classes assigned in **Psi-Tech** assume that psi-tech labors under no special restrictions.

If psionics themselves are illegal, then any psi-tech other than anti-psi gear is likely to be highly restricted: halve LC, rounding *down*. If, by contrast, psionics are an integral part of society or a way that the ruling class maintains its power, then *anti-psi* equipment may be tightly regulated: halve its LC instead. For more on LC, see pp. B267, B507.

HP, HT, and DR: Calculate a gadget's HP from its weight using the table on p. B558; almost all gear uses the Unliving/Machine column. Assume that equipment has HT 10 unless otherwise noted. For DR, use the guidelines on p. B483; most psi-tech devices are made of plastic or light alloy with DR 2, but weapons are normally DR 4. In all cases, exceptions will be noted.

Adjusting for SM

Some psi-tech devices have the notation "adjust for SM" after their weight and cost. This means that weight and cost – and the number of batteries or cells, if the gadget uses such – are multiplied by a factor that depends on the user's Size Modifier (SM):

SM	Factor	SM	Factor
-4	x1/20	+4	x20
-3	x1/10	+5	x50
-2	x1/5	+6	x100
-1	x1/2	+7	x200
0	x1	+8	x500
+1	x2	+9	x1,000
+2	x5	+10	x2,000
+3	x10	+11	x5,000

Batteries and Power Cells Table

As stated above, many devices need power. At TL6-8, most gadgets run on ordinary batteries; at TL9+, equipment is assumed to use standardized rechargeable power cells. Use this table to find the weight and cost of replacements. The rechargeable power cells in *GURPS Ultra-Tech* store approximately four times the energy of the same weight of

non-rechargeable batteries from *GURPS High-Tech*. See those books for further details.

Type *Cost* *Weight* *Notes*

Batteries (TL6-8)*

Tiny (T)	\$0.25	0.02 lb.	Typical watch battery
Extra-Small (XS)	\$0.50	0.1 lb.	Typical 9-volt or AA battery
Small (S)	\$1	0.33 lb.	Typical flashlight battery
Medium (M)	\$5	2 lbs.	Typical lantern battery
Large (L)	\$10	10 lbs.	Typical motorcycle battery
Very Large (VL)	\$20	50 lbs.	Typical truck battery

Rechargeable Power Cells (TL9+)

A	\$2	0.005 lb.
B	\$3	0.05 lb.
C	\$10	0.5 lb.
D	\$100	5 lbs.
E	\$2,000	20 lbs.

* For *rechargeable* batteries, multiply cost by five but halve duration.

Optional Rule:

Superscience Generations

Superscience (TL[^]) items have an arbitrary TL – the TL at which they appear is left to the GM. If this is earlier than TL12[^], then it's reasonable to permit them to get better (or lighter and cheaper, at least) at later TLs. To enable this option, the GM can introduce a *second generation* version one TL later that has 50% of the base weight and cost, and a *third generation* version two TLs later that has 25% of the weight and cost. Realistically, subtract the weight of batteries or cells before doing these calculations, and also double operating duration or number of shots for second-generation gadgets, or quadruple it for third-generation gear.

Of course, it's equally valid to assume that superscience gear won't improve at all!

MUNDANE TECHNOLOGY AND LAB EQUIPMENT

Mundane technology refers to items that aren't psychotronic superscience but that are useful to psis or those researching psi phenomena. Examples include sensory deprivation tanks and Kirlian cameras. Such devices are available even if other psi-tech hasn't been invented or is legally restricted.

KIRLIAN PHOTOGRAPHY (TL6)

Kirlian photography is named after its Russian inventor, Semyon Kirlian. In 1939, while working on electrical lab equipment, Kirlian discovered that an object placed on a photographic plate and subjected to a high-voltage electric field left an

image on the plate. This resembled a colored halo or aura. Living things (and biological material) showed the strongest corona discharges. Kirlian speculated that his technique demonstrated the existence of a "bio-energy aura" or "life force."

Over the next few decades, Kirlian and his wife Valentina refined the process. They developed specialized apparatus using high-frequency spark generators, and an optical filter that allowed auras to be viewed in real time (e.g., permitting one to place a hand on the device and see a colorful corona discharge playing about it). The results impressed the Soviet authorities and led to laboratory research. By the 1960s, the Kirlians' experiments had attracted international attention and been duplicated by many researchers worldwide.

A famous set of Kirlian photographs showed a leaf that was placed on the plate and then cut in half and photographed again. The ghostly aura of the *entire* leaf was still visible! The media popularized the idea that Kirlian photography detected the bio-energy of the human aura – or even the astral body. Experiments indicated that the auras varied with health and emotional state, suggesting that Kirlian photography might also have a diagnostic capability. For a period in the 1960s and 1970s, “Kirlian” was almost as popular as “psi” as a buzzword suggestive of psychic powers.

Today, *most* researchers believe this “electrophotography” to be a purely mundane electro-optical phenomenon, somewhat akin to the way that photocopying works. The technology used to create Kirlian corona discharges is highly responsive to even minute changes in humidity, electrical conductivity, and air pressure. Living things (or damp leaves) tend to be moist, so they result in better Kirlian photographs; likewise, skin can sweat, grow clammy, etc. under emotional stress or due to poor health. As for the leaf experiment and similar examples used to suggest “phantom limb” images, skeptics posit that moisture or organic residue from earlier photographs can easily contaminate the plates.

Unfazed by these skeptics, proponents of the bio-energy theory and of the medical diagnostic capabilities of Kirlian photography have continued their research. The most recent development (TL8) is a technique known as *gas-discharge visualization* (GDV) or *bioelectrography*. This uses computerized high-resolution instruments to record images while supposedly compensating for most environmental factors. Successive GDV scans are used to monitor patient health, diagnose ailments, and predict the effectiveness of medical treatments.

Examples of Kirlian photography equipment are described below. For a superscience alternative, see *Kirlian Sensor Field* (pp. 18-19).

Kirlian Technology

Various setups exist for taking Kirlian photographs. In all cases, the apparatus consists of a high-frequency spark generator, an electrode plate, and a camera. An object or organism is placed directly on the plate (none of this equipment can photograph distant objects), which is then subjected to a high-voltage, high-frequency electrical discharge and photographed. Kirlian photographs require low-speed film; the shutter stays open for up to three seconds.

To produce a good Kirlian photograph, roll against Electronics Operation (Media or Scientific), or use Photography at -2. In some settings, the Photography (Spirit) specialty exists. This works at no penalty.

If the GM decides that Kirlian photography really does detect life-energy auras, then study of a properly produced Kirlian image allows an Expert Skill (Psionics) roll for interpretation, modified by any equipment bonuses (see below). Success provides the same information as an (initial) Aura Reading; see *GURPS Psionic Powers*, p. 46. That is, it counts as a successful Diagnosis roll and gives a close estimate of how many HP and FP the person has remaining. It also reveals whether the subject has any diseases or infections, and general information about his emotional state. If he’s undergoing medical treatment, then “before” and “after” auras can show whether he’s worsening or getting better.

Optionally, Kirlian photographs or GDV scans might also reveal otherwise invisible entities, such as astral bodies.

This includes spirits, if they exist. No special skill roll is required for interpretation.

Kirlian Camera (TL6): Images must be developed in photo lab. Wet-plate camera, with plates: \$1,000, 50 lbs. LC4. No-frills camera with polarized film: \$595, 3 lbs. LC4.

Modular Kirlian Camera (TL7): Comes with frequency tuner, tabletop electrode plate, and real-time polarized viewer. \$1,200, 6.5 lbs. LC4.

Digital Kirlian Camera (TL8): Digital camera with “liquid sample” attachments and real-time motion-capture technology. It comes with basic Kirlian aura-analysis software (Complexity 1) that, when run on a computer, provides Expert Skill (Psionics)-12 or +2 to the user’s skill for analyzing auras. Of course, if Kirlian auras aren’t real, the results it gives are bogus! \$9,700, 11 lbs. LC4.

Gas-Discharge Visualization Device (TL8): This is a computerized, high-res Kirlian detector intended to produce diagnostic digital imagery of a *living* being’s aura. The plates are designed to be placed over particular body parts, for medical diagnosis. Comes with advanced Kirlian aura-analysis and diagnostic software (Complexity 2) that, when used to analyze GDV imagery, grants Expert Skill (Psionics)-13 or +3 to the user’s skill for this one purpose. \$12,000, 15 lbs., 3xS/1 day or 2xC/1 week. LC4.

PSI TESTING EQUIPMENT (TL6)

This laboratory apparatus is designed to administer a full battery of mundane tests for latent psi powers – that is, to check for psionic Talents in subjects without known psionic abilities. Such people may still demonstrate a statistically significant amount of psionic potential under rigorous testing. For instance, an individual with ESP Talent might be a bit more likely to predict random numbers correctly, while someone with Teleportation Talent may produce a minute gravitational flux or be able to alter the position of a few micrograms of material. The procedures involved require the cooperation of those being tested, although it’s possible that someone unfamiliar with the tests won’t realize their true purpose.

Basic paraphernalia includes tools such as Zener cards (flash cards with symbols that those with Telepathy can attempt to guess), electronic random number generators (for testing ESP and Probability Alteration), and possibly biological tests for Psychic Healing (e.g., caring for simple plants or animals over time). Better gear adds sensitive, carefully shielded scales, thermometers, particle counters, electromagnetic field meters, and even gravitational sensors for measurements capable of detecting powers that have physical effects, such as Ergokinesis, Psychokinesis, and Teleportation. However, this equipment doesn’t cover *genetic* testing (see Chapter 3).

This apparatus can test for many different powers, but it’s rare for any one procedure to be sufficient in itself. For instance, Zener cards (or similar devices showing particular symbols) are a traditional test for Telepathy; the subject guesses which symbols a distant tester is concentrating on, and if he gets a statistically above-average number of “hits” – and the test is deemed secure against fraud or trickery – then *perhaps* he’s a latent telepath reading the tester’s mind. Then again, he might be using latent ESP to predict or observe the cards, or even Probability Alteration to affect which card comes up next.

Narrowing things down requires further testing. For example, if someone gets a high number of hits on cards but an average score on machine-generated random numbers, then Telepathy is more likely than ESP; if he does better on the random-number machine than on other tests, then maybe he's manipulating the machine with latent Ergokinesis; and so forth. This is one reason why such gear is so comprehensive!

Anti-Psi testing is also possible with this setup. This typically involves comparing the scores of a control group with and without the test subject present. If the group performs statistically *worse* than expected when he's there, then he might be a latent Anti-Psi.

For each test session, roll against the researcher's Expert Skill (Psionics) at +4 or unmodified Psychology. Failure means the subject comes up negative. Otherwise, *if the subject is cooperating*, he may then roll against IQ, plus any Talent for the power in question. (*Exception*: If the ability being tested for normally requires a Per or Will roll, use that score instead.) On a success by 10+ or a critical success, he demonstrates his latent gift in a measurable way. If he isn't cooperating, then the experiment fails – although at the GM's discretion, it might be possible to trick him into revealing powers.

A basic portable lab that provides no skill bonus is \$1,000, 2 lbs. A good-quality lab that confers +1 to skill is \$5,000, 20 lbs. A fine-quality lab that gives +2 is \$20,000, 200 lbs. A best-quality lab that grants +TL/2 to skill is \$100,000, 2,000 lbs. Halve cost and weight for a lab that tests for only one psi power. LC4.

*This bioenergy, which we call
psychotronic energy, seems to be behind
PK; it may be the basis of dousing.*

*– Shelia Ostrander and Lynn
Schroeder, **Psychic Discoveries***

SENSORY DEPRIVATION (TL6)

Sensory deprivation techniques isolate the subject from external stimuli, serving to focus his mind inward. Intended for psychiatric testing or therapy, they can also be used as a meditation aid and a focusing tool by psis prior to operations where a high level of skill is necessary – or to make a subject (sometimes a prisoner) especially receptive to mental intrusion.

After an hour of sensory deprivation, the user must roll against the higher of Will or Meditation. Success indicates that the isolation has successfully focused his mind; he gets +1 to use psi skills while the sensory deprivation endures, plus an additional bonus equal to 1/3 of his margin of success (rounded down), to a maximum of +5. Failure means that he gains no benefit. If he remains in isolation, he may roll again once per hour; but further rolls are at a cumulative -1 (although never worse than -5).

There's also some danger. If the subject fails this roll by 5+, or critically fails, then the prolonged sensory deprivation hasn't merely failed to increase his concentration – the isolation and loss of sensation have worked to unhinge his mind!

Treat this as a failed Fright Check. Roll 3d on the *Fright Check Table* (p. B360) and add his margin of failure. Quirks or Phobias (p. B149) acquired this way are liable to relate to the sensory deprivation; Autophobia, Claustrophobia, and Scotophobia are especially appropriate.

Regardless of his roll, the subject is *also* more open to any form of telepathic contact. He has no physical sensations to distract him! Every hour spent in sensory deprivation gives +1 to all skill rolls for Telepathy abilities (friendly *or* hostile) used on him, to a maximum of +5 after five or more hours.

Sensory Deprivation Tank (TL6)

Various types of sensory deprivation equipment exist. One such system is the sensory deprivation tank (intended for "flotation restricted environmental stimulation therapy"). A typical tank is filled with a skin-temperature solution of water and Epsom salts at a density such that the subject can float effortlessly on the surface. His senses are completely blocked. Psi-amplifiers, gestalt webs, World Webs, and psi-drugs may be used in conjunction with such a tank, but any hardware involved must be designed to be waterproof (1.2× cost). \$2,000, 2,750 lbs. full/500 lbs. empty. LC4.

ELECTROENCEPHALOGRAPHY (EEG) (TL7)

Electroencephalography is the recording of spontaneous electrical activity ("brainwaves") produced by the firing of neurons within the brain. Its primary clinical use is to diagnose neurological abnormalities such as epilepsy. However, EEG is also used for cognitive research and brain-computer interfaces.

This technology could be considered a real-life example of a successful spinoff from psionic research. At the end of the 19th century, a young German named Hans Berger was doing military training when he was almost run over by a horse-drawn cannon. His sister, many miles away, had a premonition of him facing danger and arranged for their father to send a telegram to warn him. This incident made Berger believe that telepathic ability might be real and inspired his later scientific research into brainwaves, eventually leading to his recording the first human EEG in 1924. While EEG didn't succeed at proving the existence of telepathy, it can still be useful in psi research, providing valuable information about the brain's electrical activity.

An EEG machine has several components: sensing electrodes, amplifiers, a control system (usually a computer at TL8+), and a display device. In a typical session, the patient lies on his back, and a net of electrodes is attached to his scalp and connected to the amplifier. Often, an electrolyte paste or gel is first applied to the subject's head to improve signal transmission. The machine amplifies output from the electrodes, and the brainwave signals – the *electroencephalogram* – are depicted directly as "waves" on a printer or a monitor, or (at TL8+) converted to digital data and displayed on a computer screen.

Different types of mental activity – thinking, talking, dreaming, various emotional states, etc. – stimulate different areas of the brain, producing distinct EEG signals. The subject may be asked to perform specific activities, or be studied while procedures are carried out on him, while the EEG machine records the effects on his brainwaves. Abnormal neurological states, such as epileptic seizure, also show up on an EEG.

Psi researchers can make use of EEG machines to monitor electrical activity in the brain of someone who's using psionics or undergoing latent psi testing. The goal is to identify any "spike" in activity. If prior scans have correlated which parts of the brain control different types of psychic power (GM's decision), then during latency testing (see *Psi Testing Equipment*, pp. 9-10), a successful Electronics Operation (Medical or Scientific) roll by the EEG operator adds 1/3 of the margin of success, rounded down, to the subject's roll to demonstrate his latent ability.

If psi research has progressed to the point where specific EEG states have been associated with the use of particular powers – once again, this is up to the GM – then when psi is used, EEG monitoring can also determine what power is involved (e.g., Telepathy). Success by 5+ might even identify the specific ability (e.g., Telesend). An abnormal EEG could also show when the subject is being *affected* by a psi power that induces mental effects: Psychic Vampirism, Telepathy, Dream Control, Animal Telepathy, etc.

EEG Technology

Conductive Gel (TL7): An 8-oz. bottle of electrolyte paste or gel used to treat the subject's scalp before applying dermal electrodes or psiberface units. Apply -2 to skill if not used. \$30, 0.5 lb. LC4.

EEG Machine (TL7): A cabinet-sized machine that records EEG signals. Output is displayed via a chart recorder that prints a hard copy using a needle on a moving strip of graph paper. Use Electronics Operation (Medical or Scientific) skill to operate it, and Diagnosis or Expert Skill (Psionics) to interpret the data. Prototypes may exist at late TL6 (5x cost). \$3,000, 200 lbs., external power. LC4.

Electrode Net (TL7): Required for the EEG machine, computerized EEG machine, or wireless EEG scanner, this net of electrode sensors is taped or glued to the subject's skull and connected by wires to the EEG machine. Conductive gel should be applied to the scalp beforehand. Prototypes available at TL6 have 4x weight and cost. \$100, 0.25 lb. LC4.

Computerized EEG Machine (TL8): This modern system on a wheeled cart incorporates a multichannel EEG signal amplifier that allows the use of larger and more sophisticated electrode nets. It converts analog signals into digital data that are stored in computer memory. In conjunction with specialized software, it can be used to create detailed electrical maps of the brain. Operation requires it to be plugged into a computer (often a laptop). Gives +2 to skill rolls to interpret the data. \$3,000, 175 lbs., external power. LC4.

Wireless EEG Scanner (TL8): This is a small, wearable computerized EEG machine, with the electronics worn as a pendant or in a pouch. Data can be transmitted over a wireless local area network within 100 yards. Up to 60 minutes of data are backed up in case the patient temporarily moves out of range. As it's less sensitive than the full-sized computerized system, it gives no skill bonus. \$600, 0.25 lb., XS/24 hrs. or 2xB/1 week. LC4.

EM FIELD METER (TL7)

This small device senses electromagnetic (EM) fields, including radio emissions. Range is relatively short – about one yard. It's often used by paranormal investigators, on the assumption that ghosts, spirits, and astral bodies are composed of or interfere with electromagnetic energy. If this is true, then an Electronics Operation (Scientific) roll at -6 might allow the user to detect the presence of an astral projection that passes within range. Otherwise, it's useful for noticing effects produced by Ergokinesis. \$500, 1 lb., S/10 hrs. or C/60 hrs. LC4.

FUNCTIONAL MRI (TL8)

A high-resolution magnetic resonance imaging machine (**High-Tech**, p. 223) can function as a computerized EEG (pp. 10-11) and also map the exact areas of the brain that are active during psi use. This may be useful for locating brain-tissue grafts (p. 37), other psi implants, or where to target an electro-psionic neutralizer (p. 16). \$1,000,000, 6,000 lbs., external power. LC3.

PSYCHOTRONIC EQUIPMENT

Psychotronic devices are machines that detect, enhance, disrupt, or duplicate psionic abilities by manipulating psionic energy. As they operate under physical laws that aren't yet fully understood, all are classed as superscience (TL^).

for examples, see *Gestalt Web* (p. 14), *World Web* (pp. 15-16), *Dreamscanner* (p. 19), and *Deathscanner* (p. 22).

PSI-INTERFACE TECHNOLOGY

Psi-interface or "psiberface" technology is used to link complex psionic equipment with an operator's mind. It's related to both EEG monitoring and ultra-tech neural-interface technology. Some technologies *require* psiberface;

Psychotronics and GURPS Ultra-Tech

GURPS Ultra-Tech presents versions of some psychotronic devices, such as psi-amplifiers. The examples in **Psi-Tech** differ from these somewhat, as they've been designed to accommodate a wider variety of TLs and to integrate more closely with **GURPS Psionic Powers**. In particular, psi-amplifiers in **Psi-Tech** provide a larger Talent bonus but no longer raise the user's ability level directly; instead, operators must use the Talent increase to take advantage of the extra effort rules in **Psionic Powers**. The GM is welcome to use whichever version he prefers for his campaign, but the two aren't directly comparable – pick one or the other.

Optionally, all psi-interface gear may function as if it were a neural interface (see *GURPS Ultra-Tech*), if that technology also exists.

Psiberface Port (TL^)

This is a cable socket in a psychotronic device that facilitates the attachment of a psiberface unit. Plugging a psiberface unit into the port takes two seconds. Many devices come with psiberface ports, but extras can be added: \$500, 0.25 lb. apiece. Wireless versions (with a range of about 100 yards) may exist at double cost – although the GM might rule that psiberface requires so much bandwidth that the cable is unavoidable. LC4.

Psiberface Helmet (TL^)

The most common psiberface unit is a lightweight helmet lined with psi-sensitive electrodes and neural-induction probes. Its 6'-long cable can plug into any psychotronic device with a compatible port. The helmet can also function as an electrode net for EEG (pp. 10-11). Donning a psiberface helmet takes two seconds. This functionality can be built into the helmet of armor or a vacc suit (1.25x cost). \$7,000, 2 lbs., XS/2 days or B/100 hrs. LC4.

Psiberface Implant (TL^)

Those who don't want a full helmet may instead have an implant socket surgically installed in their skull that accepts standard interface cables from psychotronic devices. Initial insertion (or later removal) requires a Surgery roll. The operation takes three hours, plus a day to recover. Failure destroys the implant; critical failure causes brain damage that gives -1 to IQ! At the GM's option, such an implant may count as a perk. \$4,000. LC3.

Psiberface Field (TL^)

This works like a psiberface helmet but covers an area. Anyone entering the field is connected to the systems it controls. Chair-sized field: \$50,000, 25 lbs. Larger field (usually built into a floor): a basic \$200,000 and 100 lbs., plus \$10,000 and 100 lbs. per square yard covered. External power. LC2.

Brainlock (TL^)

A psiberface device may include a brainlock: an interface programmed to accept only a user who has a specific brain-wave pattern. The "user list" is sometimes hardwired into the system, making it impossible to change; if not, then any interfaced user can use a password to alter the lock's parameters. If the attached gadgets have multiple functions, only some of these might be brainlocked. No extra cost. LC4.

PSI-AMPLIFIERS

"Psi-amps" are psychotronic devices that use targeted neural stimulation to boost one or more psionic Talents. Most benefit a single power; e.g., Telepathy or Psychokinesis. Some designs amplify *several* powers; switching these between powers takes a second. A psi-amplifier is capable of increasing a psi's Talent beyond the standard four-level limit. The extra skill can be and often is used to facilitate extra effort (*GURPS*

Psionic Powers, p. 7). When using a psi-amp for extra effort, halve the FP cost: 1 FP instead of the usual 2 FP.

A psi-amp should be attuned to the user, and can only be attuned to one psi at a time. This takes an hour and requires a successful Electronics Operation (Psychotronics) roll. Failure wastes time but allows further attempts; critical failure damages the device. It is possible to use an amplifier that isn't properly attuned or that's attuned to someone else, but any roll of 15+ while doing so counts as a critical failure.

The power surge a psi experiences when using an amplifier can be dangerous. If he ever rolls a critical failure while using an enhanced ability, he suffers amplified psychotronic feedback in addition to the usual critical failure effects. This burns out the machine, which will require minor repairs (p. B484). Moreover, the user must make a HT roll at a basic +3 but with a penalty equal to the machine's psi Talent boost. Failure means he suffers a seizure (p. B429) for seconds equal to the margin, with the usual 1d FP loss afterward; failure by 5+ indicates a coma (p. B429). Critical failure further inflicts 2d burning damage *per second* on him, bypassing all DR (it's his *brain* being fried!), until someone else pulls him free; if he survives, he must also roll vs. Will at -3 or suffer "brain-burn." A brain-burn victim is effectively reduced to a mindless state, though recovery is possible given proper care and treatment.

What is important is that psychotronic technology has been opportunized by the wrong elements of society for a long time . . . there's an underground network of inventors producing and refining these products.

*– Richard Metzger,
Disinformation:
The Interviews*

Psi-Amplifier Headband (TL^)

This compact device gives +2 to Talent for a single psi power. \$6,000, 1 lb., XS/1 week or 2xB/1 month. Per additional power it can boost: +\$3,000, +0.25 lb. LC3.

Psi-Amplifier Helmet (TL^)

This medium-powered psionic amplifier gives +4 to Talent for a single power. \$25,000, 4 lbs., 3xS/1 week or 2xC/1 month. Per additional power it can boost: +\$10,000, +2 lbs. LC3.

Backpack Psi-Amplifier (TL^)

A portable psi-boosting device that consists of a backpack-sized power pack connected to a helmet. It gives +6 to Talent for a single power. \$40,000, 25 lbs., L/1 week or 2xD/1 month. Per additional power it can boost: +\$20,000, +10 lbs. LC3.

Psi-Amplifier Throne (TL^)

This is a throne-like chair with a helmet and computerized biofeedback monitors. The user sits in the chair and power floods through him, to be channeled into psionic energy. Unless the user is very powerful, machines that amplify Teleportation will move the user but not the amplifier! It gives +8 to the user's Talent for a single power. \$200,000, 1,000 lbs., external power. Thrones that can amplify more than one power at once are available: +\$100,000, +500 lbs. per extra power. LC3.

Psi-Amplifier Citadel (TL^)

The ultimate psi-amplifier system! The user's body is protected within a life-support system, cryogenically cooled and placed in suspended animation. His *brain*, however, is kept conscious, its functions amplified to an unheard-of degree and supercharged with a tidal wave of psychotronic energy: +10 to his Talent for a single power. Preparing the user (attaching him and synchronizing the cybernetic systems) or disconnecting from the device takes 10 minutes, halved on a successful Electronics Operation (Psychotronics) roll. No psiberface system is needed; it's integral to the citadel. \$1,000,000, 4,000 lbs., external power. Citadels that can amplify more than one power at once are available: +\$500,000, +2,000 lbs. per extra power. LC2.

Universal Psi-Amplifier (TL^)

In some settings, amplifiers may exist that can divide their Talent boost among more than one power, as desired. For example, a psi with a universal psi-amplifier headband – which gives +2 to Talent – could choose +1 to Telepathy Talent and +1 to Psychokinesis Talent. Adjusting bonuses (e.g., switching that headband to +2 to Psychokinesis Talent) requires a Concentrate maneuver. *Triple* the price of a single-power model.

Dedicated Psi-Amplifier (TL^)

Highly focused psi-amplifiers might benefit specific *abilities* instead of entire powers, booting one particular psi skill rather than a Talent. Within that sphere, however, they're significantly more potent: increase the bonus by +2. For example, a Telescan-dedicated psi-amplifier throne would give +10, not +8, but *only* to Telescan skill. Other stats are unchanged. Read options for extra powers as being for extra abilities. Universal versions aren't available.

PSYCHOTRONIC GENERATORS

Psychotronic generators constitute an entire category of gadgets. Each duplicates the effect of one *psi ability*; it collects and focuses psionic energy for that specific purpose only. Such a device might exist for any psionic ability that has an associated psi skill. In all cases, the operator must be integrated into the machine in some way – touching it, strapped into it, wielding it, etc.

Psychotronic generators come in endless shapes and sizes, but typical examples have metal or plastic cases that house electronic circuits, crystalline components, and perhaps *organic* elements. Devices that emulate abilities that affect the user are commonly built as helmets, backpacks, or belts. Machines that enhance or add senses often incorporate goggles, cameras, or visors – or boxes or consoles with some form of audio or visual output. Contrivances that radiate a field over an area are

typically stationary boxes or wearable modules, often sporting antennas. Gadgets that affect distant targets tend to resemble weapons or ray projectors. And those that must touch their subject incorporate prods, gauntlets, or electrodes.

Any such device works exactly as if the operator had the specified psi ability, with these exceptions:

- All rolls for the ability use Electronics Operation (Psychotronics) in place of the ability's psi skill, and psi techniques default to Electronics Operation at their usual penalties. This makes a psychotronic generator relatively easy to use: the operator needs to learn a single Average skill instead of several Hard ones. However, different types of generators are mutually unfamiliar (see *Familiarity*, p. B169), and the GM should enforce any penalties rigorously. Users with psionic capabilities may add their psi Talent to rolls for suitable abilities, but their *psi skills* are of no value here.

- When using a psychotronic generator, a critical failure doesn't require a Will roll to avoid crippling the ability. Instead, roll against the generator's HT (usually 10). Failure indicates a breakdown. Getting it working again calls for minor repairs (p. B484) using Electronics Repair (Psychotronics).

- Psychotronic generators can be nursed toward extra effort, but are more fragile than living psis. Use a standard IQ-based Electronics Operation roll instead of a Will-based roll, and double the usual penalty. *Any* critical failure while using extra effort causes a malfunction and breakdown, in addition to whatever other critical failure effects the GM assesses.

- Psychotronic generators aren't cumulative with natural psi abilities. Similarly, they cannot be used in a gestalt with other generators (or other psis).

Design

Use the *Psychotronic Generators Table* to determine a psychotronic generator's cost, weight, and other stats. Dollar cost increases with the point cost of the ability emulated. Compact designs cost more per point to build, so powerful generators tend to be larger.

Psychotronic generators that resemble beam weapons or the like often function as if their ability had the Weaponized limitation (*GURPS Psionic Powers*, p. 21). To simplify calculations, it's easiest to pair Weaponized (-50% or -80%) with Accurate 10 (+50%) or 16 (+80%) to offset it, thereby keeping point cost – and dollar cost – the same, and ensuring that the newly Weaponized ability has a decent chance to hit.

Generators are normally electrically powered, but can be self-powered for 1.5× cost. Either way, abilities that cost FP to use *still* cost FP, in addition to any electrical power the generator requires. The FP can be drained from the user or provided by an attached psychotronic battery (pp. 14-15).

Example: Psi-tech inventor Tereza Vankova builds a "Psychotronic Cloudbuster": a machine that gathers and focuses psionic energy to manipulate the weather. The player and GM agree that this is a psychotronic generator, and use these rules to create it. The ability it emulates is Weather Control 3 (*Psionic Powers*, p. 45), which costs 66 points. The player decides that the device is semi-portable; it can fit in the bed of a pickup truck or a trailer. Thus, it costs \$1,500 × 66 = \$99,000 to build and weighs 300 lbs. Built at TL8, it requires a Large battery. Tereza's player describes it as a box-shaped contraption with a pyramidal antenna and a seat for the operator, who must use a psiberface helmet to connect to it. It's LC3.

Psychotronic Generators Table

Size: A descriptive term for the device; SM appears in parentheses. A *semi-portable* or *large* generator is too big to wield manually (at least for a human!); thus, any “touch” effect involves a platform, electrode helmet, bed, chair, etc. into or onto which the subject must be strapped or placed in order to be affected by the ability.

Cost: The cost of a *powered* generator, figured from the point cost of the ability it emulates. Multiply this by 1.5 for a *self-powered* model that has no electrical power requirement.

Weight: The weight of a standalone generator. Optionally, it might be integrated into a mundane device (gun, TV,

goggles, etc.) that retain its normal functions, provided that the generator weighs no more than 1/3 of that item’s original weight.

Power: The electrical power requirement for a powered generator, giving six hours of operation on batteries or a day on power cells. *Ignore* this for self-powered gadgets!

LC: The Legality Class if the effect is ostensibly benign – weather control, healing, communication, etc. Halve this and round *down* if the most likely uses are criminal, military, or espionage activities (GM’s decision). Generators that can harm or control individuals are LC2 or worse.

Size	Cost	Weight	Power	LC
Mini (SM -6)	\$3,000 × point cost	0.3 lb.	T/6 hrs. or 2×A/1 day	4
Small (SM -4)	\$2,500 × point cost	3 lbs.	XS/6 hrs. or 2×B/1 day	4
Portable (SM -2)	\$2,000 × point cost	30 lbs.	3×S/6 hrs. or 2×C/1 day	4
Semi-Portable (SM 0)	\$1,500 × point cost	300 lbs.	L/6 hrs., 2×D/1 day, or external power	3
Large (SM +2)	\$1,000 × point cost	3,000 lbs.	VL/6 hrs., E/1 day, or external power	3

Examples of Psychotronic Generators

Akashic Terminal: A humming, hissing, liquid-cooled electromechanical device the size of a room, within which the subject is suspended, bathed in scanning rays, his possible futures flashing on a bank of monitors above him. Gives Prognostication 4. Large, \$33,000, 3,000 lbs., external power. LC3.

Astral Blade: A large knife, covered with exotic patterns, whose hilt conceals a solid-state crystalline psychotronic generator that mirrors the knife in the astral plane. Gives Astral Sword 1 (and also works as a large knife). Mini, \$36,000, 1 lb. (including knife), self-powered. LC2.

Psiberdeck: Small electronic device resembling a 1980s game console, with attached head electrodes. Gives Netrunning 1. Small, \$50,000, 3 lbs., XS/6 hrs. or 2×B/1 day. LC4.

Psycho-Surgery: Sinister dentist chair-like device with a blank-faced helmet. The subject is strapped in; the operator uses an attached interface helmet and virtual-reality console. Gives Mental Surgery 1, Mindwipe 1, and Telereceive 1. Semi-portable, \$76,500, 300 lbs., external power. LC1.

Radionic Healing Crystal: A small, geometrical crystal-and-metal device, resembling a futuristic salt shaker, that’s passed over the subject’s body to activate it. Gives Cure Disease 1. Mini, \$27,000, 0.3 lb., self-powered. LC4.

Teleport Belt: A thick metallic belt composed of linked platinum ovals and psi-charged quartz crystals, with a built-in power pack. Mentally controlled; allows the operator to teleport up to two miles. Gives Autoteleport 8. Mini, \$210,000, 0.3 lb., T/6 hrs. or 2×A/1 day. LC4.

OTHER AUGMENTATION DEVICES

These technologies offer alternative means of intensifying psionic power. They can be used in conjunction with psi-amplifiers (pp. 11-13).

Gestalt Web (TL^)

A gestalt web machine is a large psychotronic device attached to two or more nearby psiberface units (p. 12). It automatically links all psis using those psiberface units into a gestalt (*GURPS Psionic Powers*, p. 9). This requires no skill roll – the effect is identical to the Gestalt Familiarity perk (*Psionic Powers*, p. 19). A gestalt web capable of linking two minds is \$1,000,000, 400 lbs. Add \$20,000 and 10 lbs. per additional mind it can accommodate. The psiberface systems are extra. External power. LC3.

Psychotronic Battery (TL^)

This is a means of storing and draining psionic energy. It typically resembles a small metal or crystal object, usually a geometric solid, although it might be built into another device. It responds to the mental control of any psi who touches it, and can be set to “positive” or “negative.”

On its negative setting, it drains psychic energy from the nearest sapient being within two yards. He loses 1 FP every 10 minutes and cannot recover his own lost FP. Draining continues until the battery has absorbed 10 FP, after which it is full and no longer drains energy. Left unused, energy in the battery bleeds off at the rate of 1 FP every 12 hours.

On its positive setting, any psi who’s touching the battery may tap it. He can draw up to 1 FP per second from it, using this energy instead of or as well as his own FP to power psionic abilities. The battery cannot be used to energize anything *but* psi; it’s effectively a psionic Energy Reserve (p. 21).

A baseline psychotronic battery like the one above is \$10,000, 0.1 lb. Ones that hold more than 10 FP are possible; every *doubling* of FP capacity multiplies cost *and* weight by 10. LC3.

Dedicated Psychotronic Battery (TL[^])

Some psychotronic batteries supply energy useful only for one specific power (e.g., Telepathy) or ability (e.g., Telesend). Power-specific versions hold 1.5x the FP; ability-specific ones store 2x the FP. In either case, the user can draw 2 FP/second. Treat these as standard batteries in all other respects.

Symbiotic Crystal (TL[^])

This is a “living” psychotronic crystal, typically about the size and shape of a silver dollar. Synthetic examples are the product of extremely advanced psi-tech – probably TL12[^] – and imbued with a form of artificial sentience. Naturally formed symbiotic crystals may also exist. If so, the planet or dimension to which they're native should be an exotic place . . . and the locals (if any) are likely to be very protective of them!

A symbiotic crystal acts as a focus to refine a psi's gifts, allowing greater precision. By touching the crystal and staring into its depths, the owner can focus one psi ability at a time through its pseudo-mind, increasing his effective skill level by 1/3 (round down). For instance, a telepath focusing Mental Stab-13 through a symbiotic crystal would have an effective Mental Stab skill of 17. Using the crystal as a focus always calls for an *extra* Concentrate maneuver; add this to the usual time required to invoke the psi ability.

After using a crystal once, the psi becomes mentally bonded to it! He doesn't have to use it to enhance his skills, but no other being can ever do so. He's also able to sense the crystal's location over a distance. To determine sensing range, consult the *Psionic Range Table* (*GURPS Psionic Powers*, p. 22); the psi's effective level for this purpose is his Will/2 + highest psi Talent, rounded *down*.

While the crystal is within range of its owner, he experiences anybody else touching it as a violation of his mind. He must make an immediate Will roll to resist ill effects.

Modifiers: -4 if the person touching it is a psi; +2 if the person touching it loves the owner, -2 if he hates him, no modifier otherwise.

Success means the psi experiences moderate pain (p. B428) while the crystal is being touched. On a failure, he suffers agony (p. B428) the entire time, and then for seconds afterward equal to his margin of failure. Critical failure causes a heart attack (p. B429).

A symbiotic crystal has SM -10, DR 8, and HP 1. If it's destroyed within the bonded psi's sensing range, the owner must roll against Will at -10 to avoid shock. On a success, he's merely stunned. Failure indicates a heart attack – and if he survives, he lapses into a coma (p. B429) for weeks equal to his margin of failure. Critical failure means death!

A symbiotic crystal costs \$1,000,000 and has negligible weight. LC3.

World Web (TL[^])

A world web is a technology for harnessing the innate mental power of non-psionic individuals and placing it at the disposal of a single psi, the “director” or “coordinator.”

It is similar to a gestalt web but requires at least 10 normal minds to confer any benefit. With enough participants, however, it could focus the psychic potential of a planetary population, whence its name.

To become part of a world web, a person plugs into a world-web terminal by donning the psiberface helmet that's attached to it. The terminal is then linked to other world-web terminals and to the web central processor over conventional data networks.

The web central processor gathers the natural psychic energy of all the participants. The director receives a bonus to psi skills that depends on the number of people plugged into the web; consult the *World Web Table* to determine how large this is. He can only use this bonus to *cancel* skill penalties for extra effort (*GURPS Psionic Powers*, p. 7), and must still pay the usual 2 FP for extra effort when doing so. Obviously, this is only useful if he's a psi!

Individuals plugged into a world web can't take any physical action – they're in a trance. Disconnecting requires a Will roll; failure allows another attempt each second. No one can be plugged into more than one world-web device at a time.

It is possible to be plugged into both a gestalt and a world web, however. A world web's power can increase dramatically if the director is receiving power from a gestalt at the same time. In this way, it may be possible to gain the capacity to reach across vast interstellar distances – possibly linking with other gestalts and world webs, conceivably even forming a galactic mind!

A world web also makes an interesting plot device. For instance, world-web terminals might also function as gateways to a high-tech interactive computer network. Citizens may plug in to play games or perform mundane computer work – perhaps even enjoying these benefits without ever realizing that they're enhancing the psionic capabilities of whoever is at the center of the web.

World Web Table

The director's skill bonus depends on the number of participants, who need not be psis – although the GM may wish to count individuals with psionic Talent (any sort) as a number of people equal to the sum of their Talent levels. If the number of minds falls between two values on the table, use the lower. For example, a web linking 5,300,299 people would give its director +6, allowing him to boost his ability levels by up to 60% without a skill penalty.

<i>Participants</i>	<i>Bonus</i>
10	+1
100	+2
1,000	+3
10,000	+4
100,000	+5
1,000,000	+6
10,000,000	+7
100,000,000	+8
1 billion	+9
10 billion	+10

Add 1 to the bonus for each 10x increase in participants.

World Web Technology

World Web Terminal (TL[^]): This device is about the size of a home computer, and might even be integrated into one.

By plugging in a psiberface unit (p. 12) and donning the helmet, its user can become part of the world web, contributing his psychic power to Web Central. Buy the psiberface separately. \$2,000, 4 lbs., external power (household current). LC4.

Web Central Processor (TL[^]): The heart of any world-web network. \$100,000,000, 50,000 lbs., external power: LC2.

ANTI-PSI TECHNOLOGY

These devices restrain, disrupt, or protect against psionic powers. They're related to the Anti-Psi power (*GURPS Psionic Powers*, pp. 23-26) – and if psi-amplifiers (pp. 11-13) and psychotronic generators (pp. 13-14) for that power are available, then they fall into this category, too. In a world where psi is known to exist, acquiring anti-psi technology is likely to be the first priority of powerful non-psionic organizations!

Electro-Psionic Neutralizer (TL[^])

This device is a means of removing psionic powers from a subject – likely a prisoner. It resembles an electroconvulsive therapy (“electroshock”) machine: a laptop-sized control and power unit connected by a cable to a headphones-like set of electrodes. When attached to a psi's head and properly adjusted, a brief treatment can cripple his psi abilities.

Once the electrodes are in place, each neutralization session starts with an Electronics Operation (Psychotronics) roll by the operator; to calibrate the unit and synchronize it to the subject's brain. This takes 30 seconds. Then the neutralizer is activated, whereupon it delivers a two-second electrical pulse.

The subject gets a HT-6 roll to resist. Success means he merely loses 1 FP from the stress. Failure indicates that he suffers an immediate seizure (p. B429, including loss of 1d FP), followed by moderate pain (p. B428) in the form of a headache that lasts until he has recovered all FP lost to the seizure. In addition, all of his psionic powers are *crippled* indefinitely. A month after neutralization and every month thereafter, he may try a HT-4 roll for each power, with success meaning he regains it. This restores *one* level of any ability that comes in levels, with the remainder returning at the rate of one level/week.

Crippling a psi power or ability with an electro-psionic neutralizer normally renders it completely unusable. If the HT roll to resist crippling fails by only 1, though, the effects are partial and unpredictable – roll instead on the table under *Optional Crippling Rules* (*GURPS Psionic Powers*, p. 7).

If psionic science knows which parts of the brain are associated with what gifts, then a neutralizer can be tuned to affect only *certain* powers or abilities. The Electronics Operation (Psychotronics) roll is at -2 to calibrate it to cripple one specific

power or -4 for a particular ability. Attempting either increases calibration time to 10 minutes per attempt.

Complete suitcase-sized device: \$10,000, 10 lbs., 6×S/1,000 uses or 4×C/4,000 uses. LC3.

Neutralizer Beam (TL[^])

See *Mind Disruptors* (p. 27). As a neutralizer beam scrambles the area of the brain that controls psi powers, it qualifies as anti-psi technology.

Null-Field Generator (TL[^])

Also called a *psionic damper*, a null-field generator projects anti-psionic interference patterns that disrupt or absorb all natural uses of psi within the area covered. This works identically to the Psi Static advantage (p. B78). The null field's disruption applies both to psis inside the field attempting to use their abilities and to those outside the field trying to affect anything within it (e.g., a psi couldn't teleport into a null field from outside it). Psis who attempt to use their powers from within a null field or project their powers into it perceive it as a cold, oppressive “dead zone.”

Size varies, but these examples are typical:

Pocket Null Field (TL[^]): This device is about the size of a paperback book and often worn on a belt. It covers a two-yard radius around the user. \$2,000, 0.4 lb., 2×XS/1 week or 4×B/1 month. LC3.

Portable Null Field (TL[^]): This suitcase-sized generator projects a null field over a 10-yard radius. It may be set to affect a smaller radius, if desired. People who fear psi-eavesdropping often use portable nulls as anti-surveillance devices. \$50,000, 10 lbs., 3×S/1 week or 2×C/1 month. LC3.

Semi-Portable Null Field (TL[^]): This generator fits in a truck bed and projects a null field over a 20-yard radius. It may be set to affect a smaller radius, if desired. \$200,000, 250 lbs., VL/1 week or E/1 month. LC3.

Null-Field Tower (TL[^]): This large generator, mounted in a tower 30' high, projects a powerful null field that blankets a 100-yard radius – enough to protect a large installation or neighborhood. A series of such towers could nullify psi powers over an entire region! \$5,000,000, 1,000 lbs., external power: LC2.

Null-Neutralizer Node (TL[^])

This device creates a synchronized counter-field within a null field (above). In effect, it creates a “hole” in the null – a circle where psi works normally – by countering it with precisely matched anti-psionic signals. Use the stats for null-field generators, but *double* cost and *halve* the radius affected; e.g., a pocket null-neutralizer costs \$4,000 and has a one-yard radius.



Overload-Field Generator (TL[^])

This system generates an anti-psi interference field pulsing at a frequency that makes psi abilities in the area of effect fluctuate uncontrollably. The field is invisible and can pass through solid objects. All psi abilities within it behave exactly as if they had the Uncontrollable limitation (p. B116), triggering spontaneously in stressful situations. (*Exception:* The diagnostic overload projector is more powerful; see below.) Any ability that's *already* Uncontrollable goes out of control at once and stays that way while the psi remains in the field. These effects end immediately upon leaving the field.

Pocket Overload Field (TL[^]): While this cigarette pack-sized device *can* be worn on a belt, it's small enough to be deployed covertly; e.g., hidden in a psi's desk or (with a Pickpocket roll) slipped into his pocket without him noticing. It may be activated by a timer or remotely via a receiver. It affects a two-yard radius. \$2,000, 0.4 lb., 2×XS/1 week or 4×B/1 month. LC2.

Portable Overload Field (TL[^]): This suitcase-sized generator projects a field over a 10-yard radius (or a smaller radius, if desired). \$50,000, 10 lbs., 3×S/1 week or 2×C/1 month. LC2.

Semi-Portable Overload Field (TL[^]): This generator fits in a truck bed and projects a field over a 20-yard radius (or a smaller radius, if desired). \$200,000, 250 lbs., VL/1 week or E/1 month. LC2.

Overload-Field Tower (TL[^]): This large generator, mounted in a 30'-tall tower, emits a field that covers a 100-yard radius. \$5,000,000, 1,000 lbs., external power. LC1.

Diagnostic Overload Projector (TL[^]): This unit generates a two-yard-long overload-field *ray*. It affects any psi in its path, but only if it irradiates the psi's head for at least 10 full seconds, and only while he remains in the beam. However, the field is more powerful than the others described here: the subject must make a Will roll every 10 seconds, with failure indicating that his powers aren't merely Uncontrollable but start to manifest *regardless* of stress. If he's subject to other emotional stress at the same time, the GM may impose a Will penalty; e.g., -3 for a captive who fears for his life if he doesn't escape. The diagnostic overload projector is often installed in a clinical setting, such as over an examination table or next to a prisoner strapped to a rack. Its usual purpose is to reveal psi ability (the ray is focused on the subject in the hope that he'll be forced to reveal his powers), but it can be used more subtly (e.g., disguised as a sun lamp, hair dryer, etc., perhaps as a trap to expose a secretive psi's abilities). \$200,000, 40 lbs., external power. LC2.

Overload Grenade (TL[^]): This is a rugged, baseball-sized overload-field generator designed to be thrown like a grenade. It doesn't explode, but its integral power supply burns out after use. It creates an overload field that blankets a five-yard radius for one minute. It can't be turned off once activated, although the grenade can be destroyed (SM -8, DR 10, HP 4). Some versions *also* release tear gas or emit a loud siren howl to trigger stress! \$500, 1 lb. LC2.

Psi-Impeder (TL[^])

While this headgear is worn and undamaged, it projects a continuous psi-damping field that completely prevents the wearer from using *any* psionic abilities.

Psi-Impeder Band (TL[^]): This simple electrode headband can be buckled tightly onto a psi's head. As it's fairly easy to remove, it's most useful if the subject is also physically

restrained. One way to deal with a psi-impeder band if one's hands are restrained is to bang it against a solid object repeatedly – it has only DR 2, HP 2. However, any damage affects the *skull* as well . . . the impeder's DR doesn't protect the wearer (although he gets his usual skull DR, normally DR 2). \$1,000, 0.25 lb., T/1 week or 4×A/1 month. LC3.

Psi-Impeder Helmet (TL[^]): This is a psi-impeder integrated into an open, armored skullcap that can be strapped and locked onto the subject's head, preventing easy damage or removal. The helmet protects its circuitry (and the user's skull!) with DR 8. \$1,250, 3 lbs., T/1 week or 4×A/1 month. LC3.

Dedicated Psi-Impeder (TL[^])

Impeders may be available that block only one specific power (e.g., Telepathy). Cost is halved; other stats are unchanged.

Psycho-Optic Filter (TL[^])

Through a combination of special lenses and electronic stimulation of the optic nerve, this technology modifies the user's incoming visual perceptions to filter out anomalous psionic sensory impressions. This enables him to see through *any* psionic illusion, obscuration, or invisibility that affects normal vision.

The filter has a drawback, though: While it's on, the optic stimuli it uses subliminally leak into the user's normal perceptions, resulting in the periodic sensation that "someone is watching" out of the corner of his eye. This distorts his visual situational awareness (-2 to Perception rolls), prevents him from using the Danger Sense advantage (psionic or otherwise), and is mentally stressful (he can't regain lost FP). Switching the filter on or off takes a second.

Like many psychotronic devices, a psycho-optic filter only works if a *living person* is "in the loop." It's useless to robots or automatic cameras, unless controlled by a psionic computer (pp. 20-21).

Psycho-Optic Filter Goggles (TL[^]): These resemble bulky night-vision goggles with attached electrodes. The wearer suffers from No Peripheral Vision (p. B151) – that is, his vision is limited to a 120° arc. \$10,000, 2 lbs., 2×XS/1 week or 4×B/1 month. LC3.

Psycho-Optic Filter Mode (TL[^]): A psycho-optic filter can be integrated into standard helmet-mounted passive visual goggles or any head-up display (suit, vehicle, etc.). This adds \$10,000 to cost and 1 lb. to weight. LC3.

Psychotronic Para-Stealth (TL[^])

Certain shapes (e.g., pyramids) are believed to focus psi ability, while more-esoteric diagrams, glyphs, shapes, and materials disrupt it. Psychotronic para-stealth is a passive surface configuration that exploits this interference to afford buildings, vehicles, robots, and body armor partial invisibility to psi. Any attempt to use a psionic sense (such as Clairvoyance, Danger Sense, or Telescan) to notice or detect an object that has such an exterior *always* requires a skill roll, at a penalty that depends on the para-stealth system's quality.

A minimal or basic para-stealth surface isn't especially remarkable to normal eyes – perhaps a specialized paint job or an odd texture. Improved, radical, or total para-stealth inevitably means a weird appearance, though: bizarre angles, unusual colors, geometries that seem to be almost non-Euclidian, and/or strange patterns embossed on the object's exterior.

Para-stealth systems can't be disguised or hidden "below the skin" without disrupting their special qualities. The GM may allow a Vision roll to notice something unusual about them. *Psis* who succeed at noticing items protected by para-stealth often describe them as blurred, "wrong," or headache-inducing.

The following table lists the various grades of para-stealth. "Psi Penalty" applies to all rolls for psionic senses. "Vision Modifier" applies to *normal* Vision rolls to notice something odd!

<i>Para-Stealth</i>	<i>Psi Penalty</i>	<i>Vision Modifier</i>	<i>Cost*</i>	<i>LC</i>
Minimal	-2	-8	\$1,000	4
Basic	-4	-4	\$4,000	4
Improved	-6	0	\$20,000	3
Radical	-8	+4	\$100,000	3
Total	-10†	+8	\$500,000	2

* Adjust for SM (p. 8). For example, using a radical para-stealth to shield a small "safe room" that's SM +3 means ×10 cost, or \$1,000,000.

† Alternatively, the GM may rule that total para-stealth gives full invisibility to psi – those using psi skills don't even get to roll!

ASTRAL TECHNOLOGY

Astral psychotronics are related to the Astral Projection power (*GURPS Psionic Powers*, pp. 26-30). Psi-amplifiers (pp. 11-13) and psychotronic generators (pp. 13-14) for that power may also be available.

Astral Barrier-Field Generator (TL^)

This machine generates an astral zone around itself that's impervious to outer-plane astral travel. The barrier is invisible except to the Astral Sight ability or to someone on the outer astral plane, where it manifests as a mirror-surfaced bubble that – if gazed upon for too long – begins to reflect frightening imagery drawn from the observer's subconscious. Staring at it can lead to hallucinations and insanity! Roll a Fright Check for every half hour spent contemplating the barrier, at a cumulative -1 per continuous hour.

The only way to pass an astral barrier is to face one's fear and discover a "back door" through it via the inner astral plane, which involves Astral Crossing (*GURPS Psionic Powers*, p. 29). This often requires a lengthy trip through a psychological maze, and a confrontation with inner demons or subconscious fears. Successfully navigating this gantlet brings the traveler to the other side of the barrier, but typically takes an hour or more of subjective time.

The generator is semi-portable device that can cover up to a 50-yard radius. \$500,000, 100 lbs., 6×S/72 hrs. or 4×C/2 weeks (or external power). LC3.

Astral Duplicator (TL^)

This device somewhat resembles a bizarre hybrid of photocopier and X-ray machine. It's designed to translate articles of equipment – and even *people* – into the astral plane by creating synthetic astral bodies for them.

In operation, an object placed on the duplicator's plate is irradiated with psionic energy. A flickering aura manifests around the item, gradually intensifying over several minutes as its artificial astral form is created. The article's astral copy appears in the outer astral plane, coincident with its location on the machine. It now exists on *both* planes; e.g., an astrally

projecting psi could pick up an astral copy of a piece of gear and use it normally in the astral plane.

Forming an object's astral copy is a tricky procedure that requires 10 minutes and an Electronics Operation (Psychotronics) roll per attempt. Once duplication is successful, the copy can remain in the astral plane . . . but only while the original remains untouched on the duplicator's translation plate. A "silver cord" connects the duplicate to its material form. Removing the original item from the plate or even touching it, or turning off the machine, dissolves the astral body.

Living things can be placed on the plate and "copied," too – the device simply creates their astral projection for them. Their Move on the astral plane is IQ/2. However, such an astral body is dependent on the machine, as explained above for objects. This *isn't* a safe process! The duplicator's radiation drains 1d-2 FP (minimum 1 FP) per copying attempt, successful or not, and for every 10 minutes spent in astral form. In addition, when the synthetic astral body is dissolved, the sudden shock requires a HT-2 roll, with failure meaning unconsciousness for minutes equal to the margin, and failure by 5+ or critical failure resulting in a coma (p. B429).

This is a large, bulky device: \$2,000,000 and 400 lbs. per pound of object (minimum 0.5 lb.) it can sustain in astral form. External power: LC3.

*This time his dark armor is
the glistening wet body-monitoring
coverall of a cerebroenergetic enhancer,
the perilous mind-boosting device
outlawed by the Galactic Milieu.*

– Julian May, *Jack the Bodiless*

Kirlian Sensor Field (TL^)

This is a psychotronic security system intended to detect astral intruders. Its low-powered electrostatic field causes any astral body moving through it (in the outer astral plane) to fluoresce visibly, appearing as a silhouette surrounded by a colorful flickering aura. The light display resembles the discharge surrounding an object in a Kirlian photograph (pp. 8-9), and may even be the same phenomenon (GM's decision). To psis using Astral Sight, the field itself is visible as a sparkling mist: -1 to skill rolls to see *through* it.

The sensor field is generated by a pair of opposed plates that must be within three yards of each other. In buildings, these are often hidden in or otherwise attached to the floor and ceiling, or parallel walls. Once the system renders an astral body visible, other security devices installed can detect and react to it as they would any sighting; e.g., standard cameras can register the intruder.

A side effect of the field is that a person traversing it in the material world (rather than in the astral plane) may experience a slight buildup of static electricity. His hair might stand on end, or he may create a small sparks when he touches objects or people. The field might also disrupt sensitive electronics – particularly computers – unless they've been hardened.

A Kirlian sensor field installation in a building or a vehicle is \$180 and 9 lbs. per square yard of ground coverage; e.g., a system protecting a corridor 10 yards long and 2 yards wide would cost $\$180 \times 10 \times 2 = \$3,600$ and weigh $9 \text{ lbs.} \times 10 \times 2 = 180 \text{ lbs.}$ The control console – wired into the building or vehicle’s electronics, and used to switch the field on or off – is \$2,500, 20 lbs. External power. LC4.

Oobe Machine (TL^)

An out-of-body excursion (OOBE) machine psychotronically stimulates certain areas of the brain to induce astral travel. It typically consists of a bedlike platform to which the subject is strapped, plus attached electrodes (or a psiberface unit) and control modules. Once the user is connected to the device, the induction process takes 20 minutes as he’s gradually reduced to unconsciousness and then awakens on the astral plane.

The user must either rely on an operator or set the duration of the “trip” beforehand; he has no control over the apparatus from the astral plane. Manual operation is safest, as the technician can monitor the subject’s status, but the device *can* be preprogrammed to let someone use it unassisted. Either way, make an Electronics Operation (Psychotronics) roll. Multiple travelers can be connected to the same machine; if so, roll separately for each, applying -1 per person past the first to *all* rolls.

Success means the process works smoothly. The subject falls asleep partway through the process and then awakens in the outer astral plane, his astral body emerging from his sleeping form. All rules under *The Astral Plane (GURPS Psionic Powers*, p. 27) apply. The visitor’s Move is IQ/2. If he possesses Astral Projection abilities (other than Astral Travel) of his own – e.g., Astral Sword – then he can use these normally.

Failure means the subject doesn’t form a proper astral body. He may have *some* kind of “out-of-body experience” (e.g., feel as if he’s floating, and then look down and see himself). However, the entire incident is completely subjective, and he has no control over his movement. In effect, he’s sleeping – and possibly dreaming an uncontrolled OOBE – until the machine is switched off or a programmed trip ends.

Critical failure is more bizarre: The subject is inadvertently projected into the strange inner astral plane (*GURPS Psionic Powers*, p. 28). He’s trapped there for the duration, unable to return – and possibly experiencing the odd events and psychological terrors and revelations that are common in that realm.

An OOBE machine can keep the subject in the astral plane for as long as it’s powered up. There is some physiological stress, though: The user loses 1 FP per hour spent in the machine.

When a traveler’s time is up – or if the operator recalls him – he’s drawn back to his body by “reeling in” his silver cord. However, if the machine is turned off suddenly (or destroyed!) *before* the subject can return, he experiences a traumatic shock to his system. He must roll vs. HT-4 to avoid suffering a seizure (p. B429) for seconds equal to margin of failure. Critical failure means a heart attack (p. B429) instead.

Complete system: \$400,000, 200 lbs., external power. LC3.

DREAM TECHNOLOGY

Dream-tech is related to the Dream Control power (*GURPS Psionic Powers*, pp. 73-74) – or to Telepathy, if the GM opts not to use Dream Control. If Dream Control *is* a distinct power,

then psi-amplifiers (pp. 11-13) and psychotronic generators (pp. 13-14) may be available for it.

Dreamcorder (TL^)

A dreamcorder module is attached to a dreamscanner (p. 19) or a dreamscaper (p. 20) to record the subject’s dream experiences. Playing back the recording involves sleeping attached to a dreamscanner outfitted with such a module; no special skill roll is required to set the scanner to access it. If several people use the dreamscanner simultaneously, all experience exactly the same recorded dream. Unless dulled by familiarity, the effects of a recorded psi-induced nightmare or uncontrolled dreamscape are identical to those of a real one!

An Electronics Operation (Psychotronics) roll is needed to use this device to *record* a dream. Failure produces an unclear recording; anyone using it will experience extreme disorientation and only a vague sense of the actual dream. Critical failure means the recording contains nightmarish images, perhaps from deeper levels of the subconscious, that only superficially resemble what was in the dream; anyone who plays it back must make a Fright Check at -5.

The module has space to insert whatever removable recording media are appropriate to the TL: computer disks, flash drives, etc. The GM decides how much space recorded dreams occupy; this could be as much as 100 GB per hour, although the GM may wish to reduce this drastically in lower-tech settings (e.g., steampunk). Dreams can be erased to make room for new ones.

A dreamcorder module increases dreamscanner or dreamscaper cost by \$10,000 but adds negligible weight. LC4.

Dreamscanner (TL^)

This device makes it possible to experience another person’s dreams. The dreaming subject and all users of the scanner have to be linked to the dreamscanner via psiberface units (one per person). Everyone must sleep, but only the subject dreams. The machine shares his dreams in real time with the individuals monitoring him, who experience the dreams second-hand rather than directly and therefore avoid much of the disorientation that a normal dreamer has. The observers cannot influence dreams in progress. They automatically remember the dreams when they wake.

Use Electronics Operation (Psychotronics) to set up a dreamscanner session. The user can do this for himself or for another participant. Roll just once, regardless of the number of observers. On a failure, the spectator(s) experience only a vague sense of the subject’s dreams.

This technology may be useful in psychological therapy and research. In a setting with openly available psychotronics, dreamscanners could become an accepted tool of psychologists or psychiatrists, granting +2 to Psychology skill in any circumstance where getting inside someone’s dreams would be helpful. Intelligence organizations might use these devices for debriefings or interrogations, hoping that the subject’s subconscious mind can provide additional information. Dreamscanning may be put to recreational use, too, with people who are especially vivid dreamers making a living entertaining others – or being enslaved to do so!

Dreamscanner, without psiberface units: \$100,000, 20 lbs., 3xS/72 hrs. or 2xC/2 weeks (or external power). LC4.

Dreamscaper (TL[^])

This specialized *interactive* dreamscanner allows a participating (dreaming) operator to determine the basic elements and structure of a dream – his own or that of someone else hooked up to the machine. For instance, he might want to style a dream as an exotic adventure story. More ambitiously, a therapist monitoring a dreamer with claustrophobia could attempt to construct a dream in which he helps the sleeper, as a child, escape the traumatic cave-in that left him buried in real life. It's also possible to shape a dream that will harm those who experience it, by playing on the participants' fears or simply by crafting a horrifying nightmare. The Psychology skill may prove useful when tailoring dreams for specific purposes like this.

To shape a dream, the operator rolls against the *lower* of Dreaming or Electronics Operation (Psychotronics). Intimate familiarity with the subject matter may grant +1 or +2, while unfamiliarity can give up to -4. Success means the dream turned out the way he wanted and, if properly conceived and powerful enough, might have a temporary effect on the subject's mental state; e.g., mitigating a mental disadvantage or inspiring creativity. At the GM's option, success by 5+ or critical success may allow a *permanent* adjustment of mental disadvantages, adding, changing, or removing 1 character point, cumulative over multiple sessions. If the goal was to create a nightmare, then everyone who experiences it (other than the creator) suffers the effects of an uncontrolled dream; see below.

Failure on the dream-shaping roll means the operator lost control of the dream at some point. When this occurs, he suffers the same effects as the other dreamers! The GM should alter the dream to make it disturbing in some way – a fantasy might turn into a horror situation, or that therapist trying to treat a phobia could find himself caught up in his patient's nightmare without changing it for the better. Experiencing an uncontrolled dream (or a deliberate nightmare) *always* requires a Fright Check. In addition, if the goal was to ease existing phobias or other psychological traumas, these may grow worse instead.

On a critical failure, anything can happen! The participants might even be trapped in the dream after the machinery is shut off, linked and lost in "dream space" – perhaps until they perform certain actions, consistent with the *dream's* logic, that enable them to escape.

If two or more operators are in the same dream, and both are trying to manipulate the dream or change a created scenario, roll a Quick Contest to see whose vision wins out. On a tie, *neither* has control; elements of both dreams will be present.

A dreamscaper is a large, semi-portable device. \$500,000, 100 lbs., 6xS/72 hrs. or 4xC/2 weeks (or external power). LC3.

ERGOKINETIC AND INFORMATION TECHNOLOGY

Ergokinetic psychotronics are related to the Ergokinesis power (*GURPS Psionic Powers*, pp. 30-37). These devices are typically psi-amplifiers (pp. 11-13) or psychotronic generators (pp. 13-14) – often the product of weird-science research that draws inspiration from the work of visionary inventor Nikola Tesla, or from cyberpunk fiction, and usually dedicated to the EK Shield, Lightning, Netrunning, or Surge ability. Another technology commonly associated with Ergokinesis is the psionic computer (or robot).

P-Web Shield (TL[^])

A very simple development, the P-web is a fine mesh of platinum-group metal alloy. Worn on the head – built into a hat or a helmet to protect the webbing – it grants total immunity to the Confuse ability of Ergokinesis. It also prevents the wearer from using any Ergokinetic abilities (but affects no other type of psi). Added to any headgear: +\$1,200, +0.5 lb. LC4.

*Brain and brain –
what is brain?*

– Kara, in *Star Trek* #3.1

Psionic Computers (TL[^])

It may be possible for an artificial intelligence (AI) – computer, robot, or mind emulation – to have psi powers and abilities. The uses of such an AI are limited only by its powers and programming. It might be programmed with Telereceive to serve as a psychic probe, or with Mindwipe to function as a brainwashing machine. An AI that possesses Netrunning could take over other computers, while one with Astral Projection would be able to abandon hardware altogether! And *several* psionic computers in a network would constitute the cybernetic equivalent of a gestalt, with everything that implies for their capabilities . . .

Origins of Psionic AI

The first question is whether psionic computers are even possible! The answer depends on the origin of psi potential in the setting, and on psi's relationship to life and machines. For a detailed discussion of why psi might emerge in *humans*, see pp. 8-10 of *GURPS Psionic Campaigns*. Psi in computers can follow similar paths, as detailed below. Psi capabilities could be built-in, spontaneous, or the result of training or other intervention.

Emergent Psionic AI: If psi is a natural latent ability of nearly all sapient minds, then psi abilities may emerge spontaneously in intelligent, self-aware machines much as they manifest in humans and other sapient beings. If AIs are fast-thinking super-intelligences with greater self-awareness than mere human minds, then they might even find it *easier* to develop psi! Artificial-intelligence software with the same racial IQ and degree of self-awareness as a human is normally a TL9+, Complexity 8 program. At TL9, it costs \$30,000. At any TL, it's LC3. Super-intelligent AI costs significantly more. For details, see *GURPS Ultra-Tech*, pp. 25-28.

Emergence via Altered Consciousness or Adrenaline Shock: A consciousness-raising experience or sudden adrenaline shock sometimes triggers psionic awakening in humans. Machines other than cyborgs or similar machine-biotech hybrids lack these chemical pathways to emergence, but it's easy to imagine electronic equivalents: sudden electrical surges, exotic computer viruses, mind-altering programs, invasive Cyberpsi intrusion that triggers the computer's latent defenses, etc. If some sort of brain-machine neural-interface technology exists, then experiencing rapport with a biological consciousness may itself constitute a shock sufficient to awaken psi!

Alternatively, psi might develop if the AI is linked to a living operator who either has psi powers or suffers some sort of consciousness-altering event, trauma, or adrenaline shock while neural-interfaced.

Becoming Sapient: The ultimate shock is birth! A common AI trope is that a powerful computer or network of computers becomes sapient spontaneously, customarily without humans realizing it. Perhaps the awakening of sapience goes hand-in-hand with gaining psi potential. Shortly after awakening, many fictional AIs seem to evolve super-hacking capabilities that enable them to take over other machines . . . explainable as newly emergent Ergokinesis that manifests as Cyberpsi abilities!

Guru to the Machines: As with humans, it's possible that psi merely requires proper training. A psionic teacher for an AI might need Computer Programming (AI) as well as Teaching (see p. B184). Unless the computer has a robot body, the stereotype of visiting the wise old psionic master in the wilderness is unlikely to fit – but esoteric virtual-reality equivalents are quite possible! And once a computer gains psi abilities, it may find it easy to tutor others.

Psychotronic Neural Networks: Psi may be a fundamental property of how a living brain is organized (perhaps with a genetic component). If that's true, then no ordinary computer will ever have psi powers, even if it is a sapient AI. But if computers that work like human minds can be built, then it should be possible to study the brains of psis and discover how to design an artificial neural network that's "wired" in much the same way. Such a "psychotronic neural network" would most likely require a minimum computer Complexity; Complexity 8 is typical. It would doubtless greatly increase hardware cost, too – perhaps multiplying price by $5 \times N$, where N is the number of distinct psionic powers the computer possesses, after which the GM may wish to add a further \$10,000 per character point worth of psi Talents or abilities with which the computer is designed.

Intervention: Adding special hardware upgrades, copying software from an existing psionic computer, or even infection with a computer virus could trigger the emergence of powers in a machine that wasn't designed from the outset to be psionic. As with human psis, *alien* meddling is a possibility. Direct alien contact isn't necessary – a computer connected to a radio telescope (or studying data from one) might decode an extraterrestrial message that triggers the awakening of psionic powers and/or sapience! Alternatively, psionics may "simply" require adding suitably exotic components (e.g., psychotronic processor chips) to the computer, at costs comparable to those for psychotronic neural networks.

Mind Emulation of Living Psis: "Uploading" is the technological process of precisely scanning and copying a biological mind into software. This creates a computer program or "mind emulation" that's mentally equivalent to the original. See *Ultra-Tech*, pp. 219-221 for equipment and procedures; this typically requires TL10+ brainscanning and software capabilities. If the brain structure of someone with psi powers is accurately simulated through a successful upload, then the emulation may possess the same powers.

Life Force and Biocomputers: Psi may be an exotic phenomenon directly associated with the aura or "life force" generated by a living mind. If so, then uploaded individuals running on normal computers will lose any psi powers, and ordinary machines can't be psis. Various "biotronic" technologies could get around this: using living chips (*GURPS Bio-Tech*, p. 109) in electronic computers, or creating

biological vatbrain or sponge computers (*Bio-Tech*, pp. 28-29). Vatbrain systems are available at TL9+, and have twice the weight, cost, and power requirement of regular computer hardware at the same TL. In addition to any psi potential, treat a vatbrain as one Complexity level better when running any AI software.

Quantum Computers: Psi may be possible with a nonliving computer, but only if its design transcends the limits of a conventional Turing machine. If psi – and perhaps even thought itself – involves quantum-mechanical effects, then psionic computers may have to be able to exploit quantum processes to perform operations. Quantum systems require specialized architecture and shielding (see *Ultra-Tech*, p. 23) that result in 10x cost and double weight.

Powers and Abilities of Psionic AI

A psionic AI may acquire any psionic trait described in *GURPS Psionic Powers*. Just as Telepathy tends to be among the most common powers in humans, Cyberpsi abilities may be particularly widespread in computers. It's also possible that an AI would acquire capabilities closely linked to the jobs it usually performs; e.g., a psionic computer that runs a medical lab might develop Psychic Healing.

Psionic computers use psi powers much as human psis do. However, machines have the Machine meta-trait (p. B263), and so lack FP. This is a complication because *Psionic Powers* relies extensively on FP as a balancing mechanism. The easiest way to resolve this is to assume that any AI that gains psi powers may buy an Energy Reserve (below).

Psi Skills as Programs

A computer that gains psi abilities still needs psionic skills to *use* them properly. An AI can learn skills just like anybody else: by studying, being taught, etc. Learned skills become part of the same general software that represents the AI's mind, personality, and memory; they aren't separate programs.

Energy Reserve (Psi)

3 points/level

Each level of Energy Reserve (Psi) is the equivalent of 1 FP that can only power psi abilities. It can't be depleted by Fatigue Attacks, missed sleep, etc., or used for ordinary extra effort. Exhausting it brings no ill effects. It recharges at one point every 10 minutes – independent of rest – provided that the computer mind is powered up and operational.

A computer's Energy Reserve might be something as out-and-out arcane as a "psychotronic energy battery." For a biotronic AI such as a vatbrain, it may reflect biological limits (like actual FP). More mundanely, it could indicate a mechanical constraint – perhaps using psi requires over-clocking, or psychotronic processors run hot, and Energy Reserve depletion represents heat buildup that's shed very slowly. Or maybe using psi fills the computer's memory with temporary operating files, processes, logic loops, and similar "garbage" that takes time to purge, and Energy Reserve expenditures measure this clutter.

For more on Energy Reserve, see *GURPS Powers*, p. 119.

However, it may also be possible to *program* machines with skills. If so, then there's no reason to exclude psi skills. Psi skill programs are likely to be *exceptionally* complex. Suggested Complexity is 7 for 1 character point in the skill, 8 for 2 points, 9 for 4 points, and so on. For software costs by TL and Complexity level, see *GURPS High-Tech*, p. 22 and *Ultra-Tech*, p. 25.

Psychotronic Bodyshield (TL^)

This device, described under *Psychokinetic Technology* (p. 25), uses ergokinetic tech as well.

EXTRASENSORY PERCEPTION TECHNOLOGY

These psychotronics are related to the ESP power (*GURPS Psionic Powers*, pp. 37-43). In addition, ESP psi-amplifiers (pp. 11-13) and psychotronic generators (pp. 13-14) may be available.

Deathscanner (TL^)

A deathscanner could be considered a form of trauma-enhanced Retrocognition or psycho-spiritualism. It consists of two psiberface units (p. 12) connected through a psychotronic scanning module. The operator plugs into one psiberface; the other is for a *corpse*. The scanner enables the user to examine the dead person's memories in the hour or so prior to death! It picks up both physical sensory impressions and what the subject was actually thinking.

The device can only "read" a relatively fresh corpse – the subject must have died within the past 72 hours. As well, the brain must be more-or-less intact. Scanning is *impossible* if the brain suffers total destruction (-10×HP), the victim was exposed to 5,000+ rads, or death resulted from a failed HT roll brought about by eye or skull injury.

Each attempt to reach the subject and sort through his memories requires 10 minutes and a roll against Electronics Operation (Psychotronics). The operator is at -1 per hour that the corpse has been dead. Success gives a general impression of the circumstances surrounding the person's death: what was going on in the last few minutes, what the victim saw and heard, etc. Further attempts may be made to learn more details.

Failure by 1-4 means the user picks up only a confusing mishmash of pain and fear, perhaps a constant repetition of frightening images from the last few seconds before death. This *might* be useful if the cause of death is totally unknown, but it provides no clear information. Repeated attempts after a failure suffer a cumulative -1 to skill.

Failure by 5+ or critical failure means the user has been trapped in the dark whirlpool of the victim's death experience! Make a Fright Check at -5, with all usual effects. Any further attempts by that operator to probe the corpse are at -2.

Portable Deathscanner (TL^): This is a semi-portable scanning helmet and terminal, capable of fitting in the trunk of a car. It provides no skill bonus. \$200,000, 40 lbs., M/6 hrs. or 4×C/1 day. LC3.

Laboratory Deathscanner (TL^): This is a large scanning device, similar in size to a hospital MRI system. It provides +2 to skill when using the deathscanner. Instead of or as well as

displaying images via psiberface, it can translate them into digital media and project them as a movie. \$1,000,000, 1,000 lbs., external power. LC3.

Event Recorder (TL^): This TL9+ addition to the deathscanner allows the creation of a senseie (*GURPS Ultra-Tech*, pp. 57-58) from the subject's dying memories. This only works if the brain has been dead for less than a day. The unit records backward from the moment of death until the scan quality deteriorates beyond recovery; total length rarely exceeds a few minutes. The recording could be used evidence at a trial, or even serve as a form of entertainment with the depraved! Added to deathscanner: +\$3,000. LC3.

Psi Scanner (TL^)

Also called a *psychometer*, this is a handheld sensor the size of a paperback book. It allows an Electronics Operation (Psychotronics) roll to detect the active use of psionic powers. It cannot determine whether someone is a psi unless he's *currently* using psi abilities.

A psi scanner can be set to sweep a 60° arc at 1,000 yards or to perform a 360° degree scan at 200 yards. Each use requires 10 seconds of scanning to gather data. A failed skill roll means the user didn't focus the gadget properly – it detects nothing, and repeated attempts suffer a cumulative -2 to skill until the operator takes 30 minutes to recalibrate the device.

When used to detect the general use of psi abilities, there's no special skill modifier. Success means the user detects all such psi phenomena within range. If set to search for a specific power (e.g., Telepathy and Telepathy-related psychotronics), the skill roll is at -2. After achieving a general fix, the operator can try to learn more specific information – the kind of psi ability being used, approximately how powerful it is, etc. – at 10% of range. This requires 10 seconds of additional scanning and another skill roll, this one at -2. If there are multiple psi sources, the user can only focus on one of them at a time.

Sleek, high-tech unit (increase weight for steampunk versions!): \$10,000, 2 lbs., 2×XS/6 hrs. or 4×B/1 day. LC4.

Psitector Band (TL^)

This is an ESP sensor headband. When worn and activated, it performs a rudimentary neural scan to determine whether the subject possesses psionic abilities (*not* mere Talent alone). If he does, a light flashes. It doesn't reveal anything else.

A psitector band is relatively simple to use: After being placed on the subject's head, it takes five seconds to run an automated scan. It won't work within a null field, or if the subject is wearing a psi-impeder (p. 17) or under the influence of drugs that completely suppress psi power.

Psitectors offer an easy way for security agencies to determine whether someone is psionic. However, a clever psi who wishes to remain anonymous can fool one. Since the psi cannot have his powers suppressed during the scan, the usual method is to disable the device (using Electrokinetic abilities to burn it out, Telekinesis to pull out a wire, etc.) or to deceive the observer (e.g., via a suggestion or an illusion generated with Telepathy). Such tricks are more difficult to pull off if a psi scanner (above) is operating at the same time to detect active uses of psi powers!

Adjustable headband (fits anyone from SM -2 to SM +1): \$1,000, 1 lb., T/1 week or 4×A/1 month. LC4.

PROBABILITY ALTERATION TECHNOLOGY

Probability Alteration psychotronics are related to the eponymous psi power (*GURPS Psionic Powers*, pp. 43-46). Such hardware consists mainly of psi-amplifiers (pp. 11-13) and psychotronic generators (pp. 13-14), but more specialized devices may exist as well.

Karmic Collector (TL^)

This diabolical psychotronic machine strip-mines karmic potential from one subject and transfers it to another, charging him with stolen "good luck"! *Both* individuals have to be strapped down on the bed-sized device and connected to it via a psiberface system. Then the victim must roll vs. Will-4 each hour.

If the victim has Luck (any kind), each failed roll means he loses a level: Super Luck downgrades to Ridiculous Luck; Ridiculous Luck, to Extraordinary Luck; Extraordinary Luck, to Luck; and Luck, to no Luck at all. If instead he has Serendipity, this is likewise stripped one level at a time. For someone with Luck *and* Serendipity, determine each loss randomly. Once all such traits are gone, or if the subject had none to begin with, failure bestows the Unluckiness disadvantage . . . and if he has already has Unluckiness (from the machine or naturally), he acquires Cursed. Someone with Cursed cannot be drained further. In all cases, psionic Probability Alteration abilities aren't affected – the collector can only strip "mundane" advantages!

Once the victim is out of the machine, acquired Unluckiness or Cursed fade – and lost advantages return – at the rate of one step per day. Thus, if he was drained from Luck, to no luck-related traits, through Unluckiness, and down to Cursed, he'll recover in three days.

For each step of luck the karmic collector drains, the machine itself acquires a level of Serendipity. It can then transfer these advantage levels to a recipient who's attached to it, provided that he has neither Unluckiness nor Cursed. A normal person can be assigned at most three levels, while someone with Probability Alteration Talent can receive up to 3 + Talent levels. This benefit wears off at the rate of one level every six hours – those who steal karma must use it or lose it!

Complete system: \$2,000,000, 400 lbs., external power. LC2.

PSYCHIC HEALING, VAMPIRIC, AND BIOKINETIC DEVICES

These psychotronic devices detect, emulate, and manipulate life-energy auras and bio-energy fields. They're related to

several powers: Psychic Healing (*GURPS Psionic Powers*, pp. 46-49), Psychic Vampirism (*Psionic Powers*, pp. 49-52), and Biokinesis (*Psionic Powers*, pp. 72-73). Psi-amplifiers (pp. 11-13) and psychotronic generators (pp. 13-14) for these powers may also be available.

Aura Enhancer (TL^)

This is a diagnostic table with several aura-scanning elements installed on a platform packed with psychotronic circuitry. The subject is placed

so that his body lies inside the scanners. When the device is turned on, he's slowly surrounded by a brilliant glow: his aura, strengthened so dramatically that anyone who's looking at it (even a non-psi!) can see it clearly from up to five yards away. It takes one minute for the aura to become fully visible. Its brightness shows the patient's health, while injuries and disease manifest as discolorations.

Each minute of careful observation allows an observer to attempt a roll against Aura Reading, Diagnosis, Electronics Operation (Psychotronics), or Expert Skill (Psionics) – all at +3. Success reveals how many HP and FP the patient has remaining, if he has any diseases or infections, and general

information about his emotional state (happy, angry, etc.). \$50,000, 100 lbs., external power. LC4.

Biointensifier (TL^)

This medical device resembles an oversized aura enhancer (above) integrated into a hospital bed. It helps a patient channel his *own* life force to assist with his recuperation or with Psychic Healing. It works for anyone – conscious or unconscious – provided that his mind is intact.

On activating the machine, a soft prismatic glow develops around injured areas of the subject's body (his *whole* body, in the case of disease). The field enables a resting patient to heal as though he had Very Rapid Healing (p. B79). Moreover, he may add his Will/3 (rounded down) to HT rolls to resist metabolic problems such as poison, disease, and radiation – and to HT rolls to recover lost HP, if better than the +5 for Very Rapid Healing. This bonus also applies to Psychic Healing skill rolls made to treat him. These benefits apply only while the subject is exposed to the biointensifier.

Someone who sleeps in a biointensifier field every night will feel refreshed. The GM may allow him to add the Will-based bonus to rolls to *avoid* diseases and other routine ailments. At the GM's option, this may even affect aging!



The secret of the generators is their form. That's the key thing Pavlita gleaned from his studies. It's the shape that lets you accumulate this energy and turn it to whatever purposes you want.

– Shelia Ostrander and Lynn Schroeder, *Psychic Discoveries*

There's a lurking danger, however: If the subject *wants to die*, the biointensifier also enhances this, turning the Will-based bonus into a *penalty* on all of the rolls above. Thus, the machine can impede the recovery of people with no will to live; e.g., someone who earnestly tried to commit suicide but failed. It's advisable to use telepathic abilities to evaluate the patient's mental state before using this device! A biointensifier has no effect, positive or negative, on an individual who's in a completely vegetative state.

The basic unit is \$200,000, 400 lbs., external power. It may incorporate an aura enhancer for only \$5,000 extra (no additional weight or power requirement). LC4.

Life-Field Motion Detector (TL^)

The life-field motion detector (LMFD) is a low-resolution, area-effect psychospectral imaging system (p. 24). It detects the auras of all *moving* life forms larger than insects within its range, displaying their approximate size and position on a screen. It provides no details, but one can estimate general size (SM) from blip diameter and brightness: a human produces a larger dot than a mouse, while a crowd shows up as a single pulsating blob of light. Obviously, it can't sense nonliving things: robots, zombies, etc.

The LFMD has a 30-yard range. Life forms of similar size display as a single entity if standing within 1/6 of their longest dimension of one other. For instance, two humans within 1' of each other would show up as one big blip.

An LFMD is a passive sensor and doesn't radiate any psionic emanations. Mind Shield has no effect on it, as it detects life auras rather than thoughts, but beings inside a null field are undetectable. \$4,000, 1 lb., 2×XS/6 hrs. or 4×B/1 day. LC4.

Life-Transference Machine (TL^)

This bed-sized psychotronic device transfers bio-energy between two living people, draining one to heal or invigorate the other. Both individuals must be strapped down on the platform and connected to the machine via a psiberface system. Make an Electronics Operation (Psychotronics) roll to set things up properly; each attempt takes one minute. Critical failure may mean that donor and recipient are reversed – or that *both* parties are drained!

Once the machine is set up, it sucks life force from the donor at the rate of 1d+1 HP per minute. For every full 2 HP drained, 1 HP is transferred to the recipient, provided that he isn't already at maximum HP. At full HP, each HP transferred to him restores 1 FP instead. If he's at full HP *and* FP, he gains no benefit.

The draining process isn't painful but the donor *will* feel steadily weaker and sicker, exhibiting signs of shock: clammy

skin, weak and rapid pulse, lethargy, and so on. No obvious *external* injuries appear as he loses HP, but the victim gradually suffers cellular damage and internal hemorrhage (which may be visible as bleeding from the nose, etc.). The machine's effect on an injured or ill recipient is far more dramatic: preternaturally accelerated healing.

A life-transference machine can't affect nonliving entities (such as machines) or the dead, with one exception: It *can* transfer life force to someone who has recently died of injuries (HP loss), provided that he has been dead for less than three minutes *and* isn't at or below -5×HP. If the machine raises his HP above -HP, then make a HT roll for him. Success means he comes back to life!

Complete system: \$2,000,000, 200 lbs., external power. LC2.

Psychospectral Imaging System (TL^)

A psychospectral imaging system is an electronic camera capable of detecting the psionic auras surrounding living things, superimposing them over the observer's visual field. Resolution is lower than that of the Aura Reading psi ability, so diagnosis isn't possible (although obviously, someone who's dead won't possess an aura!). However, *living* things – plants, animals, people, and other life forms larger than microorganisms – are visible even in total darkness, through smoke and fog, and regardless of electronic countermeasures.

The system can't detect nonliving targets, see through solid objects (living or not), or sense life completely enclosed in nonliving material (e.g., a car's occupants). However, a personal aura extends a short distance from the body – about 0.25" for a human – so it's possible to detect that of someone clad in ordinary clothing or wearing body armor less bulky than a heavy battlesuit. Only a suit with an SM greater than its wearer's will mask his aura.

Psychospectral Goggles or Visor (TL^): Wearable, hands-free aura-imaging optics with a wide field of view. These can be added to a suit helmet as an integral feature or bought as separate strap-on goggles. Either limits the user's vision to a 120° arc; he suffers from No Peripheral Vision (p. B151). \$2,000, 0.8 lb., XS/6 hrs. or 2×B/1 day. LC4.

Psychospectral Camera (TL^): Aura-imaging electronic video camera for surveillance or recording. No display is included; operation requires a separate terminal, such as a computer system. It limits the user's vision to a 60° arc (treat as Tunnel Vision, p. B151) but incorporates a 4× zoom lens (Telescopic Vision 2). It's often installed in a rotating mount, tripod, etc., and may be mounted on a vehicle. It can also function as a standard digital camera. \$2,000, 2 lbs., 2×XS/6 hrs. or 4×B/1 day. LC4.

Thanatos-Field Generator (TL^)

Also called a *vampire field* or a *death field*, a Thanatos field kills by psionic means, draining the life force from living things. As it harms people without damaging electronics or machinery, it's a very useful – if somewhat slow-acting – weapon system. It has no effect on life forms with IQ 0: bacteria, plants, etc.

A Thanatos field is unaffected by solid objects, armor, or force fields. Anyone caught in it must make a Will-4 roll each second, with failure reducing HT by one *and* costing 1 FP. Sufficient FP drain leads to HP loss (p. B426) . . . which the HT reduction makes deadly! Victims cannot heal FP or HP naturally while inside the field. Outside it, they recover normally, and HT returns at the rate of one point every 10 minutes. While the field is invisible, people within it experience a sense of fatigue and malaise – although they usually blame this on general tiredness.

The field generator is a heavy, backpack-sized device. It has a spherical area of effect, the radius of which can be set anywhere between 10 and 100 yards (its maximum); changing the radius takes two seconds. \$200,000, 40 lbs., M/6 hrs. or 4xC/1 day. LC1.

Selective Thanatos-Field Generator (TL^)

This variant gives the operator the option to tune the field to affect only nonsapient (IQ 1-5) or sapient (IQ 6+) victims. It can also be adjusted to affect only psis or non-psis. *Double* the price of a regular, non-selective field generator. LC2.

Exterminator Field Generator (TL^)

This field generator has safety interlocks that limit it to function only vs. *nonsapient* (IQ 1-5) life forms. Roll against Electronics Repair (Psychotronics) at -4 to remove this limitation, turning it into a regular, non-selective field. Any failure destroys the device. LC3.

PSYCHOKINETIC TECHNOLOGY

Psychokinetic devices work on similar principles to the Psychokinesis (PK) power (*GURPS Psionic Powers*, pp. 53-57). Psi-amplifiers (pp. 11-13) and psychotronic generators (pp. 13-14) may also be available for PK.

PK Battery (TL^)

A PK battery is similar to a mundane battery or power cell (see *Batteries and Power Cells Table*, p. 8), except that it can be recharged using psychokinetic energy. This calls for the TK Grab ability. A full charge requires the psi to concentrate constantly for 3,600 seconds × (battery weight/telekinetic Basic Lift). A PK battery costs twice as much as a normal battery or power cell of the same size. LC4.

PK-Sensitive Materials (TL^)

Certain exotic compounds are unusually responsive to PK and to Telekinesis (TK) in particular. These “telekinesis-sensitive” (TKS) molecules have several applications.

Kinetic Bubble (TL^)

This is a spherical container made of plastic that's impregnated with TKS molecules. Materials and shape combine to resonate with and amplify TK, making the bubble and its contents easier to lift telekinetically. Treat the container and anything

placed within it as having 1/10 of their normal mass for the sole purpose of determining how much a psi can lift with the TK Grab ability (or optional Telekinetic Control ability). *Actual* weight and mass are unchanged.

A typical kinetic bubble is SM 0 and capable of holding up to 1 cubic yard: \$20,000, 0.25 lb. Larger bubbles are available; apply *Adjusting for SM* (p. 8) to cost and weight. LC4.

TKS Structure (TL^)

Almost any structure (even a house, though that would cost a lot!) can be made from a metal, concrete, or plastic composite that's impregnated with TKS molecules. Divide its effective mass by 10 for sole the purpose of lifting or moving it with TK. Cost is \$100 per pound of object weight. LC4.

Psiberweave (TL^)

Psiberweave is the generic name for any synthetic fabric – like nylon or Kevlar, or an ultra-tech equivalent – impregnated with psi-interactive biomolecules that are sensitive to psychokinetic impulses. Anyone who has the TK Grab ability (or optional Telekinetic Control ability) can “tweak” the molecules of his psiberweave garment to make instant changes to color and texture, up to and including turning it transparent. Within limits, he can even adjust cut. Texture changes and complex patterns (e.g., Stewart Plaid) require a skill roll; failure means unintended results that require repeated attempts to fix, at the usual penalties. Finally, treat the article as having 1/10 of its actual weight for the sole purpose of lifting or moving it with TK.

Any high-tech or ultra-tech clothing or flexible body armor can be psiberweave at 4× its usual cost. Imaginative users may come up with other applications for psiberweave; e.g., vehicle or suit camouflage, or a shape-changing device. In all cases, LC is the same as that of the underlying item.

Psychokinetic Bridge (TL^)

This technology sets up a persistent, belief-enhanced psychokinetic resonance field in which *anyone* may try to move as though he had Walk on Air (p. B97), provided that he concentrates on believing that he can. Each Concentrate maneuver allows its usual step (for effective Move 1). Broken concentration means an immediate fall! Per three cubic yards: \$10,000. LC4.

Psychotronic Bodyshield (TL^)

This psionic augmentation device resembles a one-piece body stocking made of silver mesh, with a belt-mounted power pack. It can be worn under armor or integrated into a full suit. It only benefits a psi who has the PK Shield and/or EK Shield ability, attracting and holding his force field more tightly around his body, thereby doubling his ability's DR against relevant attacks: energy for EK Shield or physical for PK Shield. The higher-powered field is visible as a faint shimmering in the air around the user. \$10,000, 2 lbs., 2×XS/1 minute or 4×B/4 minutes. LC3.

TELEPATHIC TECHNOLOGY

Telepathic psychotronics are related to the Telepathy power (*GURPS Psionic Powers*, pp. 57-67), and may also include psi-amplifiers (pp. 11-13) and psychotronic generators (pp. 13-14) for that power.

Empathic Mirror (TL[^])

This headgear amplifies all physical sensations felt by the wearer and broadcasts them around him. While an empathic mirror has its peacetime uses (primarily in the bedroom; used appropriately, it can grant +2 to Erotic Art), it's intended mainly as a *defensive* weapon: Everyone within a five-yard radius of the user suffers the same shock, stun, and knockdown effects as he does, as well as any irritating or incapacitating conditions that afflict him! People affected by the device make their own recovery rolls, using their scores (most often HT or Will) rather than the wearer's. For example, if the user takes 4 HP of injury from a bullet, everybody within five yards is at -4 due to his pain – and if he's physically stunned, everyone within that radius is stunned and must make HT rolls to recover.

An empathic mirror affects friend and foe alike. Thus, it's most practical in combat where the wearer faces several nearby opponents alone. Any form of the Mind Shield advantage (e.g., the Psionic Shield ability or equivalent psychotronic device) blocks its effects completely – as does another empathic mirror.

Available as a lightweight headband or built into a helmet (add cost and weight to that of the armor): \$20,000, 1 lb., 3×XS/6 hrs. or 6×B/1 day. LC3.

*I – I'm afraid, Excellency!
We're tampering with
the mightiest instrument
in the universe:
a human brain!*

*– Keith Laumer,
“Test to Destruction”*

Fear Extractor (TL[^])

A true terror weapon, this semi-portable device resembles a small radar dish. It is most often installed in a vehicle turret or mounted on a tripod; use Gunner (Beams) to aim it. The fear extractor projects a telepathic impulse over a five-yard radius up to 500 yards away. This releases its targets' subconscious minds, causing them to experience nightmarish visions from their deepest fears!

Anyone in the affected area must make a Fright Check at -4. If the subject has Mind Shield and/or Resistant to Psionics, add

those bonuses to Will for this roll. Repeated attacks by a fear projector are less effective: a second hit in a 24-hour period gives +3 to resist, a third one gives +6, and so on. Released terrors aren't always easily repressed, and may manifest through nightmares afterward. For 1d nights after the attack, victims must make an additional Fright Check at -3 each time they sleep.

Other stats are shown in the *Fear Extractor Table* (below).

Memory Crystal (TL[^])

This is a crystal – most often a sphere or a cube 1/16" to 1/4" across – within which a psi with the Telesend ability can permanently imprint a single mental image, along with all associated emotional resonances. For instance, he could impress it with the telepathic image of his lover, after which anybody who touched it, psionic or not, would experience what he felt for his love; a pair of lovers might exchange memory crystals. If the memory is particularly strong and violent (e.g., an angry memory of a friend's murder), those who touch the crystal must resist the psi's Telesend skill with Will or be mentally stunned!

A typical memory crystal costs \$2,000 and has negligible weight. Larger objects (for instance, a memorial or a gravestone) might also be made of memory crystal. Regardless of size, there's no power requirement. LC4.

Mental Translator (TL[^])

This device beams telepathic signals directly into another person's brain. In effect, this is mechanical telepathy. A mental translator requires a psiberface unit to function, and the user can only *transmit*. No special hardware is needed on the receiving end, however. Any sentient (IQ 1+) living brain, including that of a total cyborg, can receive the transmissions; entities with IQ 0 (like most plants and microbes), and purely digital intelligences, cannot.

The signal is directional, much like that of a laser communicator, but not blocked by material objects. It must be focused on a particular target in line of sight, or at a known location within range. Transmissions can propagate beyond the listed "effective" range, but these are more difficult to pick up. To extend range, the operator may roll against Electronics Operation (Communications or Psychotronics), at -1 per +10% to range, to a maximum extension of +100%.

Humans and similar races perceive mental-translator signals as "voices in the head," at the volume of a loud whisper. Other species perceive them as analogs to their primary communication sense (sound, smell, or whatever). Regardless, the message is "universal" and transcends language – any IQ 1+ being can understand it, although nonsapient ones (IQ 1-5) are limited to simple concepts.

Tiny: 20-yard range. \$20,000, 0.06 lb., T/2 hrs. or 4×A/8 hrs. LC4.

Small: 200-yard range. \$100,000, 0.6 lb., 2×XS/6 hrs. or 4×B/1 day. LC4.

Fear Extractor Table

GUNNER (BEAMS) (DX-4, or other Gunner-4)

TL	Weapon	Damage	Acc	Range	Weight	RoF	Shots	ST	Bulk	Rcl	Cost	LC
[^]	Fear Extractor	spec. (5 yd.)	18	500	60	1	*	15M†	-8	1	\$80,000	2

* Shots 12(5) on one M battery or Shots 60(5) on four C power cells.

Medium: 1-mile range. \$400,000, 6 lbs., M/6 hrs. or 4xC/1 day. LC3.

Large: 10-mile range. \$2,000,000, 60 lbs., 2xL/6 hrs. or 4xD/1 day (or external power). LC3.

Mind Disruptors (TL[^])

These beam weapons project harmful or coercive telepathic impulses that affect the victim's *mind*. They're highly effective against opponents who lack psionic shielding, but won't affect targets with IQ 0 or the Digital Mind advantage. Anyone hit must make a Will roll to resist.

Modifiers: -2 to -8 for weapon's power (see below); +3 beyond 1/2D; Mind Shield, if any. Ordinary DR has *no* effect!

The effects of failure depend on the type of mind disruptor:

Death Beam: This beam carries a hypnotic compulsion to *die*. A victim who fails to resist suffers choking (p. B428) for seconds equal to twice his margin of failure. There's nothing lodged in his throat, but he still loses 1 FP per second unless he doesn't need to breathe. Failure by 5+ means a heart attack (p. B429).

Hypnagogic Beam: This is the "standard" disruptor, also called a *dazer* or an *eraser*. It fires a beam of telepathic noise. If the target fails to resist, he suffers a daze (p. B428) for minutes equal to his margin of failure. Failure by 5+ means unconsciousness (p. B429) for the same period, followed by daze for an equal length of time after the victim recovers. This weapon also disrupts short-term memory: the subject loses all recollection of the two seconds immediately prior to being shot. This can be useful for covert operations!

Insanity Beam: This beam unleashes bizarre and terrifying visions from the victim's subconscious mind. Failure to resist leaves him hallucinating (p. B429) for minutes equal to his margin of failure. Failure by 5+ means he falls into a coma (p. B429) in which he's tormented by horrific dreams. If the subject survives the coma, he gains the Nightmares (12) disadvantage for 1d weeks afterward.

Neutralizer Beam: This anti-psionic beam scrambles the areas of the brain that control psi powers. A victim who fails to resist loses all of his psionic powers for minutes equal to his margin of failure.

Mind Disruptor Weapons

Mind disruptors come in five sizes. Choose one of these and then pick one of the four beam types above (beam type doesn't affect weapon stats). For a tunable version that can be set to fire several types of beams, add 50% to cost per setting after the first. It takes a Ready maneuver to change settings.

Holdout Mind Disruptor (TL[^]): An easily concealed pocket-sized weapon without a handgrip. It can be disguised as another handheld device (cell phone, radio, etc.). It's powered by a B cell or an XS battery.

Mind Disruptor Pistol (TL[^]): A handgun-sized weapon powered by a C cell or two S batteries.

Mind Disruptor Rifle (TL[^]): An assault weapon powered by two C cells or four S batteries.

Heavy Mind Disruptor (TL[^]): A powerful shoulder-fired weapon connected to a backpack housing a D cell or an L battery.

Tactical Mind Disruptor (TL[^]): A semi-portable weapon with a directional antenna, usually vehicle- or tripod-mounted, powered by five D cells or five L batteries.

Statistics are shown in the *Mind Disruptor Table* (above).

Mind-Transfer Machine (TL[^])

This psychotronic device enables two people to switch minds. The new inhabitant of each body has all of his old memories and none of the former occupant's; for guidelines, see *Mind Transfer* (p. B296). The individuals involved need not be members of the same species, but both must have IQ 2+.

The machine's operator must roll against Electronics Operation (Psychotronics) for the transfer. Neither party can resist! Success means the process takes five minutes; this includes time to adjust to the new body and become functional. Critical success permits rapid adjustment, halving this time; failure indicates disorientation, doubling it. Critical failure burns out the machine and causes exotic effects (e.g., *both* minds in *both* bodies, resulting in two cases of Split Personality) . . . or simply brain damage, ranging from Epilepsy or Neurological Disorder to both minds being reduced to IQ 1 vegetables (best inflicted upon NPCs). All effects are permanent, and while the machine can restore a mind to its former body, critical failure results may be irreversible.

Mind Disruptor Table

TL	Weapon	Damage	Acc	Range	Weight	RoF	Shots*	ST	Bulk	Rcl	Cost	LC
BEAM WEAPONS (PROJECTOR) (DX-4, or other Beam Weapons-4)												
^	Heavy Mind Disruptor	Will-6 aff	12	90/270	20	1	20(3)/83(3)	10†	-5	1	\$100,000	2
^	Holdout Mind Disruptor	Will-2 aff	3	10/30	0.3	1	5(3)/22(3)	3	-1	1	\$1,200	2
^	Mind Disruptor Pistol	Will-3 aff	6	23/70	1.8	1	16(3)/66(3)	4	-2	1	\$6,500	2
^	Mind Disruptor Rifle	Will-4 aff	12	40/120	10	1	14(3)/56(3)	5†	-3	1	\$20,000	2
GUNNER (BEAMS) (DX-4, or other Gunner-4)												
^	Tactical Mind Disruptor	Will-8 aff	18	160/480	70	1	25(5)/100(5)	18M†	-8	1	\$320,000	1

* For Shots, the first (lower) value applies when using batteries; the second (higher) one, when using power cells.

It's interesting to consider societies where mind transference is widespread. The technology has obvious uses for espionage, immortality, or even exploration – imagine exploring an alien culture in a native's body while the original owner explores your culture as an exchange student. Perhaps there's an immortal elite who use the attractive and the youthful as "transfer stock" when their own bodies wear out. Or maybe one body is a "blank," with no personality (e.g., grown in a clone tank without stimuli), enabling easy replacement of old or worn-out bodies. People might switch bodies much as they do clothing, storing several extras in suspended animation and experiencing different sexes, ages, or even races (be a dolphin for a day!). With genetic engineering, designer bodies could be made to order.

A mind-transfer machine is \$10,000,000, 200 lbs., external power. LC1.

Mindscanner (TL^)

The mindscanner is a passive psychic detector – typically an early development in settings with telepathic psychotronics. It detects thoughts but isn't sensitive enough to interpret them. Its screen simply reads out the location of all sapient (IQ 6+) beings in range who are currently *thinking* about something; anyone who stops thinking vanishes from the display. The device cannot identify individuals. However, it works through walls and other solid cover, making it useful despite its limitations.

At TL7 or below, the screen presents raw "analog" data – blips that fade in and out – that are difficult to interpret. Roll against Electronics Operation (Psychotronics) at -3 to pin down the exact location of any signal. At TL8+, built-in software helps track data and can display signals on maps of the area, removing the skill penalty.

The greater the number of thinking people in the area, the harder it is to keep track of their locations. All skill rolls are at -1 for 10-19 people in range, -2 for 20-39, and so on. Each doubling gives another -1.

A mindscanner won't detect sleeping beings unless they're dreaming. It cannot sense nonsapient (animal) thoughts or raw emotions, either. And individuals protected by any form of Mind Shield (e.g., the Psionic Shield ability), or within a null field or an area of Psi Static, are completely invisible to it.

A conscious person who lacks shielding can only hide from a mindscanner if he avoids thinking. He must roll against Mind Block (p. B210), at an extra -2 because Mind Block normally involves conscious efforts to "jam" thoughts through such ploys as doing math in your head – not trying *not* to think! Moreover, he can't use mental (IQ-, Will-, or Per-based) skills besides Mind Block. He can only perform physical actions or skills that can be done instantly and with planning. In particular, a fighter can attack, defend, and move, as his training will have taught him to do these things almost reflexively, but he can't take Aim, Evaluate, or Feint maneuvers, which always require a certain degree of planning.

Handheld Mindscanner (TL^): 30-yard range. \$6,000, 1 lb., 2xXS/6 hrs. or 4xB/1 day. LC3.

Large Mindscanner (TL^): Usually vehicle- or tripod-mounted. 150-yard range. \$300,000, 25 lbs., 3xS/6 hrs. or 2xC/1 day. LC3.

Mindseeker (TL^)

A mindseeker can replace the normal guidance system of any TL7+ homing missile or torpedo, enabling it to lock onto sapient (IQ 6+) minds within 500 yards in a 60° cone in front of it. Unless the weapon has other systems (e.g., inertial guidance) that allow it to follow a preprogrammed route, it will move directly forward

until a sapient mind comes into range, at which point the seeker will steer it toward that target. If the sensor detects several such minds before it strikes, it will home in on the nearest. Use the rules under *Homing Weapons* (p. B413). The weapon has a penalty to hit targets with Mind Shield (e.g., the Psionic Shield ability) equal to their level of that trait.

Mindseekers can be species-specific; a mindseeker programmed to hunt one species won't be useful against another. A mindseeker can even be programmed to go after one particular *individual*. This necessitates transmitting the target's psychic signature to the seeker's memory; a psi who has previously encountered that person's mind can do so using Telesend. A weapon with such guidance will move until it finds its prey – it won't home in on other targets – and if it runs out of fuel or crashes first, its warhead won't detonate.

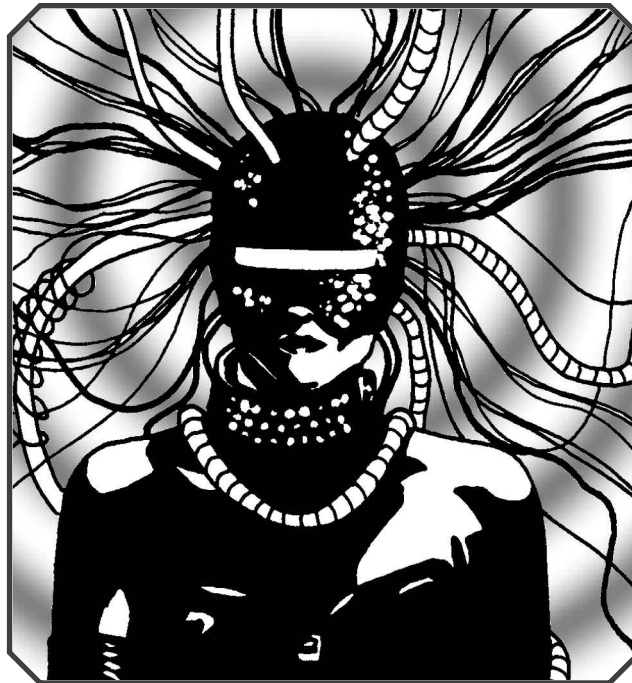
A psi who notices a mindseeker missile or torpedo may try to divert it telepathically – assuming he has time before it hits! This involves using Telesend to transmit bogus signals to its "brain." Roll against Telesend at -5. Success means the weapon turns aside and crashes harmlessly. Critical success lets the psi give it an *alternative* target signature, if he wishes.

Mindseeker-equipped weapons cost five times as much as ordinary homing missiles or torpedoes. Other stats are unchanged.

Mindseeker-equipped weapons cost five times as much as ordinary homing missiles or torpedoes. Other stats are unchanged.

Psi-Bomb (TL^)

Psi-bombs are single-use weapons that generate a burst of deafening psychic "noise." Smaller versions fill a role similar to that of real-world stun munitions; shielded special-ops teams use them to neutralize unprotected individuals without damaging property or injuring bystanders. Larger ones are dropped on unprotected troops prior to an assault, or delivered in a continuous bombardment to wear down the morale of civilian and soldier alike.



A psi-bomb delivers an area-effect affliction. Targets with IQ 0 or the Digital Mind advantage are immune. Everyone else in the area must make a Will-5 roll to resist; Mind Shield adds its bonus, but DR has no effect. Those who fail are mentally stunned, and roll to recover at -5. Failing the resistance roll by 5+ means unconsciousness for minutes equal to margin of failure. Anyone who fails to resist *also* loses the last two seconds of his short-term memory!

Standard sizes are:

Thimble Grenade Psi-Bomb (TL[^]): A tiny psi-grenade (1" in diameter) that's very easy to conceal. Affects a two-yard radius. \$25, 0.06 lb. LC2.*

Mini Hand-Grenade Psi-Bomb (TL[^]): An easy-to-conceal grenade the size of a golf ball. Affects a four-yard radius. \$100, 0.25 lb. Grenades for standard 40mm grenade launchers (see **GURPS High-Tech**) use this radius and cost, but weigh 0.5 lb. LC2.*

Hand-Grenade Psi-Bomb (TL[^]): A baseball-sized grenade. Affects an eight-yard radius. \$400, 1 lb. LC2.*

Psibermine (TL[^]): A "satchel-charge" psi-bomb. Affects a 16-yard radius. \$1,600, 4 lbs. LC2.†

250-lb. Psi-Bomb (TL[^]): A sizeable weapon, suitable as an aircraft bomb. Affects a 128-yard radius. \$12,800, 250 lbs. LC1.†

* A psi-grenade has an activator handle and a two-second delay. Arming it requires a Ready maneuver. The armed bomb goes off two seconds after the user releases it (usually by throwing it).

† Psibermines and 250-lb. psi-bombs can be hand-activated, but are normally fitted with an impact fuse, a timer, a radio control, or a telepathic switch (p. 30).

Message Psi-Bomb (TL[^])

As above, but instead of psychic noise, a message psi-bomb generates a prerecorded psychic "shout": a single image, a short sentence, or even an emotion. Such devices are used for signaling and propaganda. They blanket 10× the usual radius, but are easier to resist (Will-2 instead of Will-5) and never cause unconsciousness. Failure by 5+ on the resistance roll means the subject hears a psychic "echo" of the message looping through his mind after he recovers from being stunned; treat this distraction as equivalent to moderate pain (p. B428) lasting for minutes equal to margin of failure. LC3.

Terror Psi-Bomb (TL[^])

These devices induce a feeling of fear. Use the rules for psi-bombs, but instead of a Will roll to resist an affliction, the victim must make a Fright Check at -5. Mind Shield still provides its bonus. The attack may be accompanied by a fearsome image or simply be an overpowering sense of terror. LC2.

Psionic Mind Shield (TL[^])

This psychotronic device generates a synthetic mind shield that defends against and warns of mental incursions. It gives the user +4 (or optionally, adds TL-6) to IQ and Will rolls to resist telepathic invasion or attack. It also resists attempts to locate the wearer's mind with psi abilities, which must *win* a Quick Contest against his Will + the shield's bonus to find him.

Mind-Shield Helmet (TL[^]): Includes circuits that warn the wearer when a telepath fails to penetrate the shield. There's no warning if the telepath succeeds! The warning can take the

form of a beeper, a silent signal, or a message in the user's head-up display. Also protects the skull with DR 1. \$1,000, 1 lb., XS/2 days or 2×B/1 week. LC3.

Mind-Shield Circuitry (TL[^]): The above functionality can be built into any type of helmet: +\$1,000, +0.5 lb., XS/2 days or 2×B/1 week. LC3.

Mini Mind Shield (TL[^]): A more compact version that provides only half the usual bonus. May be a headband or a tiara, or might instead resemble a small crystal, and thus be easily concealed in a pocket or worn as jewelry, perhaps an earring. \$1,000, 0.1 lb., T/1 day or 4×A/4 days. LC3.

Telepathic Barrier (TL[^]): This psionic stealth coating is used to shield vehicle crews, building occupants, or even entire *cities* from telepathic detection and manipulation. Per square foot: \$1,000, 0.5 lb. To seal a 10' cube requires 600 square feet; a typical civilian vehicle needs about 300 square feet. External power. LC3.

Psychic Lock (TL[^])

This sophisticated-but-short-ranged mindscanner (p. 28) variant resembles a standard electronic lock but contains psychically resonant crystal. Only its owner's mental "touch" can lock or unlock it. A non-telepath must physically touch it or come within two yards of it to use it. If its owner has Telesend 3+, a successful skill roll at the usual range penalties will allow him to activate it from further away.

As a psychic lock is tuned to its owner's unique telepathic imprint, it's impervious to physical lockpicking (although the door could always be forced). A psi who's both an esper and a telepath may try to "pick" it *psionically*, though. This involves using the Signature Sniffer ability and making a Psi Sense skill roll at -5 to isolate the owner's residual signature. Success allows a Telesend roll at -3 to duplicate the pattern. Only one attempt is allowed – failure blurs the signature until the owner uses it again. Null fields and similar jamming devices *won't* open the lock, but will prevent it from detecting anyone and thus from opening.

A psychic lock weighs as much as an electronic lock of its TL. \$500. LC4.

Empathic Lock (TL[^])

This is similar to the standard psychic lock but not tuned to a specific individual. It opens only if it senses that the subject is feeling (or *not* feeling) a specific emotion; e.g., fear, lust, or love. It's extremely sensitive – counterfeiting emotions well enough to fool it requires an Acting roll at -6! Cost, weight, and LC are as for a psychic lock.

Psychic Probe (TL[^])

This semi-portable psychotronic device can "read" a person's mind. The subject need not be willing but must be conscious. A psiberface helmet is attached to the machine and placed on his head, and he's injected with the Trance psi-drug (p. 35) to keep him in a receptive state. The operator controls the probe either via its console or by attaching and using a second psiberface unit. Scanning the subject requires a roll against the *lower* of Electronics Operation (Psychotronics) or Psychology – at default, if necessary!

The psychic probe doesn't read *thoughts* but sensory experiences: everything that the subject has seen, heard, and so on, in detail far beyond what he can consciously recollect.

Visual perceptions are displayed on a monitor for anyone to see. If the operator is using a psiberface, he can experience all this himself, which might be unpleasant; operators have suffered psychological problems, even heart attacks when reliving intense memories of injuries, torture, etc. suffered by their subjects. The GM may require psiberface users to make Fright Checks – at penalties depending on the nature of the experience – to remain unaffected.

The probe incorporates a form of memory compression that enables the operator to “fast-forward” past boring or seemingly insignificant memories, and to move forward or backward over interesting material at up to one hour per second. Sensory experiences cannot be recorded directly, but the machine’s audio and video output can be taped, stored on computer, etc. Since any mind contains a mass of information, the GM may require Research or Intelligence Analysis rolls to locate specific data quickly.

Modifiers: An operator who doesn’t know exactly where to look within his subject’s life has no penalty for a memory less than a day old, but otherwise takes *Long-Distance Modifiers* (p. B241), treating each *full* day between the present and the memory as a mile; +3 if using a psiberface unit, not merely the telepsychic monitor or recorded audio and video.

The probe is a suitcase-sized device with an attached control console. \$400,000, 40 lbs., M/6 hr. or 4×C/1 day (or external power). LC2.

Telepathic Switches (TL^)

Telepathic switches (or *teleswitches*) are psi-sensitive circuits that respond to mental control via the Telesend ability.

Basic Teleswitch (TL^)

The simplest teleswitches allow telepaths to turn on but not *control* electronic devices, from TVs to computers. They most often replace or supplement manual on/off switches in systems such as lights, vehicle ignitions, and electronic doors. More interesting uses include activating and deactivating detonators and timers for explosives and psi-bombs; turning homing beacons on and off; and activating and deactivating hidden security systems. A single device may have several telepathic switches to turn different functions on or off. \$200, negligible weight. LC4.

Secure Teleswitch (TL^)

A teleswitch can be sensitized to a single set of mental signatures – only those minds can operate it. Such are switches useful as electronic locks on doors and safes, and for limiting access to computers and the like. \$1,000, negligible weight. LC4.

Telepathic Control Panel (TL^)

This is an array of exceptionally sensitive, miniaturized telepathic switches built into a single device; e.g., a computer keyboard where each teleswitch corresponds to a single key. The increased sensitivity enables the psi to control several switches per second. A telepathic control panel fitted to a computer, calculator, sensor, gunnery console, etc. lets a psi use his mind to operate the device at a distance, visualizing each key or button and so activating the switch. While doing so, he uses his normal skill for operating the device or the average of that skill and his Telesend skill, whichever is *lower*. One Telesend skill roll per minute is required to maintain mental communication with the controls. Added to a normal control panel: +\$10,000, or +\$50,000 if secure. LC4.

Thought Globe (TL^)

A sphere a few inches in diameter, the thought globe is highly sensitive to psychic impressions. Anyone – psionic or not – who touches it and concentrates on a specific image will cause the globe to show that thought-image as a picture or a hologram inside it. This is *not* a mental projection, but a physical display that can be photographed. Such a device can be useful for nonverbal communication with aliens, especially if a mental translator (p. 26) isn’t available. \$5,000, 0.5 lb. LC4.

TELEPORTATION TECHNOLOGY

The psychotronics described here augment or interfere with the Teleportation power (*GURPS Psionic Powers*, pp. 68-71). As well, psi-amplifiers (pp. 11-13) and psychotronic generators (pp. 13-14) often exist for Teleportation.

Actuality Shield (TL^)

An actuality shield is an exotic matter grid built into an object’s surface to decrease its “hold” on normal space-time, making it easier to transport with Teleportation. Treat the shielded item as having only 10% of its actual weight when determining how much weight can be teleported. This applies when calculating encumbrance limits for the Autoteleport and Combat Teleport abilities, and when figuring out whether Exoteleport can affect the thing. For obvious reasons, actuality shields are often built into grenades and larger bombs intended for use by psychotronics-equipped combat units that have Exoteleport capabilities.

The Stone of Gol is real, but there is nothing supernatural or magical about it. It is a psionic resonator, a device which focuses and amplifies telepathic energy. It is one of the most devastating weapons ever conceived.

– Tallera, in Star Trek: The Next Generation #7.5

There's one drawback: Objects "protected" by actuality shields are *more* vulnerable to attack by Innerportation, as more mass can be teleported away! This ability inflicts *double* damage (that is, 2d-4 impaling damage per level) on shielded items.

An actuality shield for any object costs \$10,000 per pound of weight. For example, an actuality shield for a 105-lb. suit of powered combat armor costs \$1,050,000 . . . but the suit would count as weighing only 10.5 lbs. if the user tried to teleport while wearing it. LC3.

Jump Beacon (TL[^])

A jump beacon psychically stresses space-time, creating a node that's "weaker" than the surrounding area. This makes it much easier for a psi to teleport himself or an object to its vicinity. The device has a simple on/off switch. While it's active, teleportation by any means (Autoteleport, Exoteleport, etc.) to a location within its radius is at +4 to skill. There's one side effect: Teleportation attempts within 1% of the radius of an active jump beacon suffer -2 to skill if they would teleport the subject *farther away* from the beacon.

Portable Jump Beacon (TL[^]): A suitcase-sized unit that generates a node that covers a 500-yard radius. \$40,000, 30 lbs., L/12 hrs. or 2xD/2 days (or external power). LC4.

Local Jump Beacon (TL[^]): A bulky, cabinet-sized installation with a node that covers a 10,000-yard radius. \$1,000,000, 300 lbs., external power. LC4.

Jump-Vortex Generator (TL[^])

This variation on jump-beacon technology is used to set a psionic trap for teleporters. The jump vortex attempts to intercept anyone using psionics to teleport to or from any destination within its radius, drawing him to it instead. It has a similar effect on objects teleported with Exoteleport. People or items successfully diverted by the vortex appear adjacent to the generator.

A jump vortex's area of effect depends on the device's power; two examples appear below. The vortex can "catch" people and things teleporting *out of* or *into* that area – any trip with an origin or a destination within the vortex's radius risks being diverted. If two or more vortices are within range, the teleport is drawn to the *nearest* one.

A psionic teleporter may be able to resist the vortex's influence. If the skill roll for his Teleportation ability succeeds by a sufficiently large margin, the teleport isn't diverted. The psi senses a mysterious "pull" attempting to drag him or the object he's teleporting off course. If he resists *and* gets a critical success, he senses the vortex's location.

Jump vortices are typically used as traps to snare intruding teleporters, and often built into secure areas such as prisons. But they can also be helpful! A porter *deliberately* trying to go to or send something to a vortex receives the same bonus that a jump beacon (above) would give.

Portable Jump Vortex (TL[^]): A suitcase-sized unit with a 200-yard range. It can fit in a backpack and is easily installed in a room (often under the floor or furniture). To resist its pull, a teleporter must succeed by 3+. \$200,000, 40 lbs., L/1 hr. or 2xD/4 hr. (or external power). LC3.

Local Jump Vortex (TL[^]): A heavy installation with a 2,000-yard range. To resist its pull, a teleporter must succeed by 5+. \$5,000,000, 500 lbs., external power. LC3.

Psychotronic Teleportal (TL[^])

This is a specialized two-way jump beacon designed to facilitate point-to-point teleportation. It consists of two beacons permanently coupled to one another. Anyone teleporting from one to the other in either direction – or using Exoteleport to teleport an object through the portal – gets +6 skill. Increase the bonus by +1 per TL after the device first appears.

A psychotronic teleportal is usually a static installation resembling a stage or a doorway surrounded by psi-amplifying circuitry, along with a set of controls. For a portal large enough to accommodate people or objects of up to SM 0, each "end" is \$2,000,000, 200 lbs. For portals with other maximum size limits, adjust for SM (p. 8). External power. LC3.

Psychotronic Spaceships?

Psionics might serve as an explanation or a power source for superscience technologies that are particularly suitable for spaceships, including stardrives and exotic beam weapons. See the **GURPS Spaceships** series for spacecraft design, and see **GURPS Spaceships 7: Divergent and Paranormal Tech** in particular for rules for psychotronic spacecraft components (and a fully worked example of a psi-powered star cruiser!).

Somatic Exofield (TL[^])

This technology uses a kinesthetic field generator embedded in a powered battlesuit or vehicle, combined with a psiberface unit linked to the vehicle or suit's navigation system, to expand a psionic teleporter's sense of bodily awareness to encompass the shell he's occupying. An operator or navigator may use the Autoteleport or Combat Teleport ability to teleport the whole thing as if it were his own body! Use the suit or vehicle's ST – not the psi's own ST – to calculate encumbrance limits for Teleportation abilities.

The necessary control and field-generation systems are \$1,000 and 0.005 lb. per pound of vehicle or battlesuit weight. Runs off a trickle of the suit or vehicle's power. LC2.

Teleport Jammer (TL[^])

A teleport jammer exerts a "tightening" effect on the local space-time, making it difficult to teleport into or out of the area it covers. Within its field, skill rolls for all Teleportation abilities other than Portersense are at -10. This penalty diminishes by -2 per full 10 yards of distance from the device; e.g., a psi who's 40 yards from a teleport jammer has only -2 to his Autoteleport, Exoteleport, and Innerportation skills.

When someone with Teleportation abilities first comes into contact with the edge of the field, the GM should make a Per-based roll against the porter's *best* Teleportation psi skill at -3 (ignore this penalty if he has Portersense). Success gives him a hint that something is "not right" in the area; success by 3+ or critical success tells him that he's near a teleport jammer.

The generator is a semi-portable device that can affect up to a 50-yard radius. \$500,000, 100 lbs., 6xS/72 hrs. or 4xC/2 weeks (or external power). LC3.

CHAPTER THREE

BIO-PSI

“Jeremiah, it’s Christine. They’ve strapped me down on a table and given me some kind of neural anesthetic. I don’t know if I can stay in contact with you anymore. Everything’s going dark.

“I’m scared . . . I love you.”

Christine’s last message echoing through his mind, Jeremiah raced through the corridors of the Rocky Mountain branch of the Overmind Institute. He had snatched a drug ampoule off a dead guard: BNSX-7, the synthetic neuroenhancer that the military called Blue Fire. It boosted psi powers, but at a price – it was addictive and a deadly poison. Still, he might need it. With a grimace of distaste, he injected the Blue Fire into his arm.

He increased his pace, sprinting down the passage, and almost crashed into the two guards. He stopped short: he faced two naked, sickly teenagers, a boy and a girl, each carrying an Uzi. Their heads were shaved, sockets showing where implants were installed. They were guarding the entrance to an elevator.

He reached out with his telepathy, attempting to discover from them where Christine was being held . . . and recoiled in horror when he found nothing there. They were drones – born without minds, controlled like puppets by unseen masters, yet another of the abominations practiced in this hideous place. They opened fire, their bullets spattering off his psychokinetic shields like rain off a window pane.

The Blue Fire singing in his mind, Jeremiah snapped first one, then the other’s neck with his TK. He picked up one of the guns and walked past the bodies into the elevator.

The elevator stopped at the fifth level. The door opened, and Jeremiah stepped out into in a large, well-lit room. He stood still, staring.

The body of Christine Pendrake lay on the table. The top of her skull was missing, where the brain had been removed with surgical precision. Next to her sat a large metal box, connected to a bank of computers, monitors, and life-support systems. Two women in surgical whites were attaching electrodes to the box, watching a steady pulse of life on monitor screens. A fat, bearded man was speaking into a handheld recorder.

“The operation was a success, with only minor damage to subject’s intellect when the brain was removed, and preliminary psiscan shows no loss of telepathic facility. She will make an excellent psiborg, probably an inquisitor. In fact . . .” The man paused when he noticed Jeremiah standing on the threshold.

“This lab is a restricted area! Who are you?”

His voice lost in a soundless scream, Jeremiah let the Uzi answer for him.

Bio-psi is “soft” psionic technology, including psi-drugs, genetic engineering, and neurosurgery. Such biotech offers many risky-but-effective options for enhancing or controlling psi abilities.

Ethics

In settings that feature bio-psi technologies, work on such developments will encounter all the usual ethical dilemmas surrounding biotech research aimed at enhancing human performance. People may fear the drugs or procedures’ side effects . . . or worry about playing god with humanity’s fundamental nature. Such concerns will be heightened by psi’s own often-controversial status – and by the likelihood that any modifications will directly affect the *mind*, not just the body. A public that already fears “natural” psis is likely to be terrified by the very concept of using surgery, cybernetics, or genetic engineering to create super-psis!

Unless a society openly accepts both psi powers *and* biotech, it’s apt to view most bio-psi experiments and the products that emerge from them as unethical, leading to tight regulation or a wholesale ban. Such outcomes would drive bio-psi research underground, into the realm of secret black-ops programs, independent “mad scientists,” and criminal laboratories. And research done on those terms is unlikely to face *any* ethical scrutiny.

If bio-psi research does proceed, animal experimentation will probably precede human trials – especially for technologies such as drugs. These efforts may be intended strictly to determine whether a drug or a procedure is harmful (whether or not animals have psi powers). However, if psi works in beasts in much the same way that it does in humans, then the testing could be more ambitious, with the goal of first creating or modifying psionic effects in animal subjects. This may result in bio-psi facilities that contain experimental animals with psi abilities. Some such animals might be sacrificed in the experiments, while other may be kept for further study . . . or escape or be rescued from the lab. A psi-enhanced animal would make an interesting Ally or (if smart enough) PC. Successful experiments could lead to such creatures becoming available as pets or working animals.

For a more in-depth treatment of bioethics, see pp. 194-202 of *GURPS Bio-Tech*.

PSI-DRUGS AND NANODRUGS

Biochemical methods may be the easiest means of enhancing or suppressing psionic powers, if not necessarily the *safest*. Psi-drugs could be derived from natural substances, or developed from mundane drugs (psychiatric ones in particular) that cause unexpected side effects. They might be new proteins produced by recombinant DNA technology. They could even be fast-acting “programmed viruses” or nanomachine injections.

The GM may limit the availability of certain psi-drugs by deciding that they call for natural compounds that are difficult to obtain and cannot be synthesized. For instance, a drug might require hormones from a rare or dangerous alien creature that doesn’t breed in captivity. Totally natural psi-drugs could also exist – hard-to-find herbs, animal venoms, etc. might have the same capabilities as synthetic drugs, giving primitive societies access to bio-psi technology.

Many psi-drugs have serious side effects. Even if psionics are legal, most societies will restrict such dangerous substances to doctors or medical researchers. Unless psi-drugs are experimental, though, restricted drugs are likely to be available on the black market – at higher prices.

Psi-drugs can be injected (“hypo form” takes one second to administer with a hypodermic syringe), inhaled, or delivered orally (as a pill, or dissolved in food or drink). Where only some forms exist, this is noted.

Blocker (TL^)

This drug temporarily increases the recipient’s natural telepathic resistance, making him less vulnerable to mental intrusion. The user gains Resistant to Telepathy (+3) for six hours, but must roll vs. HT to avoid a headache (treat as moderate pain, p. B428) for the duration. A telepath resists the headache at -3, and gains the defensive benefit at the cost of -3 to *his* rolls against Telepathy skills. Hypo form only. \$100/dose. LC4.

Blue Fire (TL^)

This is the nickname of a dangerous neurotransmitter that enhances the brain’s ability to handle psionic energy. It’s also a deadly poison! Fortunately, its effects are relatively predictable and an antidote exists; thus, many psis are willing to risk taking it when a boost is absolutely necessary.

As soon as a dose of Blue Fire takes effect, the user suffers 2 HP of injury and gains +2 to every psi Talent he possesses. He loses an additional 1d-2 HP (minimum 1 HP) per minute until the drug is counteracted by an antitoxin. Blue Fire *will* eventually kill him if it isn’t neutralized. Multiple doses have no extra effect.

A psi under the influence of Blue Fire must make a Will roll at -1 immediately after his first active use of psi (that is, after rolling against a psi skill) and again each minute after that until the drug is neutralized. Failure means he may stop rolling but gains the disadvantage Overconfidence (9), also until the Blue Fire is counteracted. Someone who becomes overconfident will enjoy the sensational high of using his psi abilities and tend to ignore the fact that the drug is eating away at his body.

Neutralizing Blue Fire requires a simple injection of Neurovine, an antidote for nerve toxins (\$30/dose, hypo form only). However, a user who has become overconfident due to

Blue Fire’s effects must make a Will roll at -1 to convince himself to administer the Neurovine. If he fails, he may roll again every minute.

Blue Fire is available in hypo, inhaler, and pill form. A hypo takes effect instantly, an inhaled dose requires five seconds, and a pill takes 30 seconds. Effects last until neutralized. \$20/dose. LC2.

Brainstorm (TL^)

This powerful drug makes it much easier for the user to enhance psi abilities through extra effort (*GURPS Psionic Powers*, p. 7): Reduce the penalty to his extra-effort rolls from -1 per +10% increase to -1 per +20%. Make a HT roll determine duration, which is 10 minutes times margin of success but always at least 10 minutes. Multiple doses have no additional effect.

Brainstorm’s benefits come at a potentially severe price, however! First, any critical failure with a boosted ability automatically cripples it rather than requiring a Will roll to avoid crippling. The GM may roll on the table under *Optional Crippling Rules (Psionic Powers*, p. 7) instead.

Moreover, the rush of power is *addictive*. Anyone who exploits Brainstorm to boost an ability has to roll vs. HT to avoid addiction. Failure means that he *must* have at least one dose every day. Otherwise, he suffers the effects of withdrawal from a physiological dependency (p. B440) *and* one of his psi abilities acquires the Uncontrollable limitation (unless this was already the case) for the duration of his addiction.

Hypo form only. Takes effect in two seconds. \$150/dose. LC3.

Catalyst Drug (TL^)

This is a massive dose of psi-boosting drug combined with a specialized psychotropic agent. Anyone who takes it must roll vs. HT-3. Success means no effect. Failure results in 2d hours of unconsciousness, during which time the victim experiences bizarre, often terrifying hallucinations; treat this as a Fright Check on awakening, at -1 per hour spent unconscious. Unless the user is a latent psi – that is, someone with Talent but no abilities – there’s no further effect.

If the recipient *is* a latent psi, however, he may manifest psi abilities paid for with unspent points, bypassing any normal restrictions on such purchases in the campaign. The GM might even assign additional points solely for this purpose (see *Traits Gained in Play*, p. B291). With the GM’s permission, the user can take new mental disadvantages related to his hallucinations – in addition to anything the Fright Check inflicts – and spend the points associated with these on more psi capabilities. In all cases, abilities gained this way often match the drug-induced visions; e.g., a nightmare of burning could catalyze Pyrokinesis.

Other side effects are possible. A catalyst that has pleasant effects (at least part of the time; e.g., for non-psis) could masquerade as a recreational drug. This would allow an organization to put it into the field to awaken latent psis covertly – perhaps with the intent of swooping in later to scoop up those who manifest powers – while also netting them a tidy sum on the side from the (legal or black-market) sales.

A conspiracy might even pass off the claims of psis who try to go public with their newfound capabilities as the hallucinations of those who abuse psychotropic drugs!

Catalyst drugs assume that latency is both chemical and psychological in nature. They won't be available if this isn't true. If they do exist, they're available in hypo form (takes effect in 30 seconds), inhaled form (takes a minute), and pill form (takes five minutes). \$1,000/dose. LC2.

The use of the Psychic Probe for anything but medical purposes is outlawed throughout the Galaxy.

– Isaac Asimov,
Foundation and Earth

Mind Hype (TL[^])

A reliable psi-boosting drug, Mind Hype focuses the user on his inner self, dissolving the boundaries between body and mind. He gets +1 to IQ, raising Will, Per, and all skills based on IQ, Will, or Per (including spells). *Psi* skills are at +3 instead of merely +1. To determine the duration of these bonuses, make a HT roll; benefits last for 10 minutes per point of success, but always for at least an hour. More than one dose has no extra effect (or goes unnoticed by the user).

However, each dose taken requires an IQ roll, at -1 per dose past the first in a 24-hour period. Failure means the user has difficulty concentrating on less-abstract things – e.g., walking across a room. He has -2 to DX and all DX-based skills. Moreover, for anything not having to do with psionics or abstract reasoning, he suffers from Absent-Mindedness (p. B122). If he already has this disadvantage, he makes all rolls to remember trivial things or sustain interest in boring activities at an additional -3! These side effects last for 1d hours.

Mind Hype isn't addictive. It's usually fairly legal – unless psionics are themselves illegal, in which case Mind Hype possession is a serious crime. Hypo form only. Takes effect in 10 minutes. \$100/dose. LC3.

Monobloc (TL[^])

Monobloc is a stronger form of Blocker (p. 33). The user gets +8 to all rolls to resist telepathic contact or attack – including attacks by Telepathy-based psi weapons. If he's a telepath, he also suffers -8 on his own skill rolls for Telepathy. Unfortunately, Monobloc numbs the mind, giving the user a fuzzy, drunken feeling: -1 to IQ and DX, which affects all DX- and IQ-based skills, including spells and psi skills. (*Exception:* Telepathy skills take the -8 instead.)

The above assumes one dose of Monobloc. Up to three doses can be taken in a 24-hour period, with cumulative effects. For each dose past the first, increase the resistance bonus by another +1, but worsen the penalty to DX, IQ, and associated skills (including Telepathy skills) by an additional -1. Taking more than three doses doesn't strengthen resistance further, but continues to reduce attributes and skills.

A dose of Monobloc lasts for six hours. Pill form only. Takes effect in one minute. \$150/dose. LC3.

Muffler (TL[^])

This drug works to shut down all of the subject's psionic neural pathways. He must roll vs. HT-4 on being injected. Failure means that he cannot exercise *any* psi powers for (25 - HT)/4 hours, minimum one hour. Hypo form only. \$800/dose. LC2.

Psi-Booster (TL[^])

Psi-boosters are an entire *series* of designer molecules, each engineered to induce one particular psi ability; e.g., psi-boosters (Telereceive). A psi-boosters has no effect on a user who lacks the underlying power. If he has that power, he gains the ability in question – at level 1, for a gift with more than one level. If he already possesses the specific ability, he gets a 50% increase in level (per the effect of extra effort), rounded down, if it comes in levels, or a free +50% enhancement if it doesn't. In all cases, duration is HT/2 minutes.

Psi-boosters are reasonably safe when taken in moderation. The only side effect of a single dose is that the strain reduces the user's Talent for the power associated with the ability gained or boosted, lowering it by a level for a day afterward. Minimum Talent is 0.

However, taking two or more doses of the *same* psi-boosters inside of eight hours is dangerous! An additional dose within that period provides no extra enhancement beyond extending duration if the drug is still active, and requires a HT-4 roll (HT-8, if the drug's effects are still active). Failure inflicts 1d HP of injury times the margin, in the form of a brain hemorrhage. This high risk of potentially fatal complications means that a psi-boosters can be used as a deadly – if costly – poison by delivering two doses or transmitting a second dose to a dosed victim.

Psi-boosters are available in hypo and inhaler form; either takes effect immediately. Cost per dose is \$100 times the point cost of the ability provided. For an ability that comes in multiple levels, use the cost of the first level. LC2.

Shatter (TL[^])

Anyone with any psionic power – even a latent – who uses this drug becomes tipsy (p. B428). This affliction lasts for minutes equal to the total point value of his psionic Talents and abilities. After that, he may roll vs. HT every minute. Success means the drug wears off.

Using psionic powers while under the influence of Shatter risks worsening its effects to severe vertigo and nausea. After attempting any psi skill roll, the user must make an immediately HT-3 roll to avoid becoming nauseated *and* drunk (p. B428) for minutes equal to the margin of failure.

Multiple doses of Shatter increase the effects' duration but not their severity. Too much of it is toxic, however. Each dose past the first in a 24-hour period inflicts 1d-3 points of toxic damage (minimum 1) on the psi.

Individuals without psi powers suffer *none* of these effects. Because of this, Shatter can be used to "test" for psionics. A psi who's affected by it must make a Will-2 roll to avoid reacting visibly (showing signs of dizziness, sweating, etc.), even if he doesn't use his powers. Law-enforcement agencies more typically use Shatter to restrain *known* psis.

Available forms are hypo (can be delivered by darts shot from any weapon capable of firing drugged rounds), gas (in spray cans or any of the biochemical aerosol warheads on p. 153 of *GURPS Ultra-Tech*), and pill. Hypo form works instantly; gas or pill form takes effect in 10 seconds. \$20/dose. LC2.

Shiver (TL^)

An alternative to Mind Hype (p. 34), this reliable psi-drug is a neurotransmitter that makes it easier for a psi to use his abilities. It gives the user +1 *per dose* on all psi skills he knows (*not* defaults). This bonus lasts for 10 minutes, regardless of dosage.

Shiver's side effects are mild. After its bonus wears off, the user experiences physical shakiness and a mild fever. For *each dose* taken, he suffers -1 to DX and all DX-based skills, and loses 2 FP; e.g., three doses mean -3 to DX and 6 FP. The DX penalty lasts an hour per dose; FP losses recover normally.

Shiver is available in hypo form (takes effect instantly) and pill form (takes 30 seconds). \$40/dose. LC4.

Trance (TL^)

The opposite of drugs like Blocker (p. 33) and Monobloc (p. 34), this drug *lowers* the user's natural psi resistance. This makes Trance useful to telepathic psychologists – and interrogators. As it can render subjects more susceptible to mental control, it may gain a sinister reputation. Paranoid people

might fear that groups employing psis are putting it in the water supply!

Each dose of Trance gives the subject -2 to Will to resist Telepathy abilities. Up to three doses are cumulative, but this can be dangerous. After taking each dose, the user must make a HT+3 roll, at -1 per dose past the first. Failure means he lapses into a coma (p. B429) *and* suffers HP of injury equal to his margin of failure.

Trance is available in pill and hypo form. Either takes effect in 10 seconds and lasts six hours, regardless of dosage. \$15/dose. LC3.

Window (TL^)

Given to someone with the Telepathy power, this drug enhances his gifts, granting +2 to Telepathy Talent. However, it also dissolves his normal psychic barriers, giving him the Supersensitive disadvantage (p. B158) *and* completely suppressing any psionic Mind Shield advantage (p. B70) he may possess. Psis who take it unwillingly may roll vs. HT-3 to resist. The effects last for (25 - HT)/4 hours, minimum one hour.

Window is available in hypo, inhaler, and pill form. \$250/dose. LC2.

Accidental Drug-Induced Effects and Powers

Any chemical that affects the brain might influence abilities that derive from it. Thus, the GM may want to have *real* medical or psychiatric drugs interact with psi. For example, unconscious patients who've received the common anesthetic ketamine have sometimes reported "near-death experiences" – hovering outside their body – despite not being clinically dead. Some psi researchers have suggested using carefully controlled doses of this or similar drugs as a means of inducing out-of-body-experiences; that is, astral projection. Experimentation with anesthetics is hardly safe, of course!

A common trope in psi fiction is the idea of drugs *accidentally* creating psis. This is customarily a prenatal effect: A pregnant woman takes a new drug, or a combination of

drugs, that's supposedly safe – but it has the unnoted side effect of altering her unborn baby's brain structure. The child is born psionic, with either abilities or a Talent that may manifest later (e.g., after puberty) as full-blown psi. Such drug-induced powers need not be *genetic* traits passed on to the child's eventual offspring.

See *GURPS Bio-Tech* for a variety of drugs, and p. 33 of *GURPS Psionic Campaigns* for other suggestions regarding psi and drugs.

Designer Psi-Drugs

Drugs that grant a specific psionic ability for a period of time can be built using the system described in *Ultra-Tech Drugs* (p. B425).

THE GENETICS OF PSI

If psi powers have a genetic basis and the chromosomes that govern psi are known to science, then genetic profiling (TL8) could determine whether someone is psionic. This involves analyzing a DNA sample (e.g., from blood or hair) and performing laboratory tests using Biology skill (typically the optional Genetics specialty) to compare it against the known species genome. At TL8, genetic testing is only likely to be able to identify genes that code for psi if they're the result of significant species modification and stick out like a sore thumb among otherwise human DNA. If they're a natural but somewhat "hidden" part of the normal human genome, uncovering them will likely require a TL9+ understanding of genetics.

For details on genetic profiling and similar tests, see pp. 8-10 of *GURPS Bio-Tech*.

BREEDING AND CLONING PSIS

If psi powers are genetic, then biotechnology could offer ways not just to find but to *create* more psis, stacking the deck against the random draw of normal biology. Exactly what's possible depends on the nature of psionics.

Eugenic vs. Species Modification

A key question is whether psi powers are found in the human genome – making them a natural part of humanity – or the consequence of alien intervention, mutation, or something else altogether. This will determine what types of genetic engineering can influence them. For traits amenable to genetic manipulation, **GURPS Bio-Tech** distinguishes between those producible with *eugenic modification* and those requiring *species modification*.

Eugenic modification means selecting for traits that already exist within a species (such as humans), even if they're normally rare or weak. This sort of engineering can involve either *selective breeding* (which is a "natural" process but can take generations to produce results) or *germline genetic engineering*. Selective breeding programs don't require any technology – people have been doing this with livestock since the dawn of history. Eugenic genetic engineering requires at least TL8, and likely TL9+.

Species modification is a more radical process – though not necessarily any harder. It involves inserting genes from *different* species (TL8-9) or, with greater effort (usually requiring TL10+), adding artificially engineered chromosomes.

The GM must decide where psionic traits fall on this spectrum for humans and other races that can have psi powers. For example, if psi is a natural human capability (even if it's only strong enough to be noticeable in a few rare individuals), then engineering for it will involve eugenic methods. The products of such work will be "genetic upgrades" but could still be considered human. On the other hand, if psi abilities are a radical new mutation or some sort of artificial construct, or involve foreign genetic material (e.g., from extraterrestrials), then "human" psis will actually be parahumans or alien hybrids.

Can Psi Abilities Be Engineered?

GURPS recognizes two degrees of psi: possession of a *power* (e.g., being a telepath by virtue of having Telepathy Talent and/or Telepathy abilities) and possession of specific *abilities* (such as Telesend). How do these relate to genetics? Here are some possible options:

Psi powers are genetic but psi abilities are acquired. This means you can engineer a particular psionic power into someone via a breeding program, genetic engineering, or cloning, but the genes can't code for specific abilities. It's a crapshoot what, if anything, will develop during life! Abilities are consciously learned and/or develop spontaneously in response to stimuli. In game terms, the upshot is that racial templates for genetically upgraded or cloned psis shouldn't include *specific* psi abilities. They should prescribe either psi Talent(s) alone or a combination such as "20 points of Telepathy Talent or abilities." Similarly, if you clone someone, he'll possess the same *powers* as the original, but not necessarily identical *abilities*.

Psi powers and psi abilities are genetic. This means the genes can determine specific psi abilities. It also means that an individual can't influence (e.g., via training) what abilities he'll gain. Abilities that develop during someone's life simply represent the working out of his genetic destiny – perhaps abilities take time to "grow into." The result is that if you clone a psi, he'll gain the exact same set of powers and abilities as the original, or at least develop those gifts at a similar stage of his life (e.g., puberty). In this case, racial templates may specify both psi Talents and particular abilities.

It's a mix of both. This option means that particular complexes of genes can code for both psi power (as Talents) and specific abilities . . . but that psi is sufficiently complex that it's also quite possible for someone to develop Talents spontaneously as long as he has the underlying power. This might represent two equally valid paths to abilities, or just an incomplete understanding of how genes relate to abilities (which is very likely!). In any event, it lets the GM have his cake and eat it too: Some racial templates may have inborn psi abilities (representing very strong expression), but people with latent power can still acquire abilities by other means during their lives.

That's what the Ripe program is. The doctors on the computer list are giving ephemeral to their pregnant patients . . . Ephemeral is creating new scanners.

– Cameron Vale,
in Scanners

Tech Levels

GURPS Bio-Tech divides possible genetic modifications for humans into categories and assigns them TLs. Psionic Talents – and psi abilities, if available – make the most sense as *brain modifications* (**Bio-Tech**, pp. 42-44). Brain modifications require TL9+. The GM can assign whatever TLs he wants to psi Talents and abilities, of course! Here's one possible cost scheme, which makes the assumption that flamboyant psi abilities are easier to detect and perhaps simpler to produce than more subtle brain modifications:

Trait	TL
Psionic Talent 1-2	9^
Psionic Talent 3-4	10^
Psionic Talent 5-6	11^
Psionic Talent 7+	12^
Psi ability costing up to 20 points	9^
Psi ability costing 21-40 points	10^
Psi ability costing 41-60 points	11^
Psi ability costing 61+ points	12^

Linked Traits

If psionic powers or abilities are part of a racial genome, then it's quite possible that they're linked to other genetic traits, which might be equivalent to certain advantages, disadvantages, or features. In that case, racial templates that include psionic capabilities may prescribe other traits as side effects. This is good news for psis if their gifts are linked to things like Longevity and high IQ, but bad news if they're associated with, say, a predilection for mental illness (e.g., Delusions or Paranoia).

As well, certain capabilities may be *sex-linked* – that is, available only to men or only to women due to their genes' location on particular chromosomes.

PSIONIC MICROORGANISMS: PROTEUS VIRUS

A *proteus virus* isn't a true virus but a genetically altered version of the macrophage cells that make up the body's immune system. Instead of roaming the bloodstream to seek out and destroy disease organisms or worn-out cells, proteus cells are programmed to track down, enter, and transform specific cells in the subject's body. By taking control of the target cells' metabolism, the virus can alter the genetic information encoded within, rebuild dead or dying cells, or insert entirely new genes or chemicals.

Two examples of proteus virus appear below. As with all psitech, the technological knowhow needed to create them is up to the GM. Such engineering should realistically require TL10+, but medieval alchemists, steampunk mad scientists, etc. may be able to create equivalent concoctions at earlier TLs.

However proteus virus is created, assume that once it enters the body, the subject gets a HT-6 roll to resist – his

immune system may fight it off. Failure means the virus has time to multiply. This takes 1d×5 minutes (although the results could take considerably longer to show, if the GM wishes). Anyone who comes into contact with the blood or other secretions of an infected individual during the incubation period must make a HT-3 roll to avoid infection.

Like drugs, proteus virus is delivered by injection or pill. One dose contains enough invader cells to perform a complete metamorphosis. A form suitable for delivery via dart guns or "poisoned" blades has 5× cost; an aerosol spray, 10× cost.

Power Virus (TL[^])

If psionic powers are the result of "power genes," then a proteus treatment can give someone those genes. This grants the subject one level of a particular psi Talent, though he won't be able to *use* the power until he obtains appropriate psi skills and abilities. \$15,000/dose. LC2.

Null Virus (TL[^])

Rewrites the subject's genetic code to *remove* the genes for a specific power (or powers) and any abilities he possesses. \$10,000/dose. LC1.

PSIBERNETICS AND SURGERY

In some settings, it's possible to produce psionic abilities through non-genetic means. This often means surgery to put something in (e.g., grafts or implants) or take something out (perhaps the brain itself!).

BRAIN-TISSUE GRAFTS (TL[^])

This is a risky and controversial method of giving someone "artificial" psi powers: Brain tissue from the centers thought to govern psi is selectively removed from a donor who has exhibited psionic powers and transplanted into a recipient.

The donor psi can be dead (if he isn't, this procedure kills him!), but *not* from damage to the brain. If deceased, he must have been put on life support within four minutes of death. Brain tissue from a single donor is good for 1-3 grafts (roll 1d/2 and round up), +1 per full 50 points in psionic abilities, Talent, and skills he had. If the GM allows cloned neural tissue to work, then one donor can theoretically provide infinite grafts.

Transplantation takes 24 hours and gives -15 to Surgery skill at TL7 or less, -10 at TL8, and -5 at TL9+. The GM decides whether to use the simple modifiers on p. B223 or the full surgery rules on pp. 135-140 of *GURPS Bio-Tech*. If the Surgery roll fails, the patient loses a point of IQ permanently (1d+1 points on a critical failure) and gains nothing. Regular success means he acquires one level of Talent in up to 1d/2 powers that the donor had; as a latent psi, he can go on to learn actual abilities. Critical success also gives him one of the donor's psi abilities (GM chooses) – at level 1, if it comes in levels.

Brain tissue doesn't suffer from rejection, but the subject must make a HT-1 roll to assimilate it. At TL9+, the use of

nanotherapy gives a bonus of (TL - 8) × 2 to this roll. On any success, there's no special effect. Failure results in the permanent loss of points of IQ equal to the margin. Critical failure means death!

DRONES (TL[^])

A "drone" is a human whose brain has been altered – through an ultra-tech surgical or chemical "brainwipe" – to have as little ego or creativity as possible while retaining a minimum level of useful intellect. The result is someone with an adult IQ of 8, but Will 3 and Slave Mentality. Further tinkering adjusts the brain's biochemistry to put the subject in a permanent hypnagogic state (in effect, he lives in a waking dream), making him unusually receptive to Telepathy: +3 on all rolls against Telepathy skills to influence or contact him.

For tasks that don't require individuality or initiative, drones make ideal servants for telepathic masters. They tend to be hard workers with little or nothing in the way of personality, unless encouraged to develop surface mannerisms through rote. Drones are usually motivated through conditioning or direct telepathic control.

Drones can be produced surgically. Using TL9+ (or any TL[^]) surgical techniques, a living person may be reduced to drone status. Adjust skills accordingly. The victim may have brief moments of lucidity, but he's effectively a zombie most of the time. The operation costs \$10,000. This process is LC1, and usually legal only if performed on individuals who have no civil rights.

In backgrounds where the technologies for cloning and suitable genetic modification exist, drones might be *grown*. Use the standard rules for customized clone bodies in the setting.

NEURO-PSI IMPLANTS (TL[^])

A neuro-psi implant is tiny device packed with psychotronic microcircuitry. It goes in the brain, where it works to produce psionic powers artificially by exciting the growth of deeply buried embryonic psi abilities too weak for psionic testing or training to discover. In some settings, implantation is as trivial as ear-piercing; in others, it involves genuine brain surgery, requiring two hours and a Surgery roll at an extra -2, with failure causing 2d HP of injury.

The implant requires a day or so to take effect, during which time the recipient feels mildly dizzy (-1 to DX and DX-based skills). After that, he must roll against Will at +2. Success means that the implant has stimulated the development of a psi power – or *two* powers, on a critical success. Regular failure indicates that the patient gains nothing.

On a critical failure, though, the subject's brain proves incompatible with neuro-psi implants, and he'll suffer problems. Make a HT-2 roll to determine the severity of these effects. Any success (even a critical success) on this roll means the patient experiences a seizure (p. B429) that lasts for 3d seconds and costs him 1 FP per second. Failure further inflicts HP of injury equal to the FP loss – and worse, brain damage that reduces his IQ by one. On a second critical failure, he dies!

Regardless of the outcome, only one attempt is allowed. Further neuro-psi implants have no effect on those who've already received them.

If the subject *does* gain a power, roll 2d once (*twice*, on a critical success) to determine what he gets:

- 2 – Astral Projection
- 3 – Psychokinesis
- 4 – Psychic Vampirism
- 5 – Psychic Healing
- 6 – Telepathy
- 7 – ESP
- 8 – Telepathy
- 9 – Anti-Psi
- 10 – Psychokinesis
- 11 – Ergokinesis
- 12 – Teleportation or other power (e.g., Biokinesis)

The patient gains 1d character points of abilities or perks in that power; if necessary, add appropriate limitations to reduce the cost. If a *PC* gains a power this way, the GM may require him to pay points for it. The subject can learn psi skills and improve his abilities normally with experience, but all abilities gained – both initially and from later experience – only function while the implant is worn. Buy them with gadget limitations (pp. B116-117): Breakable, DR 2, SM -9, -20% and Can Be Stolen, Must be forcefully removed, Won't work immediately for thief, -5%, worth a net -25%. The implant has HP 1. If someone with implant-generated psi later gains psi powers by any other method, he loses the implant's benefits.

Neuro-psi implants only work on people *without* natural psi powers. If someone who has any psionic potential – latent or fully realized – receives such an implant, he suffers the effects of a critical failure on the Will+2 roll described above. He must immediately make the HT-2 roll to determine the severity of the effects!

A neuro-psi implant is \$15,000, plus \$2,000 for the operation. LC3.

PSIBERNETIC IMPLANTS (TL[^])

Psychotronic devices may be implanted in a subject to give him artificial psi abilities. These might work only for people with some form of psi latency – or alternatively, for those *without* latency – or they could be an option for anyone. A psiber-netic implant has the same stats and point cost as a “natural” psi ability, but adds three modifiers (which add up to 0%, so there's no net change to the ability's cost):

- *Reliable* +5, +25%. This gives +5 to skill rolls to use the ability, representing the implant's innate psi-amplifying effects. See **GURPS Powers**, p. 109.

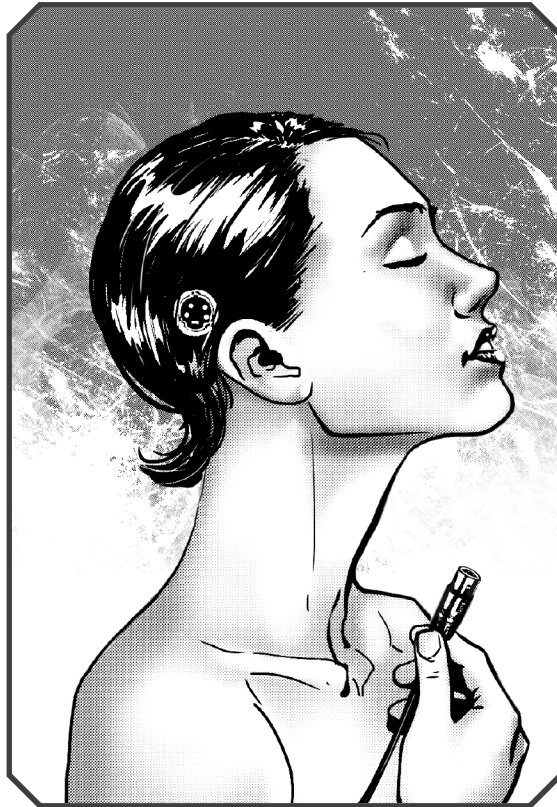
- *Temporary Disadvantage, Electrical*, -20%. The ability is vulnerable to electrical surges, power drains, etc. See p. B134.

- *Temporary Disadvantage, Maintenance*, 1 person, Weekly, -5%. The implant calls for a weekly checkup or similar procedure using Electronics Operation (Psychotronics). This doesn't necessarily involve removing the device for service. Possibilities include inserting fresh batteries, running a test program via a skull socket, performing a high-tech diagnostic scan, and injecting anti-rejection drugs. See p. B143.

Physically, psiber-netic implants go in the *brain*. Assume that they have some form of tiny skull port – hidden under the scalp, in the neck, etc. – to allow maintenance. While they're made of non-ferrous materials, a careful physical examination or diagnostic scan might find them; this requires a Diagnosis roll, which is at -5 if not deliberating looking for implants.

Installation or removal of a psiber-netic implant is major brain surgery! The procedure requires two hours and a roll against Surgery (p. B223) at an extra -2. Failure inflicts 2d HP of injury; critical failure doubles this or adds other, more-exotic side effects.

Recovery time is two weeks, halved if the Surgery roll was a critical success. Also halve recovery time *and* any injury if using TL9+ robotic surgical instruments. And due to the synergy between the subject's mind and body, reduce the final recovery time of a *successful* operation by 10% per level of appropriate psionic Talent he possesses (e.g., Telepathy Talent, for a Telesend implant).



The recovery time must pass before a repeated attempt is possible (if the operation failed) or before the implant becomes functional (if it succeeded). Optionally, in the last half of the recovery period, treat the implant as functional but possessing a temporary limitation such as Emergencies Only – or Unconscious Only and Uncontrollable, if that would be more interesting. This wears off at the end of the recovery time.

Psibermetic Implant (TL[^]): Start with any psionic ability and add Reliable +5, +25%; Temporary Disadvantage, Electrical, -20%; and Temporary Disadvantage, Maintenance, 1 person, Weekly, -5%. Cost is \$10,000 × ability's point cost. Most psibermetic implants are LC2, but those with obvious espionage or offensive applications are LC1.

*Only one problem –
we keep dying. No one
has ever survived the drug
meant to boost our powers.
– Cassie Holmes,
in Push*

PSIBORGS (TL[^])

“Psiborgs” are disembodied animal brains – or *human* ones – encased in life-support systems and cybernetically linked to powerful psi-amplifiers. They're encouraged by direct neural stimulation to produce a single psionic power and to obey their masters. Unlike standard cyborgs (*GURPS Ultra-Tech*, p. 27), they're enslaved constructs with little or no volition. Still, while a psiborg's only thoughts might be of its duties, torment, or drug-induced bliss, it's a *living* creature that can be detected psionically and affected by Telepathy, Psychic Vampirism, and so on.

A psiborg requires a brain with at least some psionic potential. At a minimum, this may involve genetic manipulation or drug experiments to grow or create an animal brain with a latent psi power. More powerful psiborgs might call for transplanted or vat-grown human or alien brains, possibly with fully realized psi abilities. The surgical techniques and life-support equipment needed to transplant brains and maintain them outside of a living body are TL9+.

A basic psiborg consists of a brain housed within a “psiborg box” – a self-contained life-support unit with monitoring equipment. Psiborgs are given orders and communicate telepathically, or via chemical or electrical psychotronic systems designed to simulate the brain directly in order to enforce compliance and amplify the subject's psi abilities. Some also have built-in terminals that allow communication with or information display for use by non-telepaths.

All psiborgs have the following meta-trait to reflect this status quo:

Psiborg: A brain-in-a-box, with a reserve of energy for powering psionic abilities. Blindness [-50]; Deafness [-20]; DR 5 [25]; Electrical [-20]; Energy Reserve 16 (Psi) [48]; Fearlessness 5 [10]; Injury Tolerance (No Neck) [5]; Less Sleep 4 [8]; Machine [25]; Maintenance (Electronics Repair; 1 person; Weekly) [-5]; Mute [-25]; No Legs (Portable)* [-30]; No Manipulators [-50]; No Sense of Smell/Taste [-5]; Numb [-20]; Reduced Consumption 2 [4]; Reprogrammable [-10]; Restricted Diet (Nutrient pastes and fluids; Occasional) [-30]; Sealed [15]; Slave Mentality [-40]; and Unattractive [-4]. -169 points.

* No Legs (Portable) is a less-extreme form of No Legs (Sessile). The character can be carried, worn, or implanted for easy transportation, but has -6 to DX where legs are needed, as for *Lame* (Legless). See *Transhuman Space: Changing Times*, p. 42.

Most psiborgs also have ST 0 and HP appropriate to their mass. Four typical models appear below; in all cases, maintenance costs are 1% of purchase price per week (for the special serums and nutrients), and an unmaintained psiborg will die in 1d days. These psiborgs can serve as worked examples for the GM who wants to create custom models – including ones where the disembodied brain has unique psi abilities or a larger Energy Reserve, is built into a mobile cybernetic body (alter No Legs as needed), or retains its personality (remove Slave Mentality, and probably Reprogrammable).

Watchdog

This is a simple psiborg that detects the presence of telepathic activity. It uses a rat brain sensitized to telepathic impressions, encased in a life-support unit. The braincase and life-support machinery are about the size of a large briefcase. Attached to them is a monitor that shows the watchdog's brainwave fluctuations. The brain is super-sensitive to psionic impressions, and becomes painfully agitated if anyone nearby is the target of or uses any Telepathy ability. Through telepathic conditioning, it can be “introduced” to friendly psi signatures and trained to exclude them. A skilled observer can interpret the watchdog's brainwave fluctuations to deduce the type of intrusion; make an Electronics Operation (Psychotronics) roll to determine the specific Telepathic ability at work.

ST 0; **DX** 8; **IQ** 4; **HT** 8.

HP 11; **Will** 10; **Per** 10; **Speed** 4.00; **Dodge** 0; **Move** 0.

SM -4 (1 hex); 20 lbs.

Traits: Accessory (Monitor); Anti-Psi Talent 3; Domestic Animal; Psi Sense 4; Psiborg.

Skills: Psi Sense-16.

Techniques: Exclusion (Psi Sense)-16.

Cost: \$100,000. LC2.

Guardian

This more-sophisticated development of the watchdog (above) uses a higher animal brain – typically that of a predator of some sort, with IQ 4-5 but Will 12. The psiborg is designed to react painfully to uses of psi power within 100 yards, using Anti-Psi to strike back with Screaming or to foil attackers by creating a Reflective Shield. As Screaming also blinds the guardian to the target's location, it will usually stop after a few seconds and only resume if it detects further psi use within range.

ST 0; DX 10; IQ 5; HT 8.
HP 16; Will 12; Per 10; Speed 4.50; Dodge 0; Move 0.
SM -2 (1 hex); 60 lbs.

Traits: Anti-Psi Talent 4; Domestic Animal; Psi Sense 3; Psiborg; Psionic Shield 3; Screaming 5.

Skills: Psi Sense-14; Psionic Shield-14; Screaming-12.

Techniques: Exclusion (Psi Sense)-14; Reflective Shield (Psionic Shield)-14; Tiring Scream-12.

Cost: \$300,000. LC2.

Inquisitor

The inquisitor is conditioned to sift through another being's mind. A bulbous central module holds a disembodied human brain, psi-amplifying circuitry, and a complex life-support system. Half a dozen tubes radiate out from this, attaching it to cooling systems and nutrient pumps. Two long sensor cables end in electrodes, ready to be placed on the subject's head. The psiborg is crowned by a monitor screen to display the subject's thoughts. It also has a voice synthesizer and a microphone that enable it to communicate verbally with its masters.

Attached to a subject and activated, the inquisitor will relentlessly probe his mind. Any surface thoughts the psiborg picks up are translated into text and visual form on the monitor screen as they occur to the subject. Unless given orders to hunt for something specific, the psiborg merely displays whatever the subject was thinking about when he was probed. If an inquisitor is attacked, it's trained to generate a Psionic Shield to defend itself, trap its attacker in a cage of thought, and then repeatedly stab his mind to death. It will not otherwise use Mental Stab (as it has trouble locating victims).

ST 0; DX 10; IQ 10; HT 9.
HP 17; Will 13; Per 10; Speed 4.75; Dodge 0; Move 0.
SM -1 (1 hex); 70 lbs.

Traits: Accessory (Monitor); Mental Stab 3; Psiborg; Psionic Shield 2; Telereceive 2.

Skills: Mental Stab-14; Psionic Shield-16; Telereceive-16.

Techniques: Deep Probe (Telereceive)-16; Mind Trap (Psionic Shield)-16.

Cost: \$350,000. LC1.

Sponge

A sponge is a telepathic receiver and storage system the size of a bulky equipment case. It consists of a living brain (sometimes taken from a psionically gifted child) with boosted Telereceive capabilities, conditioned to act exclusively as a telepathic recorder. Sponges are most often used for surveillance, and occasionally as secretaries.

Once activated, the psiborg reads all unshielded *surface* thoughts within range and records them in its brain. The radius is global – a sponge hidden in a basement could read minds on the upper floors. It can store up to 100 man-hours of thoughts before it shuts down. These can be played back on the screen of an inquisitor (above) or scanned by anyone with Telereceive. Individual minds come across as distinct mental “voices”; once a mind reader concentrates on a specific person, there's no difficulty “hearing” that mind over the crowd.

ST 0; DX 10; IQ 8; HT 9.
HP 14; Will 7; Per 10; Speed 4.75; Dodge 0; Move 0.
SM -4 (1 hex); 40 lbs.

Traits: Photographic Memory (limited to 100 hours); Psiborg; Telereceive 5 (Shallow).

Skills: Telereceive-20.

Techniques: Multiplicity-20.

Cost: \$200,000. LC2.

*Concealed in a secret lab inside
the Filatov Eye Institute in Odessa,
he bombarded animal brains
with specific pulsed magnetic
fields. He claims the animals
developed clairvoyance . . .*

*– Shelia Ostrander
and Lynn Schroeder,
Psychic Discoveries*

SOMA-TRAUMATIC LATENCY THERAPY (TL[^])

This gruesome technique springs from the observation that some latent psis develop abilities to compensate for physical disability; e.g., a one-handed latent psi may manifest telekinesis under stress. Soma-traumatic latency therapy aims to exploit this phenomenon through a “shortcut”: Removing body parts to force the brain to remap the associated resources to psi abilities!

The process combines psychological conditioning, surgical amputation, and massive doses of psi-enhancing drugs. Roll against the operation team's Expert Skill (Psionics), Pharmacy, Psychology, and Surgery skills. In addition, the subject must make a Will roll.

Whatever the dice say, the patient receives the appropriate physical disadvantage and suffers injury equal to his basic HP from the trauma. If all five rolls succeed, however, he also gets most or all of the lost points back in the form of psi abilities that compensate for the disadvantage. On *any* failure, he's crippled and gains nothing! Even if the process is successful, the results are unpredictable, but here are some examples of what might be achieved:

Latent ESP, Both Ears Removed: Suffer Deafness [-20], but gain Psidar 3 [19].

Latent ESP, Both Eyes Removed: Suffer Blindness [-50], but gain Awareness 3 [13], Combat Sense 1 [24], and Seekersense 2 [13].

Latent Psychokinesis, Both Legs Amputated: Suffer Lame (Legless) [-30], but gain “phantom legs” allowing flight with Levitation 9 [30].

Latent Psychokinesis, One Arm Amputated: Suffer One Arm [-20], but gain a “phantom arm” with TK Grab 2 [14], TK Crush 1 [5], and a Psychokinesis perk (pick one).

With sufficiently high technology, the physical injury can later be repaired. It's up to the GM whether the psi abilities are then lost.

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The seed that we planted in this man’s mind may change everything.

– Cobb, in *Inception*

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