

Zebulon's Guide To The Frontier, Volume One



Table of Contents

[Copyright Information](#)

[Preface](#)

[New Races](#)

[Humma](#)

[Ifshnit](#)

[Mechanons](#)

[Osakar](#)

[Character Tables](#)

[Ability Score Table](#)

[Racial Ability Modifier Table](#)

[Racial Movement Table](#)

[Typical NPCs](#)

[Racial Reaction Modifiers](#)

[The Resolution System](#)

[Creating Characters](#)

[Skills](#)

[Skills and Experience Points](#)

[Automatic Skills](#)

[Computer Skills](#)

[Medical Skills](#)

[Robotics Skills](#)

[Science Skills](#)

[Weightless Combat](#)

[Fighting Animals and Robots](#)

[Notes for the Weapons Table](#)

[Mentalists](#)

[The Frontier](#)

[Star Frontiers Timeline](#)

[Mega-Corporations](#)

[Cadres and Cults](#)

[New Equipment](#)

[Equipment Sources](#)

[Item Costs and the Black Markets](#)

[Ammunition and Energy](#)

[Weapons](#)

[Beam Weapons](#)

[PGS Weapons](#)

[Missile Weapons](#)

[Missile Launchers](#)

[Advanced Melee Weapons](#)

[Weapon Attachments](#)

[Explosives](#)

[Mines](#)

[Grenades](#)

[Vehicle Skills](#)

[Weapon Skills](#)

[Expanded Skill List \(A-Mat\)](#)

[Expanded Skill List \(Med-Z\)](#)

[Expanded Skills List](#)

[Combat](#)

[Surprise](#)

[Initiative](#)

[Declaration](#)

[Movement](#)

[Structural Damage](#)

[New Combat Terminology](#)

[Ranged Weapons](#)

[Area Effect Weapons](#)

[Melee](#)

[Warheads](#)

[Defenses](#)

[Power Screens](#)

[Defensive Suits](#)

[Helmets](#)

[Optical Devices](#)

[Computers](#)

[Mainframe Computers](#)

[Specialized Computers](#)

[Bodycomps](#)

[Security Devices](#)

[Vehicles](#)

[Survival Gear](#)

[Miscellaneous Items](#)

[Character Record Sheet](#)

A WORD ABOUT THIS EDITION

In FY 110 (Frontier Year 110) something new appeared in the Frontier. It was an encyclopedia compiled by the University of Zebulon documenting all the known flora, fauna, cultures, devices, and history of the Frontier in one place. The handy Ceretronix Pocket 1200 version quickly became a necessary piece of equipment in every pioneer's and spacer's kit. TSR Inc. is proud to make this low-priced paper-and-ink edition available on worlds without an authorized Ceretronix dealer.

This book is protected under the copyright laws of the United States of America. Any reproduction or other unauthorized use of the material or artwork contained herein is prohibited without the express written permission of TSR Inc.

STAR FRONTIERS, PRODUCTS OF YOUR IMAGINATION, and the TSR logo are trademarks owned by TSR Inc. All Rights Reserved.

© Copyright 1985 TSR Inc. All Rights Reserved.

Distributed to the book trade in the United States by Random House Inc. and in Canada by Random House of Canada, Ltd. Distributed to the toy and hobby trade by regional distributors. Distributed in the United Kingdom by TSR UK Ltd.

First printing November 1985

Printed in the U.S.A.

Credits:

Designed by Kimber Eastland
Special Contributions from Bruce Nesmith
Edited by Mike Breault, Steve Winter,
and Anne Gray McCready
Graphic Design by Ruth Hoyer, Dennis Kauth,
Colleen O'Malley, Mike Breault, and Steve
Winter
Stellar Map by Dennis Kauth
Cover Painting by Keith Parkinson
Illustrations by Mario D. Macari
Typography by Linda Bakk, Betty Elmore,
and Carolyn Vanderbilt
With special thanks from the designer to the
following people for field testing over the
years: Brian Blume, Bruce Brachman, John
Dennett, Gene Eisner, Bruce Heard, Harold
Johnson, Don Jones, Mary Kirchoff, Mike
Lange, Debbi Miller, Marty Miller, Dan
Sample, Carl Smith, Curtis Smith, Don Snow,
Skip Williams, Joel Young, and dozens of
others whose characters were offered up "for
research's sake."

PREFACE

"Pssst! Psssssssstt!"

The Yazirian walking through the Minzii marketplace slowed when he heard the hissing and glanced around. He was a dangerous-looking type, possibly one of the newly arrived mercenaries brought in to settle a mega-corp dispute on the other side of Bizarre. He located the source of the third "pssst" and stooped down next to the stall selling Grothian crystals.

Standing underneath the crystal-laden table was an Ifshnit, black body hair carefully braided in the manner of a roving Capellan merchant. His tiny stature was emphasized by the gun case he was leaning on; compared to his own diminutive height it looked like a huge suitcase.

"Greeted well, simian warrior."

The enforcer had no liking for word games but knew Ifshnit customs demanded that the potential customer recognize the merchant as an honorable tradesman.

Searching his mind for the correct phrasing, the Yazirian stammered, "Uh, recognized with respect and delight, esteemed shopkeeper. What might you have in the way of special items for a needy enforcer."

The little face grinned, huge eyes glistening with delight. "Oh nothing, surely, that a traveled, experienced personage such as yourself has not seen in his past wanderings. Only some trinkets and unusual weapons."

The last remark was meant to tantalize. It did.

The warrior, feeling a fool for kneeling in the marketplace's dirt street and appearing as if he was talking to a table, began growling with irritation.

"Show me anyway, distinguished barterer, that I may broaden my experience."

The Ifshnit waved his ringed hand in the air. "No, no, I could not humiliate myself by revealing to your seasoned eyes my meager wares no matter how rare they may be."

"All right you little pirate," the Yazirian snapped, temper flaring and teeth bared. "I have a few precious minutes before I 'bap' to another part of your soggy planet. Do you have something to sell or not?"

Though ruffled by the Yazirian's impatience, the Ifshnit felt confident of a sale. Smiling enigmatically, he flipped open the weapon case and turned it toward the monkeyish face. Inside, the strangely shaped weapon gleamed, even in the shade of the table. Its muzzle was still sealed by the manufacturer's stamp, proving the weapon had never been used.

The Yazirian's eyes narrowed. "Is this authentic?" A slight nod from the merchant sent the

warrior's eyes back to the beckoning weapon.

Small, jeweled hands snapped open compartments and removed insulating panels. "A WarTech Omega Bolt with tooled krickhide holster. The belt holds six powerclips."

The Yazirian smiled slowly, licking his lips. "I think we can do business, esteemed one."

Welcome to *Zebulon's Guide to Frontier Space*. This book is your introduction to the official, updated, streamlined version of the STAR FRONTIERS® Alpha Dawn roleplaying game.

Within this book you will find new player character and non-player character races, and an optional STAR FRONTIERS character, the mentalist. A set of rules for skills that incorporates over 100 skills and allows much more freedom in character development is introduced, along with a new set of combat rules that speeds up and simplifies game play.

The second part of this book gives you more background on the Frontier than was ever available before. It describes the current limits of the Frontier, complete with expanded planet descriptions, a map of known Frontier systems, a brief history of the Frontier sector, background on the megacorporations, cadres, and cults that control the UPF, and a large section on new equipment: weapons, defenses, security devices, body computers, and more.

This book is designed for use with the STAR FRONTIERS Alpha Dawn role-playing game and cannot be properly used without it. It builds upon that game's foundation, but does not completely replace it. The referee should have a working knowledge of the STAR FRONTIERS game before using this product.

Climb aboard, but be prepared to enter a new Frontier full of wonders that you never dared dream of.

A WORD ABOUT THE NEW RACES

The Osakar, Ifshnits, and Humma have inhabited the Rim System worlds for centuries. They were incorporated into Frontier society during the Second Sathar War (SWII) when their help was desperately needed.

While they are legally entitled to all the rights and privileges of UPF members, antiRim prejudice is common on worlds that are several jumps away from the Sathar border. Inhabitants of these protected worlds view the Rim as a collection of "Znoggy Come Latelies" (a PanGal term for anyone who arrives after the rough work is done, supposedly inspired by Captain Znoggy whose forgotten warship never fired a shot and was never hit by one). This prejudice is never found on those planets that were directly involved in the Second Sathar War.

The fourth race, the Mechanons is included because its presence on the Frontier has had increasing impact in the last few decades. The Mechanons should be used only as non-player characters, like the Sathar. They are not, however, an evil race. It just so happens that most Mechanon interests conflict with the interests of the Frontier and the UPF.

Average Size: 2.5 meters tall
Average Mass: 90 kilograms
Average Lifespan: 210 years
Reproduction: hermaphroditic, viviparous
Body Temperature: 38 C

PHYSICAL APPEARANCE AND STRUCTURE

The body of a Humma is pear-shaped with a short, blunt head, no visible neck, narrow shoulders, unusually short arms, a stocky trunk, and wide hips with powerful legs. The face has a muzzle, with both feline and canine features. The body is covered with matted fur, usually dull brown. The hands are hairless. The feet are long and tough.



Humma walk on the balls and toes of their feet, which gives them their extra height. They are able to jump an incredible distance. Their short arms can hold a rifle but are not suited for melee weapons. They have evolved with an agile and strong prehensile tail with which they can deliver a sound blow or use a melee weapon.

Humma are warm-blooded but they are not mammals; their physiology and life cycle are unique. Young Humma are female. After they have borne a single child (all Humma bear one child in their lifetime) they change into males. When Humma approach 170 years of age they undergo another change into a neuter stage and remain neuter until death.

SENSES

Humma hearing and sight are equivalent to Human standards. Their sense of smell and touch are not as acute as most of the other races, while their sense of taste is completely dull. This lack of smell and taste, combined with their tough digestive system, means they can eat almost anything that is vaguely edible.

SPEECH

The Humma language is an ugly one, full of grunts and guttural noises. It is not an easy language to learn; Vrusk and Ifshnits, particularly, have a difficult time with it.

ATTITUDE

Most Frontiersmen do not like Humma, and even their fellow Rim dwellers are not overly fond of them. That is fine with the Humma, because they do not care for the other races, either.

Humma are rude, crude, lewd, pushy, and arrogant. The only races they enjoy working with are the Yazirians (Humma admire their battle rage) and Osakar (because no one likes them either).

Humma evolved from an extremely warlike society. They were welcomed into the Rim System and eventually allied with the UPF because they are much more desirable as allies than enemies. Since the First Sathar War their hatred for the Sathar has run a close second to that of the Ifshnit. This is obvious from the term they use to refer to Sathar: "meat"

SPECIAL ABILITIES

Spring Charge: A Humma can spring up to 25 meters horizontally from a standing start and, if he lands within 2 meters of an opponent, come to a dead stop and make a melee attack against the opponent, who cannot strike back. The "carousel attack:" a circle of Humma springing from one enemy to another, is a bizarre battle tactic they enjoy using. A Humma can continue this 25-meter spring for up to 10 turns, but then gets winded and cannot use it again for at least 30 minutes.

Poison Resistance: Humma are unaffected by any poison that they eat or drink.

Prehensile Tail: The tail of the Humma is 2 meters long and has a grip stronger than a Human hand. The tail is capable of holding an item or swinging a melee weapon. When holding an item, the Humma can use its two arms normally. When using the tail to wield a weapon, the Humma must concentrate on it and cannot use its arms to operate anything else. The tail can only wrap around hilts, handles, etc., and cannot throw grenades or operate devices. The tail itself is treated as a rifle butt for damage. It is strong enough to support a Humma's body, but only for a number of turns equal to the Humma's Stamina divided by 10.

SOCIETY AND CUSTOMS

Humma history is steeped in civil and interspecies war. The Sathar incursions, however, drove the Humma to finally join the Rim Coalition. There is little that they enjoy more than a good brawl. Humma have an almost fatalistic, "it is a good day to die," attitude which not only makes them deadly warriors but leads them to entertain themselves in most illicit fashions. They are carousers without peers.

Humma society is feudal with the equivalent of a king (called the Highest One) and royalty (Higher Ones, High Ones, and so forth). The fealty they owe their superiors is a very serious matter with them. Humma are usually named after their forebears or the houses they serve (Glaxchild, Klud of Arius, etc.). The lineage of a Humma is important to him and a source of pride.

In the last few decades the pride and honor that Humma have traditionally assigned to feats of war have come to include accomplishments in technical and scientific areas and explorations. There is even a house, Platget, that now sends out its descendants to become Star Law Rangers.

IFSHNIT

Average Size: 1 meter tall
Average Mass: 30 kilograms
Average Lifespan: 150 years
Reproduction: heterosexual, viviparous
Body Temperature: 32 C

PHYSICAL APPEARANCE AND STRUCTURE

Ifshnits are short, hairy humanoids. They are bipedal, symmetrical mammals that look like tiny Humans in hair coats. All Ifshnits have bald pates, moustaches, and long, silky hair over the rest of their bodies. This body hair can be any color but is seldom different shades on the same body. All males have long and ornate beards, usually or a different shade than the rest of the body hair. The body hair of both sexes is usually worn in intricate braids. Each Ifshnit clan braids its hair differently.



Ifshnit hands and feet are covered with short hair, except for their palms and soles, which are bare and padded. This short hair is slightly darker than the rest of the body hair. Their hands have three fingers and an opposing thumb, the feet have four toes.

Ifshnits are herbivores and the thought of eating another creature is utterly revolting to them. Because of their vegetarian diet they are constantly nibbling instead of eating meals.

Because of their small size Ifshnits cannot use many large items, including normal rifles.

SENSES

Ifshnits have normal senses of hearing, touch, and taste. They have almost no sense of smell and have a hard time understanding the concept of scent. Their eyes are masterpieces of biological engineering. A fast-closing inner lid closes instantly if exposed to bright light, preventing the Ifshnit from being blinded (many exobiologists believe Ifshnits evolved under intense sunlight). Their night sight is no better than a Human's.

SPEECH

Ifshnits have a lilting, piping voice that is best described as cute. Their language is intricate, but is compatible with most races' linguistic abilities (except the Humma).

ATTITUDES

Ifshnits are intelligent, brave, patient, and tolerant of other races, and members of most other races like them instantly. Unfortunately, Ifshnits prefer being alone or with other members or

their clan. They harbor an intense hatred for the Sathar and any who serve them. This is due to their past dealings with the Sathar Though details are hard to get, apparently the Sathar plagued the Ifshnits since their history began. This leads many historians to believe that the Ifshnits (or a branch of that race) at one time inhabited Sathar space. Ifshnits have been known to risk life and limb many times over to eliminate Sathar and their agents.

SPECIAL ABILITIES

Highly Developed Sight: Ifshnits cannot be blinded by any light, as their inner eyelids snap shut instantly. They cannot see during the turn a light flashes brightly, but their eyesight will be normal the following turn.

Innate Skill: Because of their unique culture, which is heavily based on barter, Ifshnits learn about trading at an early age. An Ifshnit character is allowed to choose one of the following skills at second level and at no cost when it begins the game: Appraisal, Gemology, or Haggling.

SOCIETY AND CUSTOMS

Ifshnits are the major race in the Capella system. They founded the Capellan Free Merchants and still control the organization. Their strange, polite dickering is known and welcome on most planets. Due to their origins, Ifshnits are fiercely independent. They like neither mega-corps nor cadres. They live in small family clans and are governed by a committee that changes continually.

Ifshnits believe that this is the last corporeal existence they will have. Their concept of an afterlife is one of pure thought mixed with gentler emotions. As a part of this belief they tend to ignore the sensual pleasures of life. Their favorite pastimes include games (they love competition), storytelling, and bartering for goods.

They adapt very well to living and working in space. Dorem Dasak, the famous Dralosite philosopher and historian, has named them "The race of the future, they who will inherit!"

MECHANON

Average Size: 2.2 meters tall
Average Mass: 100 kilograms Average Lifespan:
unknown
Reproduction: construction
Body Temperature: not applicable

PHYSICAL APPEARANCE AND STRUCTURE

Mechanons are sentient robots. They are roughly humanoid, though members of the warrior class have a large metallic tail which they use to balance and as a weapon. The top of a Mechanon's head is a cluster of various-colored crystals. These crystals form an artificially intelligent storage and computing device, a technology unknown but much sought after by the other races.

SENSES

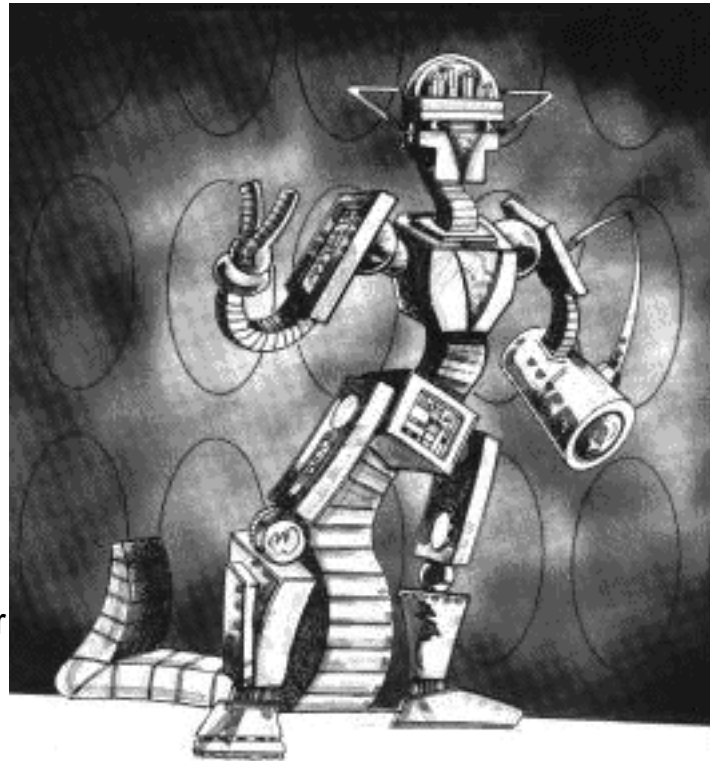
Mechanons are usually equipped with sensors that give them visual and audio input roughly equivalent to Human eyes and ears. The warriors are also equipped with infrared and starlight optics and have heightened hearing. The thinker class is believed to be equipped with all available optical enhancement devices and have extremely heightened hearing. No Mechanon can smell or taste and their touch seems to be the standard type for advanced robots (much less than Human). **SPEECH**

Mechanons have built-in poly-voxes and can be programmed with almost any language. The higher orders, warriors and thinkers, can learn new languages. The Mechanon voice is high and always sounds mechanical.

SOCIETY AND CUSTOMS

Mechanons evolved on Volturnus from primitive Eorna robots. Through a series of incredible coincidences they eventually became a sentient, sapient race of creatures which could propagate mechanically. The robots used on the Frontier in everyday life are to the Mechanons what baboons are to the Yazirians: there is a certain similarity, but the differences are far greater and of more importance.

Little is known about Mechanon society. What is known indicates that it has a complex and strict caste system which does not allow for advancement from a lower caste to a higher one. The more intelligent Mechanons occupy higher castes. It is known that an aggressive tendency to dominate and destroy organic, intelligent life was once a strong factor in Mechanon society.



Indeed, it resulted in the famous Mechanon revolution on Volturnus in FY 54 and the eventual mass exodus of Mechanons from that planet. But recent studies have shown that this is no longer a primary drive within the majority of Mechanons encountered. In fact, of 100 randomly tested Mechanons, only five showed any signs of animosity or superiority complexes relating to organic sentients.

Some robopsychologists are beginning to suspect that two completely different Mechanon societies may be evolving: one bent on peacefully coexisting with the other races, and another, smaller faction bent on destroying them.

Mechanons use standard robots to perform menial tasks, just as the other races do. Philosophy and the arts are completely non-existent and Mechanons cannot understand what organic beings see in these pursuits. Mechanons have no sense of public vs. private property. Supplies simply are created, exist, and are used as needed. There is no family unit.

There are few laws in Mechanon society. Every Mechanon is programmed with specific behavioral directives during construction. Noticeably fewer restrictions are placed on members of higher castes. At present, the Mechanon's crystalline technology is the envy of every government and mega-corp in the Frontier.

ATTITUDES

The Mechanons seem to get along with most races now. Their fascist tendencies have waned since they colonized their own planet, and they are now trying to become respectable members of the UPF community. Many people who have dealt with them in the last decade testify that they are no more difficult to work with than any other race and are possibly easier to deal with than the Humma. Still others, though, contend that the Mechanons are planning the overthrow of all biological races in the Frontier and cite their past cooperation with the Sathar as proof. The matter is hotly contested, and only time will settle it.

SPECIAL ABILITIES

Ambidexterity: All Mechanons are ambidextrous, just as the Vrusk are.

Built-in Weapons: All members of the warrior class have at least one built-in weapon, usually a maser or laser. It is suspected that the thinkers have even more powerful armament.

Amazing Intelligence: The warrior class has a Logic score of 75. The thinker class has a Logic score of at least 95 and can figure out the use of any manufactured item in a matter of minutes. Thinkers are also skilled debaters (Persuasion skill level 2).

OSAKAR

Average Size: 3 meters tall
Average Mass: 100 kilograms
Average Lifespan: 225 years
Reproduction: parthenogenesis
Body Temperature: 42 C

PHYSICAL APPEARANCE AND STRUCTURE

Osakar are very tall, long-limbed creatures. Four legs grow symmetrically from the lower portion of their barrel-shaped bodies and constitute 65% of their height. Each leg has two opposing knees and can fold up to lower the Osakar to a height of a little under 2 meters.

Osakar have two arms with shoulder joints similar to those of a Vrusk, but they aren't double jointed. The hands are short and powerful with five fingers (each finger has five knuckles) and two opposing thumbs (each thumb has three knuckles).

The Osakar head is set slightly forward of the shoulders on a long, thick, muscular neck. This neck can turn the head straight back, so the Osakar can easily look behind itself. The Osakar head has a very flat face with little detail. The two eyes are totally black. The nose is an intricately baffled vertical opening. The mouth is a mere slit containing hard, bony ridges used for chewing. Two opposing tongues, one on either side of the mouth, can be seen.

The Osakar epidermis is made up of thousands of large, white, hard, plate-like cells that are shingled downward all over the body. They resemble a huge, white plant more than any animal.

Osakar have only one sex, which is considered female and new individuals are developed from unfertilized eggs. To all other races Osakar appear completely identical, like clones.

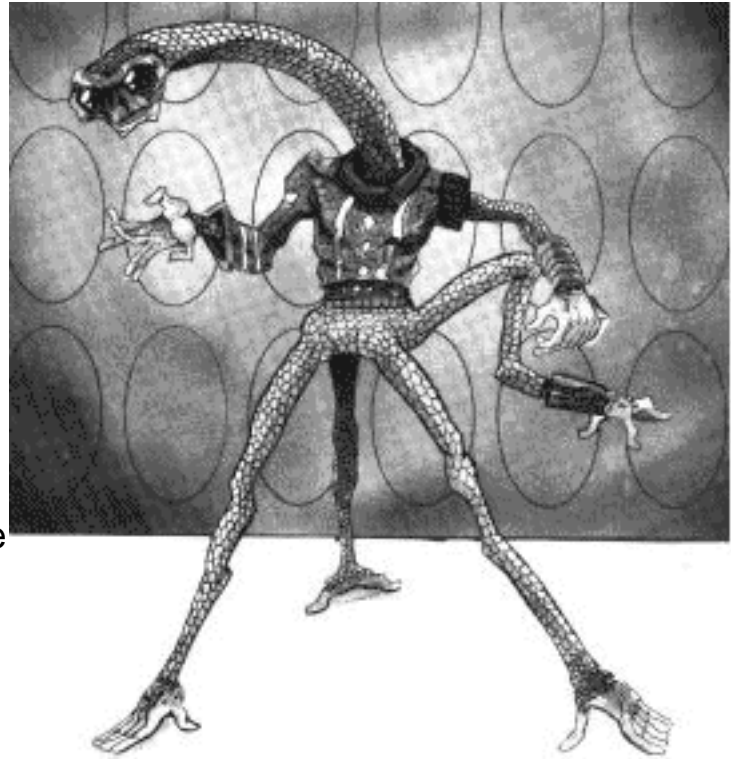
SENSES

Osakar have vision, hearing, and a sense of touch comparable to that of mankind. They have the finest sense of taste and smell on the Frontier (see Special Abilities).

SPEECH

Osakar speak a strange language that is quite beautiful. The two tongues produce sounds no other race can make and the use of their baffled nose-hole adds exotic fluting which is entrancing. They have no problem learning to speak new languages.

ATTITUDES



Osakar try to get along with everyone, but some of the other races are barely able to tolerate the Osakar, probably because of their appearance. Most Humans are afraid of Osakar (because of their "spidery" legs) and the two races never live close to each other. The only races that get along with them are the Ifshnits (after centuries of trade and interaction) and the Humma (because no one likes them either).

SPECIAL ABILITIES

Highly Developed Smell: All Osakar have highly developed olfactory senses. These are so accurate that an Osakar can recognize and identify even very weak odors that it has encountered in the past, including people. Any Osakar learning the Tracking skill has a +2 Column Shift added to its success rate, unless something has masked or removed the scent.

Languages: Because of their unique mouth structure Osakar can duplicate all known languages. The Osakar are the finest linguists known. An Osakar character starts the game knowing any four civilized languages it desires in addition to PanGal and Osakish.

SOCIETY AND CUSTOMS

The incredible physical similarities between Osakars has an interesting impact on Osakar society. All Osakar are absolutely equal and have the same rights. They are the only race that has achieved perfect equality. Their lack of distinguishing features not only reinforces this equality, but also channels their natural inclination toward individuality in a most unusual direction. No two Osakar sound alike, the inflection and tone of their voice being unmistakably different. Some even adopt other languages permanently.

This desire to be different also manifests itself in their religious beliefs. Every known religion in the galaxy, including ancient and "forgotten" religions, is being practiced by at least one Osakar. All Osakar are fervently religious, but the religion itself is not as important as the fact that the Osakar believes in it.

But the Osakar desire for individualism is most notably expressed in their apparel. While Osakar can live comfortably in most climates without clothing, apparel accounts for a major portion of their personal expenses. They absolutely love fashion. Gaudy, tasteful, tacky, luxurious, the range of Osakar apparel is without limits and changes continuously. (Osakar characters must spend at least 20% of their income on clothing and accessories.) Osakar do not limit their outfits to one gender or species; any clothing that fits, from any culture or time period, may be worn by an Osakar.

CHARACTER TABLES

Ability Score Table

Base Score	Dice Roll
01-10	30
11-20	35
21-35	40
36-55	45
56-70	50
71-80	55
81-90	60
91-95	65
96-00	70

Racial Ability Modifier Table

Race	STR/STA	DEX/RS	INT/LOG	PER/LDR
Dralasite	+5	-5	0	0
Human	0	0	0	0
Vrusk	-5	+5	0	0
Yazirian	-10	+5	+5	0
Osakar	+5	+5	0	-10
Ifshnit	-5	0	+5	0
Humma	+10	0	0	-10

Racial Movement Table

Race	Walk/Turn	Run/Turn	Per Hour
Dralasite	5 m	20 m	3 km
Human	10 m	30 m	5 km
Vrusk	15 m	35 m	6 km
Yazirian	10 m	30 m	4 km
Osakar	25 m	60 m	10 km
Ifshnit	4 m	15 m	2 km
Humma (walk)	10 m	35 m	6 km
Humma (leap) *	25 m	50 m	
Mechanon (standard)	8 m	25 m	4 km
Sathar	10 m	20 m	3 km

* Humma can leap for up to 10 turns, then must rest for 30 minutes.

Typical NPCs

Race	STR/STA	DEX/RS	INT/LOG	PER/LDR	PS	IM
Dralasite	45/45	45/45	45/45	45/45	3	5
Human	50/50	40/40	45/45	45/45	3	4
Vrusk	40/40	50/50	45/45	45/45	2	5
Yazirian	35/35	50/50	50/50	45/45	2	5
Osakar	50/50	50/50	45/45	35/35	3	5
Ifshnit	40/40	45/45	50/50	35/35	2	5
Humma	55/55	45/45	45/45	35/35	3	5
Sathar	40/40	40/40	45/45	45/65	2	4
Mechanon	65/55	55/55	25/55	25/25	4	6

Racial Reaction Modifiers

Player Character Race

NPC Race	Human	Dralasite	Vrusk	Yazirian	Osakar	Ifshnit	Humma
Dralasite	0	0	-10	-5	-15	+15	-10
Human	0	+10	+5	0	-5	+5	-10
Vrusk	-5	0	0	0	-5	+5	-5
Yazirian	-5	-10	0	0	-5	+10	0
Osakar	-5	-5	-5	-5	+10	0	0
Ifshnit	+5	0	0	+5	0	+15	-5
Humma	0	-10	-5	+5	+5	-5	+10
Sathar	-20	-30	-10	-30	-10	-40	-20
Mechanon	-10	-15	-5	-20	-5	-10	-5

THE RESOLUTION SYSTEM

The new Star Frontiers Rules resolve most facets of the game (combat, skill use, etc.) by the use of the Resolution Table. It is a simple system and quite universal. If a game action can't be handled with the Resolution Table, Ability checks can still be used, such as Stamina checks to fight the effect of gas or stunning. Before going on to the heart of the system, players and referees should get acquainted with some new terminology.

RESOLUTION

This means the act or process of resolving something, determining its success or failure. The Star Frontiers Alpha Dawn rules resolved all actions with a percentile dice roll, which was compared to a single target number. The action either succeeded or failed, with no middle ground. The resolution system described here uses a color-coded table to assign one of five possible outcomes to each dice roll.

BASE COLUMN

The Resolution Table is divided into 19 vertical columns, from -X on the left to +X on the right. In the first step of any combat or skill use resolution, the player locates his character's appropriate skill level for the skill or weapon being used. This skill level determines which column of the Resolution Table is the character's base column for this action. For example, a character firing a Rafflur M-3 is using his Beam Weapons skill. In his Beam Weapons skill level is 3, then the +3 column is his base column for this action. Modifiers may cause him to shift to a different column to the left or right.

COLUMN SHIFT

Column Shift: Column shifting is the second step in the sequence. Various conditions may make an action easier or harder to do. If something is very easy to do, the character gets column shifts to the right. If it is very difficult, he gets column shifts to the left. For example, if the character firing the Rafflur M-3 is firing at a large target, he gets a +1 column shift, which moves his attempt from the +3 column to the +4 column. All column shifts are cumulative. The column that the player arrives at after all shifts is called the strike column if the character is attacking; otherwise, it is called the skill check column.

(Each column shift equals a modifier of plus or minus 10 in the Alpha Dawn rules. For example, a +20 bonus in the Alpha Dawn rules now becomes a +2 column shift.)

Positive Column Shifts: Modifiers that help the character by making his target easier to hit or his action easier to perform are positive column shifts. They increase the character's chance to succeed by moving the strike or skill check column to the right. Positive column shifts are indicated by a plus sign (+). The notation "+1 CS" indicates a one-column shift to the right. Any action that is shifted beyond +X is resolved on the +X column.

Negative Column Shifts: Combat modifiers that make a target harder to hit or skill modifiers that make an action harder to perform are negative column shifts. They decrease the

character's chance to succeed by moving the strike or skill check column to the left. Negative column shifts are indicated by a minus sign (-). The notation "-1 CS" indicates a one-column shift to the left. Any action that is shifted to the left of the -X column is resolved on the -X column.

RESULT AREAS

Running left to right across the columns of the Resolution Table are four color bands. These color bands are called **result areas**. After making all of his column shifts the player rolls percentile dice and looks at the table to see what result area his dice roll is in. If the area is colored, the attack or skill check succeeded. Sometimes the degree of success is indicated by the color: yellow means just barely succeeded, while cobalt means it worked extremely well. If an action is especially difficult the dice roll may have to fall into a particular color to succeed. For example, if the rules say a green result is needed, then a green result is minimal success. The action succeeds if the result is green, blue, or cobalt. A white or yellow result means failure.

Combat uses the colored result areas extensively. Instead of 10-sided dice of damage, most weapons are rated by their maximum damage. The color of the result area determines what fraction of its maximum possible damage the weapon causes. A cobalt result causes maximum damage, a blue result causes three-quarter damage, a green result causes one-half damage, and a yellow result causes one-quarter damage. Damage indicated by the color result may also be reduced by the target's armor or screens.

RESULT SHIFTS

Occasionally, an attack or action may have its result shifted. This is indicated by either a positive result shift (+1 RS) or a negative result shift (-1 RS). A positive result shift moves the result toward the top of the table: yellow becomes green, green becomes blue, blue becomes cobalt. A cobalt result remains cobalt. A negative result shift moves the result toward the bottom of the table: cobalt becomes blue, blue becomes green, and green becomes yellow. A yellow result is not shifted to white. Shifting results does not alter the maximum possible damage: cobalt is still maximum, blue is three-quarters, etc. A positive shift makes it impossible to cause minimum damage and makes maximum damage more likely, while a negative shift makes it impossible to cause maximum damage and makes minimum damage more likely.

CREATING CHARACTERS

Character generation is unchanged from the expanded game system. Abilities remain the same, although they are not as critical in the new system, which relies more heavily on skills. Abilities can cause column shifts, and the referee can still call for ability checks when appropriate.

The major new addition to a character's persona is his profession and occupational standing. At the start of the game, each player must choose a profession and an occupational standing for his character.

A character chooses a profession because of the job security and support it provides. Each profession respects and supports its own members above any other profession. There are reference centers, discount houses, and hotel-like facilities for each profession on most of the civilized worlds and space stations. When a character starts the game he receives 20 experience points, gleaned from years of study, practicing, apprenticeship, or whatever. Immediately 10 points are spent on joining a profession. In exchange, the character receives a bonus skill that is available only to members• of that profession.

A character can belong to one of four professions: Enforcer, Techex, Scispec, or Explorer. There are also two more professions that are not considered here: Spacers, for campaigns using the Knight Hawks game rules, and Mentalists, an optional profession that is described in its own section. A character must belong to one of these professions and may not leave it at a later date.

Once a character joins a profession he can spend his remaining experience points on any of his profession's skills. Any skills purchased with the remaining 10 experience points are known by the character when the game begins.

After choosing a profession for his character, each player must choose an occupational standing: Star Law or some other law enforcement agency, a mega-corp employee, or self-employed. A character can change his occupational standing anytime the opportunity or need arises.

Every character, no matter what his profession, can find a position in any occupational standing. Just as characters of the same profession stick, so do professionals of the same occupational standing support each other.

The length of time that a character spends in a particular occupational standing is entirely up to the player. If, after a few adventures, a character wishes to quit Star Law and join a mega-corp, he may do so. Players should consider their characters' experience, financial condition, and seniority, and the effect the change may have on the campaign. While professionals with different occupational standings do work together occasionally, it is not common.

Occupational standings and professions that are not acceptable are those that are illegal: assassins, pirates, terrorists, professional criminals, Sathar agents, and so on. Those types of characters cannot be considered as anything but the enemy. Players should not be allowed to play these types of characters.

PROFESSIONS

Skills listed with an asterisk (*) are automatically gained when the profession is chosen.

ENFORCER

The purpose of the enforcer profession is to provide protection and enforce federation or planetary law, corporate rules, or employer interests, whichever fits the character's occupational standing. Typical enforcers work as Star Lawmen, corporate security personnel, private investigators, and mercenary soldiers.

Enforcers automatically gain the Endurance skill when they start the game. Enforcer professional skills include:

- Body Speak
- Communication Devices: Operate
- Computers: Access & Operate
- Cryptography
- Endurance *
- Forgery
- Law
- Ride Mount
- Robotics: Identification
- Running
- Security Systems: Access & Operate
- Security Systems: Deactivate
- Security Systems: Detect
- Security Systems: Open Locks
- Vehicles: Aquatic
- Vehicles: Atmospheric
- Vehicles: Cars
- Vehicles: Cycles
- Vehicles: Transports
- Weapons: Beam Weapons
- Weapons: Demolitions
- Weapons: Grenades
- Weapons: Martial Arts
- Weapons: Missiles
- Weapons: P.G.S. Weapons
- Weapons: Powered Assault Armor
- Weapons: Repair

TECHEX

Techex is the common name given to a member of the Technical Expert profession. The techex's job is to build, direct, maintain, and repair his employer's technical equipment, computers, and robots. Typical positions held by a techex include Star Law computer expert, corporate robotics development, research and maintenance personnel, private contractor, or technology.

Techexes automatically gain the Agility skill when they start the game. Techex profession skills include:

Acoustics
Agility *
Computers: Access & Operate
Computers: Bypass Security
Computers: Defeat Security
Computers: Display Information
Computers: Interface Computers: Repair Bodycomp
Computers: Repair Mainframe
Computers: Repair Specialized
Engineer: Mechanical
Machinery Operation
Machinery: Repair
Optics
Physics
Robotics: Activate/Deactivate
Robotics: Alter Functions
Robotics: Alter Mission
Robotics: Identification
Robotics: List Functions
Robotics: Modifications
Robotics: Remove Security Locks
Robotics: Repair
Security Systems: Open Locks
Vehicles: Machinery
Vehicles: Repair
Weapons: P.G.S. Weapons

SCISPEC

Scispec is the common name given to a member of the Scientific Specialist profession. The job of the scispec is to oversee scientific expeditions, conduct experiments, provide medical aid, and create computer programs. Typical positions held by a scispec include Star Law science specialist, Star Law medic, exobiologist, corporate research expedition member, and independent doctor.

Scispec automatically gain the Intelligence skill when they start the game. Scispec profession skills include:

Archaeology

Biology
Bionics
Botany
Chemistry
Computers: Access & Operate
Computers: Program Manipulation
Computers: Program Writing
Computers: Program Bodycomp
Cybernetics
Exobiology
Forensics
Genetics
Intelligence *
Medical Devices
Medical Diagnosis
Medical Treatment: Disease
Medical Treatment: Infection
Medical Treatment: Infestation
Medical Treatment: Poison
Medical Treatment: Radiation
Medical Treatment: Wounds I
Medical Treatment: Wounds II
Medical Treatment: Wounds III
Medical Treatment: Wounds IV
Physics
Zoology

EXPLORER

The purpose of the explorer profession is to operate alone or in small groups on an unexplored planet or as guides or scouts for scientific or military expeditions. Typical positions held by explorers include Star Law scout, mercenary strike force or commando team member, corporate spy, and advance emissary to primitive cultures.

Explorers automatically gain the Charisma skill when they start the game. Explorer profession skills include:

Analyze Animal Behavior
Animal Taming
Animal Training
Body Speak
Camouflage
Charisma *
Climbing
Communication Devices: Operate
Communication Devices: Repair
Concealment
Find Directions

- Geology
- Geophysics
- Haggling
- Making Items/Structures
- Medical Diagnosis
- Medical Treatment: Veterinary
- Persuasion
- Ride Mount
- Stable Mounts
- Stealth
- Survival
- Tracking
- Weapons: Martial Arts
- Weapons: Melee Weapons
- Weapons: P.G.S. Weapons

OCCUPATIONAL STANDINGS

Law enforcement and military organizations (such as Star Law or Spacefleet) have the distinct advantage of having the law on their side. The judicial and penal systems support them. They have solid financial backing, informational networks that are second to none, and they grant more individual authority and power than any private or mega-corp professional could hope for. The disadvantage is that there are certain legal procedures that must be followed, which sometimes hinder a character's performance. Bureaucratic red tape, politically ambitious superiors, and an unsympathetic public all contribute to the problems of a professional in this position.

Mega-corp employees enjoy fantastic financial backing, benefits, and, if they are willing to play by the company's rules, amazing promotion possibilities. The mega-corp laboratories and technical facilities are the finest in the galaxy. In addition, mega-corps offer great leeway in how a job can be accomplished, just so long as it gets done. Consequently, a character is not as limited in his options as, say, a Star Lawman.

One of the disadvantages is that corporate rivalries are constant and sometimes dangerous. Competition within the corporations themselves is intense and the possibility of being left out on a limb by an executive is very high.

Self-employment offers the most freedom from the hassles of manipulating superiors and narrow-minded bureaucrats. The approach taken to a mission is left up to the character and, more often than not, he decides his own fate. The major disadvantage to being self-employed is financial. Self-employed characters are almost always low on credits and under-equipped.

CONVERTING CHARACTERS

Veteran characters, those who were generated under the Alpha Dawn rules, can find a home in the expanded game. Military PSA characters can easily become enforcers, or even explorers. Technical PSA characters would feel comfortable in the techex or scispec professions, and

Biosocial PSA characters can fit right into scispecs or explorers.

If a player wants to use a veteran character with these new rules, the player can either redefine the character's skills or redistribute his experience points.

Redefining existing skills requires the player and referee to look at the character's current skills and levels, then translate them to new skills with the same levels. This type of character is much more experienced and powerful in the new system. Every skill and subskill from the old system has a counterpart in the new one. Some have been split into many simpler skills. In this case the player should choose the single skill that suits him best.

Redistributing experience points requires the referee and player to figure out how many experience points the character has used in the past to gain the skills he has. The player reassigns these points as he likes, even gaining multiple levels in a skill if he desires.

The only time the referee may have to reshuffle skills and levels is if both methods are used for different characters in the same campaign. In this case he may be forced to decrease the levels of those characters who redefined existing skills.

SKILLS

The skill system presented here is somewhat different from the original skill system. The STAR FRONTIERS Alpha Dawn game system contained 46 skills grouped in Primary Skill Areas. The new skill system has segmented these, and added more to contain over 120 skills. These new skills are not grouped in any Primary Skill Areas at all. As explained in the Professions section, a character can acquire some skills natural to his profession easier than normal skills, but, with the exception of the four "automatic" profession skills (Agility, Charisma, Endurance, and Intelligence). Any character has access to any skill. One of the primary intents of the Expert system is to allow the player to individualize his character as much as possible. This new skill system promotes that individuality.

Another difference between the two systems is how a success rate for each skill is determined. The Alpha Dawn system had a different percentage number for each skill, then usually added the player's skill level times 10%. Under the PSA structure this tended to force characters of the same PSA background to "look alike"; that is, they progressed at exactly the same rate in all of their subskills. The new system uses the individual skill levels to determine the success rate, plus easy-to-remember column shifts (see the Resolution System section) as modifiers. Not only does this allow the skill system to be tied into the combat system (all on one easy table), but the individual skill success rates allow for even two characters of the same race with the same skills to have different expertises (one could be a master surgeon while the other could specialize in the treatment of diseases and poisons). As you read this section, these and other differences will be explained in detail.

After a player has decided what his character's profession and occupational standing will be, he must choose his skills.

SKILLS AND EXPERIENCE POINTS

Characters can learn skills which allow them to perform special actions. Most skills have up to eight levels of expertise now, instead of the six levels described in the Alpha Dawn rules. Other skills give an automatic proficiency or fixed expertise in the skill when it is first taken. The skill levels, sometimes with built-in Column Shifts and other modifiers, indicate the *success rate* for using a skill. The success rate for each skill is listed after its title, as well as on the Skills List at the end of this section. When a character uses his skill, his player must roll a *skill check*. The player does this by trying to roll the individual skill's success rate on the Resolution Table. This is explained more fully in the Using Skills section.

A player can increase his character's individual skill levels by spending experience points. Experience points can be traded in to gain an introductory level skill or to increase a skill the character already has to the next level. Experience points are awarded at the end of the adventure or evening of play in the same manner as in the Alpha Dawn rules.

LEARNING SKILLS

To learn new or higher-level skills, a character must spend experience points. The number of XP (experience points) that must be traded for each skill and skill level are shown on the Skill Cost Table.

SKILL COST TABLE

Skill Level	Profession Skill Cost	Non-Profession Skill Cost
1	1	2
2	2	4
3	4	8
4	6	12
5	8	16
6	10	20
7	12	24
8	14	28

The Skill Cost Table shows the profession and nonprofession cost for each level of skill. This is the cost to go from one skill level to the next, not the total cost to achieve that level. Profession costs are for those skills included under the profession chosen by the player for his character, nonprofession costs are for all other skills. The Profession section lists each profession's skills.

The revised skill system has segmented the Primary Skill Areas and former skills into many more new skills. This is why the skill costs are small compared to the expanded skill system, because you now buy a single skill and not a group of them.

A character can learn only one level of a skill at a time. Skipping levels is not allowed, even if the character has enough experience to do so.

For example, Brango O'Bourke, a Star Law enforcer, has accumulated 6 experience points on his adventures. The player decides to spend these experience points to increase Brango's skill level with beam weapons from level 2 to level 3. Since Brango is an enforcer, and Weapons: Beam Weapons is an enforcer profession skill, it only costs Brango's Weapons: Beam Weapons skill level from 2 to 3 on his character sheet, and subtracts 4 from his experience point total. Brango still has 2 experience points left.

Training: When characters learn new skills or increase a skill level, they must be trained. Three training methods are suggested below. All three methods are optional. Some referees may want to ignore this activity and simply allow players to pick new skills when their characters have earned enough experience points without role-playing the training.

Instructors: A character with enough experience points can learn a new skill or skill level from another character. The instructor's skill level must be at least two levels higher than the pupil's. A character can learn a new skill or skill level from an instructor in one month. He can learn only one skill at a time.

Practice: Characters with enough experience points can learn new skills or skill levels simply by

practicing. This is not always possible, however, especially with skills that require special equipment.

Teaching Tapes: Teaching tapes are micro-cassettes with subliminal instructions recorded on them. They are used in conjunction with a teaching helm. A character with enough experience points will have the helm and the tape with his new skill or skill level on it made available to him through Star Law, his corporate employer, or another sponsor who is interested in his advancement. Teaching tapes teach the skill to the character in several sessions that last a total of five days.

Temporary Learning: Sometimes characters who are sent on special missions are temporarily trained in a skill. The character only retains the knowledge of how to use the skill for a short period of time. A referee may wish to use this temporary skill knowledge in conjunction with a campaign scenario or adventure that requires a specific skill or skill level to complete but which no character in the party possesses. This is especially effective in a "race against the clock" type of adventure, since the skill will "wear off."

USING SKILLS

As explained in the skill introduction section, the new skill system drastically changes how skills are used. It divides skills into individually-learned skills, without primary skill areas or subskills. The STAR FRONTIERS Resolution Table is now used to determine whether a skill check is successfully made (see the section on the Resolution System).

Success Rates: Each skill has a success rate. The success rate is the basic chance for the character to succeed each time he uses his skill. There are four types of success rates listed: automatic success, skill level, fixed level, and modified skill or fixed level.

Automatic success rates mean that once the skill has been taken, the character can automatically perform the skill without having to roll to succeed.

Skill Level success rates mean that the current level of the skill possessed by the characters is what is used on the Resolution Table for a skill check. No modifiers are normally added to the skill check dice roll.

Fixed Level success rates are similar to automatic success rates because once the skill has been taken, it need not be taken again since a fixed level is automatically achieved. Level +X is the most common fixed level, but others exist as well. Subsequent selections of fixed level skills do not increase the success rate.

Modified Fixed or Skill Level success rates may have a positive column shift built-in to improve the character's chance to make the skill check. Skill Level +1 Column Shift is a common modified skill level. This does not mean that a +1 column shift per level of the skill is to be added; it means that after the skill level of the character is located, the column is shifted once to the right. For example, a player whose character has a level 3 in the Machinery Operation skill (success rate: Skill Level +2 Column Shift) would locate his base skill success column on the Resolution Table at Level +3, then shift it two more columns to the right, before rolling to see if the character succeeds.

Some modifications are negative, though, and usually are multipliers of a condition (there are -1 Column Shifts that are multiplied by the computer level, lock level, or maxiprogram level to reflect the increased difficulty at succeeding in the skill).

Some success rate may have both a positive and a negative modifier -- a built-in positive column shift to increase the skill level, but a negative column shift condition (-1 CS per robot level).

Certain modifications may be so varied that the term "special" is listed for their success rate. This means the skill definition should be read carefully and the referee may have to make a decision as to the proper success rate.

Prerequisites: Some skills list prerequisites ("Pr") under their success rates. This contains two different sections: a skill requirement before the new skill can be taken, and conditions (either items or actions) that must be used to perform the skill.

Prerequisite Skill: A skill listed as a prerequisite means that the character must possess it before he can choose the new skill. For example, before you can choose the Acoustics skill, you must have the Physics skill. If more than one level of a skill is needed as a prerequisite, it will be noted.

Prerequisite Items or Actions: Items listed as prerequisites are needed to use the skill. Medkits or techkits are necessary tools. If the job may be too big or too complicated for a simple kit, the prerequisites usually adds "or proper tools and facilities." In all cases the referee should use common sense whether the attempted skill use can be performed with simple tools in the field or must be completed in better-equipped surroundings.

Actions or conditions are rarely listed as prerequisites. "Animals to be trained must be tamed" is an example of a condition that first must exist before the skill can be attempted. In this case it is a warning not to try the Animal Training skill on an untamed animal. "Gain access," which is listed extensively in the robot skills, is explained in the Robotics background section.

SKILL BACKGROUND NOTES

AUTOMATIC SKILLS

Agility, Charisma, Endurance, and Intelligence are all professional automatic skills. When a character chooses his profession he automatically receives is: Techex -- Agility, Explorer -- Charisma, Enforcer -- Endurance, and Scispec -- Intelligence. There is no other way to select these skills and their game use is only when the character is being created.

COMPUTERS

There are three types of computers mentioned in *Zebulon's Guide to Frontier Space*: mainframe computers, specialized computers, and body computers. All three types are explained in detail later in this book.

Mainframe computers are the type that most of the computer skills are designed for. Mainframe computers are classified as Level 1 through 6 (6 is the most complex). They also use programs

(called maxiprogs) of Levels 1 to 6. The level of a mainframe determines what maxiprogram levels it can run.

Specialized computers are usually considered Level 2 computers and body computers (called bodycomps) are the level of their processor packs; Type A equals Level 1, Type D equals Level 4.

A character with a computer skill gets only one chance per day to try it on a computer. If the computer is designed by an alien race (other than a Frontier race) the success rate for the skill is modified by a -2 Column Shift.

MEDICAL

Characters who do not use a medkit with skills listing it as a prerequisite can still attempt the skill, but with a -3 Column Shift. If a patient is treated in a hospital or sick bay, all medical skills have an additional +2 Column Shift. If the patient is an unfamiliar alien, all medical skills have an additional -2 Column Shift. These two modifiers are cumulative, so the skill check to perform a medical skill in a hospital on an unfamiliar alien is the skill's normal success rate, although the time required for X-rays or exploratory surgery would be longer for an unknown alien. Animals can only be treated by Medical Treatment: Veterinary, but the activities and alien creatures modifiers still apply.

Note that when a character has a disease, infection, infestation, poison, or radiation introduced into his system, damage does not begin to occur until the turn following the introduction. All other forms of damage (weapons damage, fire, falling, etc.) occur instantly, in the same turn they are introduced to the character.

ROBOTICS

There are eight levels of robots. A robot's level indicates how complex it is, just like a mainframe computer. And like the mainframe and body computers, it has programs, called robo-progs, also with eight levels.

Robots will be discussed in great detail in future volumes of *Zebulon's Guide to Frontier Space*. Until the new definitions of robots are released, continue to use the six levels of robots that are explained in the STAR FRONTIERS Alpha Dawn rules. The robo-progs, detailing the robot's functions and mission, are inserted inside the robot on a prog-it circuitry board. This board is usually secured behind at least one protective plate. To reach the circuit board, the plate or plates have to be removed. This is what is meant, under Prerequisites, by *gain access*.

ROBOT MALFUNCTIONS

If a player fails his character's roll on his Robotics: Remove Security Locks, Alter Functions, or Alter Mission skills, the robot can malfunction. When this happens, the referee should roll 1d100 on the Robot Malfunction Table.

ROBOT MALFUNCTION TABLE

Die Roll	Effect
01-20	No Malfunction
21-30	Function Progit Destroyed
31-40	Sensor System Failure
41-50	Mobility System Failure
51-60	Short Circuit
61-70	Level Drop
71-80	Mission Erased
81-90	Haywire
91-00	Explosion

MALFUNCTION DESCRIPTIONS

No Malfunction: The robot continues to function normally.

Function Progit Destroyed: One of the robot's function progit (picked randomly by the referee) has been destroyed. The robot cannot perform anything that requires that progit. If all of a robot's progit are destroyed, the robot is deactivated.

Sensor System Failure: The robot's optical or radar/sonar sensor system fails. This means the robot can only locate a target by its normal audio-receivers. Since it cannot normally maneuver by touch, it must go very slowly.

Mobility System Failure: The robot's mobility system, whether it be hoverfan, wheels, tracks, or legs, is damaged. The referee decides what type of limitations are placed on the robot's mobility. Examples: can only turn in circles, can only move in reverse, moves sluggishly at one-quarter speed, jerks forward with little control over its speed, no movement at all.

Short Circuit: The robot is still operating, but has been damaged (effect at referees discretion). For example, a robot with a short circuit might rattle and spark while it works, or suffer a severe loss of power to its weapons systems.

Level Drop: The robot suffers damage throughout which drops it one level. This level drop is used for the purpose of combat, skills, and intellect.

Mission Erased: The robot's mission progit has been erased. It still maintains all of its functions, but has no purpose in life except to survive.

Haywire: The robot is completely out of control. It might attack at random, spin in circles, recite the Dralastic Creed, or do anything else which the referee thinks fits the situation.

Explosion: The robot's parabattery explodes, causing 10 points of damage multiplied by the parabattery's type to the character attempting the skill. Damage is electrical, fragmentary, and concussive.

SCIENCES

Science skills, such as botany, chemistry, zoology, or geophysics, rely heavily on the character's practical experience and common sense. Even so, each skill automatically requires a small exploration kit containing microcircuitry equipment that assists the character in using

the skill (such as a minimicroscope), testing chemicals, or simple analysis tools. These are sufficient for the common uses of the skills. If the referee thinks the character wishes to glean more information about a subject than his present tools can provide, then sufficient time and proper scientific facilities are required.

VEHICLES

Vehicle operations include starting, driving, and using a vehicle to do anything it was designed to do normally. The skill check includes the possibility that the character may need to bypass a locked ignition to start the vehicle. Obviously, if the vehicle is damaged or out of fuel, it will not start until it is repaired or refueled.

A character usually will have no trouble starting the vehicle, but only gets one chance to operate it if he is unfamiliar with it. If the character has driven this type of machine before, he can start and drive it automatically.

The normal operation of a vehicle does not include stunts or hazardous maneuvers. These are included in the Alpha Dawn rules on page 30 under Special Maneuvers and have not changed (though some of the new vehicular equipment in *Zebulon's Guide to Frontier Space* increases the chances of performing them better).

The referee may decide, because of alien design or modifications to a vehicle that the character is attempting to use, that the result area the player needs to roll on the skill check should be a specific color or colors and, thus, more difficult.

STANDARD REPAIR RULE

Many skills allow characters to repair damaged equipment. The success rates can be modified by the referee depending on what is being repaired, how it was damaged, the extent of the damage, and available tools, but the procedure is the same for all the repair skills.

If the damaged equipment is repaired in a facility with proper tools and equipment, there is no chance it will breakdown again on its own. When a repair is made away from a shop with a personal toolkit, there is a chance that the device will break down again. The chance depends on the result of the repair skill check. If the result is Cobalt, there will be no further breakdown on its own. If the result is Blue, there is a 10% noncumulative chance that the repaired equipment will break down every other day (referee secretly checks every other day the device is used). If the result is Green, there is a 10% noncumulative chance that the repaired equipment will break down each day (referee secretly checks each day the device is used). If the result is Yellow, there is a 25% noncumulative chance that the repaired equipment will break down each day (referee secretly checks everyday the device is used).

When something breaks down, the referee must decide if the damage is minor, major, or total. Minor repairs take 1d10 minutes, major repairs take 1d10 hours, and total repairs take 1d10 x 10 hours.

WEAPONS

Nonweapon skills offer no possibility of performing the skill without having at least an introductory skill level. Weapon skills are not essential for the operation of a weapon. Weapons

can be used by characters who do not have skills with them (with the exception of explosives, mines, and detonators). Any character using a weapon without possessing any weapon skills for that weapon uses the Level 0 column for his base column and suffers a -1 Result Shift (see Resolution System section). No matter how many positive column or result shifts may apply to the situation, his strike column will never shift to the right past the /0 Level column and his result area can never be greater than the Blue area unless he rolls a 01-02 (see Automatic Rolls). The strike column can, however, shift left all the way to the -X column.

EXPANDED SKILLS LIST

ACOUSTICS

Success Rate: Skill Level

Pr: Physics, techkit or proper tools and facilities

This skill allows the character to build and repair white noise generators, noise insulators and bafflers, and sonic-protection gear (headphones, helmet liners, and so forth). No more than one item can be constructed per week, but the price in materials is 10% less than the normal item cost. When repairing acoustic devices use the standard repair rule.

AGILITY

Success Rate: Automatic upon selection of techex profession

When a character chooses the techex profession he automatically receives this bonus skill. It is assumed that a techex character spent his youth working with intricate equipment, thus raising his agility above the average. The character has 7 points that he can now add to his DEX/RS combination in whatever manner he wishes (e.g., 3 to DEX, 4 to RS).

ANALYZE ANIMAL BEHAVIOR

Success Rate: Skill Level +2 Column Shift

A character with this skill can, if given four turns of observation, make an analysis of whether an animal is aggressive or harmless. Further observations, for 1d10 hours, can also inform the character of whether an animal's den or lair is nearby and what its eating, drinking, and other habits are. For a complete analysis of a creature and how it fits into its surrounding environment, the character would have to use the Analyze Ecosystems skill.

ANALYZE ECOSYSTEMS

Success Rate: Skill Level

Pr: Biology Level 3

This skill allows a character, after spending at least 200 hours studying an area, to accurately analyze an ecosystem. An ecosystem study encompasses the interactions of all the plants and animals that make up the local environment. If an ecosystem is upset or out of balance, entire species can become extinct and whole regions devastated by floods, droughts, or other natural disasters. In analyzing an ecosystem the character can determine if it is balanced and, if not, how to restore the balance. This skill does not allow analysis of individual animal habits.

ANIMAL TAMING

Success Rate: Skill Level

This skill gives a character the chance to tame a wild animal. Once tamed the animal can only be used as a beast of burden or herd animal, unless the Animal Training skill is used to make it a pet or companion. Some types of creatures are more difficult to train than others. The following creatures have a -1 Column Shift modifier to the skill check: all tiny creatures, giant herbivores, all insectivores, large omnivores and carnivores. Giant omnivores and carnivores require a -2 Column Shift. Monsters, particularly vicious creatures, or Sathar-developed creatures, cannot be tamed. Examples of monsters would be sand sharks, queequeg, and

slither, all included in the Star Frontiers Expanded Rules.

Taming a creature can be time consuming and dangerous. The time required depends on its size and type and is left to the referee's discretion. If a character fails the skill check he must roll 1d100, 01-25 means that the creature attacks the character attempting to tame it.

A character failing a skill check may try again on the same creature after a suitable period of time has elapsed, with a +1 Column Shift bonus (-1 Column Shift if the creature tried to attack the character). Once three skill checks have been missed on the same creature, it is considered untamable.

Taming a creature requires the character with the Animal Taming skill to work with the animal day after day. If he misses more than two days of taming time, the creature returns to its original state. Once tamed, however, an animal remains so unless abandoned. Just because a creature is tamed does not mean it does not require a cage, pen, or corral, it simply means that the creature will not attack unless unusually provoked.

ANIMAL TRAINING

Success Rate: Skill Level

Pr: Animal Taming Level 2, animal to be trained must be tamed

A character making a successful check with this skill can train a tamed animal. Training includes teaching an animal to carry a rider and obey riding commands, to guard a location and only allow known characters to pass, or to follow a command word. Commands are simple instructions such as "fetch," "attack," "return," etc. and simple nouns, like weapon, Vrusk, box, etc. Teaching an animal requires days, sometimes weeks, of work. The time required depends on the intelligence of the animal and what is being taught.

APPRAISALS

Success Rate: Skill Level

This skill allows a character to appraise with worth of rare and valuable items (artwork, antiques, books, exotic weapons, etc.) to within 10% of their normal cost.

ARCHAEOLOGY

Success Rate: Skill Level +1 Column Shift

This skill is the scientific study of the life and culture of ancient peoples, through examination of excavations of ancient cities, relics, and artifacts. A successful skill check allows a character to tell the approximate age of an item, what its use might have been, and what the race was like who used it. This is all subject to varying factors, of course, such as the alienness of the item to the character or cases of extreme antiquity. If an entire site is being studied, a number of successful checks over a long period of time must be made to get an overall picture.

BIOLOGY

Success Rate: Skill levels of Botany and Zoology

Pr: Minimum of Botany Level 2, Zoology Level 2

A character who is a botanist and a zoologist can use these skills as a foundation for becoming a biologist (at least two levels in each is required).

A Biology skill allows for the integration of the two sciences and is an introductory skill of other skills, such as Exobiology and Analyzing Ecosystems.

Furthermore, a biologist will be able to discern information in the following areas from a specimen: organ functions, effects of glands and hormones, chemical makeup, vitamins and proteins, life functions, and parasites. This last ability, parasitology allows the character a skill check to identify parasite, know what kind of animals they will infest, know what diseases they carry, and determine the best way to eradicate them. Biology Level 2 allows the character to remove glands and sacks from dangerous plants or animals, thus safely retrieving poison or acid. Biologists of the third level can join the Federation Biological Society, a large and powerful group of scispecs who fund many explorations on known and newly discovered planets.

BIONICS

Success Rate: Skill Level

Pr: Robotics: Modifications Level 2, Medical Treatment: Wounds IV Level 3, Medical Treatment: Infection, proper equipment and facilities

A surgeon with this skill can attach a bionic part to a living organism. The most common uses of bionics are as replacements for lost limbs or organs. The time required to heal from such an operation and learn how to use a bionic limb is weeks, sometimes months (referee's discretion). Both Bionics and Cybernetics will be covered in further editions of *Zebulon's Guide to Frontier Space*.

BLUFF

Success Rate: Skill Level

A bluff is loosely defined as a lie, evasion, or convincing someone that you are something or someone you are not. Any character attempting a bluff who does not have this skill uses Level /0 through Level -X. The more difficult the bluff, the lower the column. A character with this skill is smoother and more confident in his bluff if the bluff is plausible. For example, an Ifshnit saying he is really a magically transformed Osakar is just plain silly. But an adventurer telling a member of a secret society that he is also a member of the society may work. The referee should modify the bluff based on other factors (unknown information, passwords, etc.).

BODY SPEAK

Success Rate: Level +X

This skill allows a character to use exaggerated body movement as a form of communication with others possessing this skill. It is most useful when the characters wish to communicate while keeping completely silent (as in laying an ambush) or at a distance where even shouting cannot be heard but radio silence is desirable. Simple phrases can be used, like "go... city... fetch... doctor." Only characters with Body Speak can understand it. Since body speak uses universal symbols, anyone with the skill can understand anyone else using it. It is sometimes used in diplomatic exchanges until a proper translator can be found.

BOTANY

Success Rate: Skill Level +2 Column Shift

A character with this skill is schooled in the science of plants, their life, structure, growth,

classification, etc. Only a character with Botany can name a new plant life form or use a Flora-CAS to analyze a botanical sample.

A successful Botany analysis indicates the type of plant the sample is and whether it is edible or poisonous. A botanist making a successful skill check when inquiring about a plant's potential medicinal or poisonous properties is told which of these uses the plant may have. Any facet of the campaign dealing with plant life should be handled by a botanist or biologist.

CAMOUFLAGE

Success Rate: Skill Level

Camouflage is the art of concealing a large area, structure, or vehicles outside in natural cover. A vehicle painted a camouflage coloration pattern can be very difficult to see. A structure that is covered with vegetation and shaded correctly is almost invisible until you get close to it. The use of Tracking to cover tracks leading to the structure or vehicle is sometimes necessary to complete the camouflage. If the skill check is made, then there is no chance for an observer who is far away for flying above to see the camouflaged item or structure. The referee may modify this as he wishes for type of optics used, distance, etc. Any characters inside a camouflaged structure or vehicle are considered concealed. The referee should note that what is camouflage for one terrain type might draw attention in another. The skill check for Camouflage is secretly rolled by the referee. This is because the character will not know if he is successful until someone else spots or misses the camouflaged structure or item.

CHARISMA

Success Rate: Automatic upon selection of explorer profession

When a character chooses the explorer profession he automatically receives this bonus skill. It is assumed one of the reasons the character chose the explorer profession is because he has leadership qualities and a personality that is above average. The character has 7 points that he can now add to his PER/LDR combination in whatever manner he wishes (e.g., 2 to PER, 5 to LDR).

CHEF

Success Rate: Automatic

A character who selects this skill has an unusual knowledge of fine cuisine and how to prepare it. If he desires, the player can roll 1d100 (ignore anything under 20 and over 90) to rank himself against other galactic chefs. Not only can this character how cook a gourmet meal, providing him with a good alternate source of income, but he can also estimate the worth of culinary rarities (spices, cooking utensils, cookbooks, exotic foods, etc.) within 10% of their retail costs.

CHEMISTRY

Success Rate: Skill Level +2 Column Shift

A character with this skill is schooled in the science dealing with the composition and properties of substances, and with the reactions by which substances are produced from and converted into other substances. Only a character with Chemistry can name a new chemical element or synthesis or use a vaporscanner or Atmospheric-CAS to analyze atmospheric samples. A

successful atmospheric analysis (skill check) can indicate whether the air is breathable or poisonous, and what gases are present. A chemist making a successful skill check when inquiring about a synthetic medicine, poison, or acid is fully informed on the appropriate properties of the sample and what potential uses they may have. Any facet of a campaign that deals with chemistry should be handled by a chemist.

CLIMBING

Success Rate: Automatic

This skill increases a character's climbing ability (page 20 of the Expanded Rules). The character now climbs a rope at a rate of 3 meters/turn and vertical surfaces at a rate of 2 meters/turn. Ifshnits can only move half this distance due to their size. The character can also use the proper equipment to climb and rappel like a mountain climber. A character with this skill also learns to use such-sets.

COMMUNICATION

Success Rate: Skill Level

This skill can be used when a character must communicate with a creature whose language he neither speaks nor understands. If the character uses this skill successfully, he can communicate using very simple messages. The referee might force players to use simple messages by restricting them to two-word phrases. Vrusk possessing this skill receive an additional +1 Column Shift when using it.

COMMUNICATION DEVICES: OPERATE

Success Rate: Skill Level +1 Column Shift

Any character can operate a chronocom, radiophone, poly-vox, or progit-linked communication device. This skill allows the character to identify and operate the larger audio communication devices, such as subspace radios, space beacons, and broadcast stations. Operating a comm-device includes turning it on and using it to do anything it was designed to do. It also gives the character knowledge of standard signal codes and jargon used by professional communications men. The chance to succeed includes the possibility that the character may need to bypass a locked power switch. Obviously, if the machine is damaged or unpowered it will not start until it is repaired or repowered.

COMMUNICATION DEVICES: REPAIR

Success Rate: Skill Level

Pr: Communication Devices: Operate, techkit

This skill allows a character to repair all communication devices. This skill does not allow for the repair of vehicles, computers, robots, or machines that are not communications related. The skill is used with the standard repair rule.

COMPUTERS: ACCESS & OPERATE

Success Rate: Level +X (-1 Column Shift per computer level)

This is the prerequisite computer skill for all other computer skills, whether mainframe, specialized, or bodycomp. It allows the character to access and operate the particular type of

computer he is working with. Once a character has accessed a computer successfully, he can operate that computer anytime, unless it is modified.

COMPUTERS: BYPASS SECURITY

Success Rate: Skill Level +1 Column Shift (-1 Column Shift per maxiprogram level)

Pr: Computers: Access & Operate, robocomkit

If a mainframe computer has a Security (Computer) maxiprogram, characters must bypass or break this security override before they can perform any other computer skill except repair. A security override will sound an alarm if anyone tries to run, alter, or purge the maxiprogram without first defeating or bypassing the security override. A security override is the same level as the Security maxiprogram. The referee should make the skill check roll to detect a security override secretly, since many maxiprograms have no overrides on them.

A security override can be manually bypassed by rewiring the computer. This takes only 1d10 minutes, but has several disadvantages: there is a chance equal to the success rate every day that the wiring shorts out, it requires a robocomkit, and failing the roll sets off every alarm the computer has.

COMPUTERS: DEFEAT SECURITY

Success Rate: Skill Level +2 Column Shift (-1 Column Shift per maxiprogram level)

Pr: Computers: Access & Operate, robocomkit

Defeating a Security (Computer) maxiprogram in a mainframe computer involves a decoding procedure on the computer itself that can take a long time (1d10 hours). At the end of this time the skill check is made. If unsuccessful, all the computer's alarms sound. If successful, the Security (Computer) maxiprogram is erased.

COMPUTERS: DISPLAY INFORMATION

Success Rate: Skill Level +3 Column Shift (-1 Column Shift per computer level)

Pr: Computers: Access & Operate

A character can use this skill to display any information accessed in a mainframe computer's memory in whatever form he wishes: alphabetical, chronological, order of security value, etc. It is especially useful for getting lists of files, personal records, and raw, unprocessed data that is recorded on an A/I (Storage) maxiprogram. A character receives a bonus of +1 Column shift if he is trying to display information about a maxiprogram he knows. He can automatically display information about maxiprograms he wrote in the computer. Once a character displays information successfully, he never needs to roll to display again with that computer, unless it is altered.

COMPUTERS: INTERFACE

Success Rate: Skill Level (-1 Column Shift per computer level)

Pr: Computers: Access & Operate, robocomkit or a CAC

With this skill a character tries to link two computers together, either by connecting their wiring or through some intermediary device like a Computer Access Computer (CAC). Once the two computers are linked, the character can perform all of his known computers skills (except Computers: Bypass Security and any repairs) from either computer. The computer level used in the skill check is the highest level of the two computers. The speed of the computer

communications would be that of the lower and slower level.

COMPUTERS: PROGRAM MANIPULATION

Success Rate: Skill Level +1 Column Shift (-1 Column Shift per maxiprogram level)

Pr: Computers: Access & Operate

A character with this skill has a chance to successfully run a maxiprogram's program, alter it, or purge it from a mainframe computer. If the maxiprogram is one that the character is familiar with, he gets an additional +1 Column Shift bonus. If the program is one he has programmed into the maxiprogram itself, or if it is one he has successfully run before, the character can run it automatically.

A character may want to alter a maxiprogram before running it. For example, a Maintenance (Life Support) maxiprogram does not normally let someone shut down the life support system or release a poison gas into the air. The maxiprogram could be altered, however, to allow the operator to do either of these things. The referee should note that a character usually must run the maxiprogram successfully after altering it before the changes have any effect.

Purging a maxiprogram means wiping the program out of the Johnson Field's memory, either to destroy it or make room for a new one. A character can purge any maxiprogram he wrote.

COMPUTERS: PROGRAM WRITING

Success Rate: Special

Pr: Computers: Access & Operate, Computers: Program Manipulation

A character with this skill learns to write his own programs into a maxiprogram for mainframe computers. For every skill level gained, he learns how to write one computer program. The player should pick a functional area listed under maxiprograms in the Mainframe Computer section of this book.

When a character writes a program, its level is one-half his current level with this skill, rounded up, no matter when he learned the program. For example, a character who learns a Security (Internal Installation) program at first level can write a third-level version of it when he takes his fifth skill level. A character can continue learning new programs and begin making up his own (with the referee's priority approval) after he reaches sixth level; each additional program costs 4 experience points to learn.

A character who knows how to write a particular program can buy that maxiprogram at half-price for his own mainframe computer, if he spends 12 hours upgrading it when he first purchases it. A character who has created a new program may sell it on the open market or to a mega-corp (or black market if he desires). The price should be set by the referee in comparison to other costs in his game. The character then gains an additional +2 Column Shift when trying to manipulate that program or detect security on it in any mainframe computer.

COMPUTERS: PROGRAM BODYCOMP

Success Rate: Skill Level +1 Column Shift

Pr: Computers: Access & Operate, robocomkit

A character with this skill can use the progit reprogrammer device to alter or purge a progit.

Since progit programs are relatively simple, both the manipulating and writing abilities have been combined into one skill. Once a progit has been purged, a new program can be written into it by the progit reprogrammer using another already established progit. It is left to the referee's discretion as to the content and time it would take to write a new progit program. It should not be more complex than any progit already listed. A progit can be erased in one hour.

COMPUTERS: REPAIR BODYCOMP

Success Rate: Skill Level +1 Column Shift

Pr: Computers: Access & Operate, robocomkit

When a bodycomp computer or a bodycomp's processor pack breaks down or is damaged, it can only be repaired by a character with this skill. The size of the bodycomp or processor pack does not affect the character's chance to repair it. Both are repaired according to the standard repair rule.

COMPUTERS: REPAIR MAINFRAME

Success Rate: Skill Level +1 Column Shift (-1 Column Shift per computer level)

Pr: Computers: Access & Operate, robocomkit

When a mainframe computer breaks down or is damaged, it can only be repaired by a character with this skill. Mainframes are repaired according to the standard repair rule.

COMPUTERS: REPAIR SPECIALIZED

Success Rate: Skill Level +1 Column Shift

Pr: Computers: Access & Operate, robocomkit

When a specialized computer breaks down or is damaged, it can only be repaired by a character with this skill. Specialized computers are repaired according to the standard repair rule.

CONCEALMENT

Success Rate: Skill Level or Level +X

Concealment is the art of hiding in natural cover and is usually used outdoors. If, however, the referee decides that, due to unusual structure, decor, lighting, or other factors, the inside of a structure offers enough places for concealment, the character can try to use this skill inside. If a character does not move or make noise once he is concealed, the skill check to remain concealed every turn following is at Level +X.

CRYPTOGRAPHY

Success Rate: Skill Level

Pr: If a language code or cipher is used, character must know the language it is in.

This skill allows a character the chance to decode an unknown cipher or code. If the code is a specific language, then the character must know the language before attempting to break the code. Almost all of the civilized systems use the same mathematical system for ease of trading and manufacturing, so mathematical codes (which are the most common) are easier to decipher.

CYBERNETICS

Success Rate: Skill Level

Pr: Bionics Level 3

This skill is quite advanced and is used when a character has enough experience to start building cyborgs (cybernetic organisms). Cyborgs will be detailed in later editions of Zebulon's Guide to Frontier Space.

DISGUISE

Success Rate: Skill Level +1 Column Shift

Pr: Bluff skill of at least the same level

This skill teaches the character the proper use of disguise for the purposes of bluffing. When bluffing while using a disguise, use the Disguise success rate. The level of the Disguise skill for this purpose cannot exceed that of the Bluff skill. For example, a Star Lawman is trying to pass himself off as a hood to gain the confidence of a known felon. He has Bluff Level 3 and Disguise Level 2, therefore he uses the Disguise Level 2 as his success rate to bluff. If he had a Bluff Level 2 and a Disguise Level 3, he still would use a Disguise Level 2 success rate, because you cannot disguise yourself to bluff higher than the Bluff skill. Only when both the Bluff and Disguise Levels are 3 can the character use the Skill Level 4 (Level + 1 Column Shift) success rate.

The Disguise skill includes the proper use of makeup, artificial hair, prostheses, and costumes.

DRAMATICS

Success Rate: Skill Level +2 Column Shift

Pr: Bluff and Disguise skills of at least the same level

The use of the Dramatics skill is similar to that of the Disguise skill. A character with Dramatics, combined with the Bluff and Disguise skills of at least the same level as the Dramatics skill, can increase his chance of bluffing another character or a group into believing he is someone else. When attempting this type of bluff, the character will use the Dramatics skill success rate.

Furthermore, if the character also has a Persuasion skill of at least the same level as his Dramatics skill, he uses a success rate of Dramatics Skill Level +3 Column Shift.

EMPATHIC UNDERSTANDING

Success Rate: Skill Level

Empathic Understanding allows a character to gain a general impression of the mood and intentions of an individual or group. In order to use this skill, the character must be able to see or hear the individuals or group.

The information that a characters gains by using this skill is very vague and undefined. The referee should use descriptions like hostile, curios, cautious, helpful, fearful, neutral, etc.

Empathic Understanding can be used by a character only once per encounter. Dralasitas possessing this skill have a +1 Column Shift when using it.

ENDURANCE

Success Rate: Automatic upon selection of enforcer profession

When a character chooses the enforcer profession he automatically receives this bonus skill. It is assumed one of the reasons the character chose the enforcer profession is because of the time spent during his youth working on his Stamina and Strength. Because of this his Endurance is above average. The character has 7 points that he can now add to his STR/STA combination in whatever manner he wishes (e.g., 5 to STR, 2 to STA).

ENGINEER: ALTERNATE ENERGY

Success Rate: Skill Level

Pr: Physics Level 2, proper materials, tools, and facilities

A character with this skill has knowledge of solar, wind, hydro, chemical, fossil fuel, electrical, and planetary thermal generators and plants. This knowledge includes how to use them, how and why they break down, how to repair them, and how to design new generators and power supplies.

ENGINEER: ARCHITECTURAL

Success Rate: Level +X

Pr: Physics Level 2, Engineer: Civil

A character with this skill has knowledge of most normal architectural and construction practices, including the location of plumbing, wiring, ventilation shafts, etc. This skill also allows a character to design buildings.

ENGINEER: CIVIL

Success Rate: Level +X

Pr: Physics Level 1, proper materials, tools, and facilities

A character with this skill has knowledge of most major methods of road, sewage, canal, dam, harbor, and bridge construction including pipe and sewer layouts and passages.

ENGINEER: HYDRAULIC

Success Rate: Skill Level

Pr: Physics Level 1, proper materials, tools, and facilities

A character with this skill has knowledge of fluid mechanics and theories, including how to use hydraulic machinery, how and why there are hydraulic leaks, how to repair them, and the how to design hydraulic generators, machines, and power supplies. The time, material, and financial requirements, along with the statistics of a hydraulic machine (use, fluid usage, etc.), are left to the referee.

ENGINEER: MECHANICAL

Success Rate: Skill Level

Pr: Physics Level 2, proper materials, tools, and facilities

This skill gives the character a chance to design and build normal machinery not covered by other skills. The time, material, and financial requirements, along with the statistics of the machine (use, energy usage, etc.), are left to the referee.

ENGINEER: MILITARY

Success Rate: Skill Level

Pr: Physics Level 2, proper materials, tools, and facilities

This skill gives the character a chance to design and build a new type of weapon. The time, material, and financial requirements, along with the statistics of the weapon (range, damage, energy usage, etc.), are left to the referee. Some other skills may be necessary to use with this skill for certain weapons (Acoustics for sonic weapons, Optics for laser, etc.).

ENGINEER: NUCLEAR

Success Rate: Skill Level

Pr: Physics Level 3, proper materials, tools, and facilities

A character with this skill has knowledge of nuclear reactors and plants, including how to operate them, how and why there are radiation leaks, how to repair them, and how to design nuclear generators and power supplies. The time, material, and financial requirements, along with the statistics of the nuclear device (use, energy usage, etc.), are left to the referee.

ENTERTAINING

Success Rate: Special

Note: 1d100 roll establishes character's entertainment level

Each time this skill is taken it allows a character to either learn one entertainment skill (singing, dancing, playing a musical instruments, juggling, etc.) or improve a skill he has already selected.

When an entertainment skill is first selected, the character must roll 1d100 (ignore any rolls below 10 or above 90). This is his proficiency with this form of entertainment. One-tenth of this proficiency (rounded down) is his *entertainment level*. The entertainment level is used for comparison with other entertainers in the same field, for deciding how much the performer is paid, and as a skill level to distract others (if the entertainment level check is made, the characters are distracted, if only for a moment).

Entertainment skills can be used as cover identities for characters. If the player is good enough, it can also provide him with optional employment.

Certain entertainment skills can have other benefits as well:

- Acrobatics skills help characters form human ladders, walk tightropes, and perform dangerous movements (as entertainment level).
- Tumbling skills increase a character's ability to jump, leap, or vault (distances are increased by 50%).
- Escape Artistry skills help a character slip out of ropes, a straightjacket, handcuffs, or even a cell (as entertainment level). Sometimes a Security: Open Locks skill is also needed.
- Sleight of Hand skills (making coins disappear and reappear in someone's pocket, etc.) help a character "palm" and item or pick another character's pocket (as entertainment level).
- Storytelling skills are very popular on the civilized worlds (the more languages the

character speaks the better). The entertainment level of storytelling is used as the success rate when a character is checking on lore (infamous gangster or pirate treasure transported somewhere, legendary monsters of a planet, and so forth).

- Gambling is also a form of entertainment, but is using this in a campaign is left to the referee's discretion, as is its use for increasing an individual character's income by winning at card, games of chance, etc. Some alien civilizations might even bet credits on the outcome of a chess game. In this fashion other games can be used in a STAR FRONTIERS campaign.

If the initial proficiency roll does not provide an entertainment level as high as the player would like it, he can choose the same entertainment skill again and again. Each time the skill is chosen it increases the entertainment skill level by one. Each time the skill is chosen after the initial choice it should be treated as the second level, third level, fourth level, up to a maximum of eighth level, for purposes of skill costs.

EXO BIOLOGY

Success Rate: Skill Level

Pr: Biologist Level 3

A character who is an exobiologist is schooled in the science of totally alien living organisms, that is, life forms that do not resemble known animal or vegetable life forms. Only a character with Exobiology can identify and name an alien life form or use a bioscanner, Flora-CAS or Fauna-CAS to analyze an alien sample. A successful analysis (skill check) will indicate if the alien life form is edible or poisonous and whether it is dangerous to members of the known races. Any facet of a campaign that deals with completely alien biology should be handled by an exobiologist.

FINANCE

Success Rate: Level 5

This one-time skill selection gives the character a chance to know the past and present history of mega-corps, their subsidiaries and holdings, to be able to read and prepare financial records and credit ratings, to know how to manipulate credit and financial investments. If the character does not know the information himself, he knows where he can do research to find out, though this can do research to find out, though this can sometimes take months of study. This information includes knowledge of mega-corp bigwigs, underlings, and what private company policies exist.

FIND DIRECTIONS

Success Rate: Skill Level +1 Column Shift

This skill allows a character to try to find directions in a wilderness without a compass or other aid. If the character marks a trail (lining up rocks, notching trees) or uses a map, his chance to find a direction on that path is an additional +2 Column Shift.

FORENSIC MEDICINE

Success Rate: Level +X or Level /0

Pr: Medical Treatment: All, Biology, Chemistry

This skill allows a character to perform an autopsy on a deceased character or animal and determine what was the cause of death. This information, along with being able to interpret any other signs of violence on the corpse, what the victim ate the day of his death, and determining how long the victim has been dead, can be used as evidence in a court of law. If the character or animal was an unknown alien, then the skill level is reduced to Level /0 and the information may not be accepted as evidence, unless the character is also an exobiologist, in which case his full Forensic abilities would apply.

FORGERY

Success Rate: to forge = Skill Level; to detect forgery = Skill Level +2 Column Shift

Pr: To forge requires proper tools and materials.

This skill gives a character a chance both to forge passports, signatures, and documents, and detect forgeries. If this skill is combined with the Finance skill, the character also adds currency and stocks and bonds to the list. If this skill is combined with an Entertainment-Artist skill, the character also adds artwork to the list.

GEMOLOGY

Success Rate: Skill Level

This skill allows a character to appraise the worth of rare and valuable gems (which are often used for currency in uncivilized areas) to within 10% of their normal cost. He also is able to trace veins and locations of gems, plus identify their origins by their type and cut.

GENETICS

Success Rate: Skill Level

Pr: Biology Level 5

A character with this skill is schooled in the branch of biology that deals with heredity and variations in similar or related animals or plants. A geneticist who creates the proper environment and spends an adequate amount of time can cross-breed two similar plants or creatures to create a new plant or creature (like a tiger and a lion forming a liger); the time and environment required is at the referee's discretion. After the fulfillment of the required time, the player must make a skill check to succeed with his experiments.

Even if the experiments work, there is a 10% chance that the creature or plant has an aberration (deformity, psychological instability, etc.) Only a character with Genetics can create a new life form this way and name it. This skill is also necessary in a character specializing in a medical background who wishes to do work on virus research and immunology.

Bioengineering, that is genetically "improving" or altering characters or future characters for the purpose of creating a "super soldier," is illegal. It is known that the Sathar have perfected an improved, bioengineered "super Sathar." Any facet of a campaign that deals with genetics should be handled by a geneticist.

GEOLOGY

Success Rate: Skill Level +2 Column Shift

A character with this skill is schooled in the science dealing with the physical nature and history of most types of planets, including the structure and development of their crust, the composition

of their interiors, individual rock types, the forms of life found in fossils, etc. Only a character with Geology can name a new planet or mineral or use a geoscanner or Geo-CAS to analyze a geological sample. A successful geoscanner analysis (skill check) indicates what minerals are present in the sample and the possibility of finding rich ore or gas deposits in the area. Any facet of a campaign that deals with geology or mineral lifeforms should be handled by a geologist.

GEOPHYSICS

Success Rate: Skill Level +2 Column Shift

A character with this skill is schooled in the science that deals with the physics of a planet, including weather, winds, tides, earthquakes, volcanoes, etc. and their effects on the planet. Only a character with Geophysics can name a new weather type found on an alien world or use equipment for the purpose of measuring and predicting the weather, volcanoes, earthquakes, etc. Any facet of a campaign that deals with geophysics (potential natural hazards, a planet breaking up, etc.) should be handled by a geophysicist.

HAGGLING

Success Rate: Skill Level

This skill gives a character a chance to haggle the price of an item or service down if he is buying or up if he is selling. The normal cost increase or decrease is 10%. If 01-02 is rolled, the increase or decrease is 20%. If 98-00 is rolled, the haggling has exactly the opposite result and the price goes against the character by 20%.

HYPNOSIS

Success Rate: Skill Level

In order to hypnotize a character, the hypnotist must be able to speak to the subject in a common language without a translator. If the person being hypnotized is willing, this is the only requirement. If the subject does not realize he is being hypnotized, he is allowed an Intuition check. (If the hypnotist is a Sathar, his skill level is eighth, but an unwilling victim is allowed a Logic check in addition to the normal Intuition check. This change applies as it is now widely known that Sathar can hypnotize.) If he passes the check, the subject realizes what is happening and cannot be hypnotized during that encounter. If he fails the check, he can be hypnotized normally. No one can be hypnotized against his will if he realizes he is being hypnotized.

A character may try to hypnotize only one subject at a time. Hypnotizing someone takes 1d10 minutes. The hypnotist can try to hypnotize a willing subject a second time if the first attempt fails. If the subject is unwilling, the hypnotist has only one chance to hypnotize him.

Hypnosis can be used to give a character a +1 Column Shift on all melee combat rolls. This effect lasts one hour, and can be used on a character only once per day. Hypnosis can also be used as an anesthetic. A wounded character who is hypnotized can receive 5 more points of damage than normal before going unconscious. These extra points must be healed normally.

A hypnotist's most powerful ability is suggestion. A hypnotized subject believes almost anything the hypnotist tells him if it is phrased in terms believable to the subject. The hypnotized

character will not do anything that is against any strong moral or religious beliefs that he has, but he can be tricked into doing things that he would not normally do. The hypnotist must give the subject a good reason to do something unusual, or convince him that the situation is not exactly as it seems. For example, a guard will not let unauthorized persons into a restricted area. A successful hypnosis skill check could convince the guard that the hypnotist is an authorized person but has forgotten his pass. The guard would believe that and let him in.

INTELLIGENCE

Success Rate: Automatic upon selection of scispec profession

When a character chooses the scispec profession he automatically receives this bonus skill. It is assumed one of the reasons the character chose the scispec profession is because of the time spent during his youth studying, experimenting, and generally improving his intelligence, which is now above average. The character has 7 points that he can now add to his INT/LOG combination in whatever manner he wishes (e.g., 3 to INT, 4 to LOG).

LAW

Success Rate: Skill Level

This skill gives the character complete knowledge of the laws of the planet on which he lives. It also allows him a skill check on all civilized planets to know their laws. Characters who are members of Star Law are completely briefed on planetary laws before they are sent on a mission. Law Level 4 or higher allows the character to legally represent himself or other characters in a UPF court of law.

MACHINERY OPERATION

Success Rate: Skill Level +2 Column Shift

This skill allows the character to identify and operate small and large machines, such as large power tools, manufacturing machines, and other nonvehicular machinery not covered in other skills. Operating a machine includes starting it and using it to do anything it was designed to do. The chance to succeed includes the possibility that the character may need to bypass a locked start switch. Obviously, if the machine is damaged or unpowered it will not start until it is repaired or repowered.

MACHINERY REPAIR

Success Rate: Skill Level

Pr: Machinery Operation, techkit or proper tools and facilities

This skill allows a character to repair large and small machines, such as power tools, manufacturing machines, generators, electrical equipment, freeze fields, sample analysis machines, and security scanning devices. This skill does not allow for the repair of vehicles, communications devices, computers, or robots. The skill is used with the standard repair rule.

MAKING ITEMS/STRUCTURES

Success Rates: Automatic if materials are available

This skill allows characters to make primitive tools and weapons out of stones, sticks, cords, and other natural materials. Only non-powered devices and weapons, such as bows and

arrows, axes, clubs, javelins, knives, and spears, can be made. Only a javelin can be balanced well enough to use as a thrown weapon. Structures made with this skill include rope bridges, larger shelters requiring a greater use of materials than the Survival skill's personal shelter, makeshift structures in trees, rafts, and so on. The referee may allow a character to improvise tools and weapons from wreckage and scrap parts.

MATTER TRANSFERAL DEVICES

Success Rate: Skill Level +1 Column Shift

A character with this skill has a chance to operate bap bins. Bap bins are matter transferal devices that are relatively new creations. This sound they make when "beaming" cargo or creatures is similar to "bap," hence the name. They act instantaneously, but the character knows he has been bapped. The transferal requires a bin to be at both the departure and arrival point to work. The current maximum range between bins is 5000 km.

The cost of bapping is extremely high, about 10,000 Cr for a one-way trip for a single character.

Techexes who operate these devices for a living must have Matter Transferal Devices skill level 9. A White result on a skill check means that the transferal did not work at all, but the character is safe. It is only on a roll of 98-00 that the item or character being transferred was molecularly scrambled and lost forever.

EXPANDED SKILLS LIST (continued)

MEDICAL DEVICES

Success Rate: Skill Level +1 Column Shift

Pr: Medical Diagnosis

This skill allows the character to operate the larger and more complex medical devices like a freeze field, body-jump box, body-gene box, CAT and ultrasound scanners, organ bypass machines, electron microscopes, and so forth.

A freeze field is a device that places a body in stasis and preserves it until it can be revived in a place where proper medical care can be administered. It is the last hope of many a dead character. Only a character with this skill can operate it correctly. A freeze field must be activated within two minutes (20 turns) after death, or the body cannot be revived. Activating the field takes five turns. The process can be interrupted, as long as the field is completely activated within the two minute time limit. If the character does not pass his skill check and there is at least one minute left in the time limit, he has two options: he can make a second attempt to activate the field, or he can inject the body with staydose. If the second attempt to activate the field fails, the body can only be revived through a body-jump box.

A body-jump box comes in many forms, from huge cambers in city hospitals to the small portable units that are carried into the field. A body-jump box is wired to various nerve points of the victim's body and head. When activated, beta particles are forced through the body. If the skill check is made, the "resurrects," though it may have been dead for up to 10 hours. If the skill check is missed, the body could not stand the beta ray bombardment and is completely destroyed.

Damaged medical may be repaired by characters with the Machinery: Repair skill.

MEDICAL DIAGNOSIS

Success Rate: Skill Level +2 Column Shift

Pr: Medscanner or Medic-CAS

A character with this skill can attempt to diagnose a patient's ailment by using a medscanner or Medic-CAS combined with his skill. These devices give a brief diagnosis. The diagnosis outlines the patient's general symptoms and classifies the ailment for treatment as either disease, a poison, an infection, an infestation, radiation poisoning, or a wound, the latter of which falls into one of four categories: requiring first aid, minor medical attention, major medical attention, and surgery.

Once there is a general diagnosis, the character can use his skill to gain specifics. If he passes the skill check, the character knows exactly what the ailment is. With this information, the character can use one of the other medical skills to treat it (if he possesses that skill).

Without a specific diagnosis, a character cannot treat a victim completely. However, the medic can use the medscanner or Medic-CAS's general diagnosis as a guide for which drug the patient might need.

MEDICAL TREATMENT: DISEASE

Success Rate: Skill Level

Pr: Medical Diagnosis, medkit

Curing a disease requires proper treatment and a dose of antibody plus. When the injection is given, the skill level of the character who is treating the condition is located on the Resolution Table. It is modified by a +1 Column Shift of every 20 points of Stamina the victim currently has. A roll is then made at this level with three results possible:

- A White result means the treatment has failed: the injection was wasted, the condition continues, and a second dose given within 20 hours has no effect.
- A Cobalt result means the treatment was miraculously successful: all damage sustained from the condition is healed and the condition is cured.
- A Blue, Green, or Yellow result means that the condition is neutralized: no more damage is sustained from the condition but it will take 1d20 hours before the effects of the disease wears off.

Diseases are rated according to how they damage, how long their effects last, and whether the disease is fatal. Diseases damage by being debilitating (causing negative Column Shift modifiers and negative ability adjustments). A "-1" disease would modify the sick character's every skill check by a -1 Column Shift and every ability check by -10. This number is followed by a slash, then a "D" for disease, then the duration of the disease in 10-hour periods. If the duration is followed by an exclamation mark, the disease will kill the victim after that length of time unless the disease is treated at a medical facility. For example, a -1/D10! is an abbreviation for a "-1" disease that will last 100 hours. If not cured within 100 hours, the patient will die.

MEDICAL TREATMENT: INFECTION

Success Rate: Skill Level +1 Column Shift

Pr: Medical Diagnosis, medkit

Controlling infection requires proper treatment and a dose of omnimycin. When the injection is given, the skill level of the character who is treating the condition is located on the Resolution Table. It is modified by a +1 Column Shift for every 20 points of Stamina the victim currently has. A roll is then made at this level with three results possible:

- A White result means the treatment has failed: the injection was wasted, the condition continues, and a second dose given within 20 hours has no effect.
- A Cobalt result means the treatment was miraculously successful: all damage sustained from the condition is healed and the condition is cured.
- A Blue, Green, or Yellow result means that the condition is neutralized: no more damage is sustained from the condition but previous damage has not yet been healed.

Infections are rated by their strength (S) and duration (D). The infection causes a specific amount of damage every 10 hours. For example, an S6/D8 infection causes six points of damage every 10 hours for 80 hours if it is not controlled.

MEDICAL TREATMENT: INFESTATION

Success Rate: Skill Level

Pr: Medical Diagnosis, medkit

Controlling spore or parasitic infestation requires proper treatment and a dose of sporekill. When the injection is given, the skill level of the character who is treating the condition is located on the Resolution Table. It is modified by a +1 Column Shift for every 20 points of Stamina the victim

currently has. A roll is then made at this level with three results possible:

- A White result means the treatment has failed: the injection was wasted, the condition continues, and a second dose given within 20 hours has no effect.
- A Cobalt result means the treatment was miraculously successful: all damage sustained from the condition is healed and the condition is cured.
- A Blue, Green, or Yellow result means that the condition is neutralized: no more damage is sustained from the condition but previous damage has not yet been healed.

Spore infestations are also rated by their strength (S) and duration (D). The infestation causes a specific amount of damage every 20 hours. For example, an S6/D8 infestation causes six points of damage every 20 hours for 160 hours, if it is not controlled. Spore infestations come from strange plants on nondeveloped worlds and usually last a lot longer than infections.

MEDICAL TREATMENT: MISCELLANEOUS

Success Rate: Automatic

Pr: Medical Diagnosis, medkit

This skill allows the character to properly administer the miscellaneous drugs: stimdose, staydose, and telol.

One dose of stimdose can wake up an unconscious or stunned character, or restore 10 Stamina points to a character who was poisoned, infected, diseased, or exposed to infestation. If more than one dose is given in a 20-hour period, that extra dose has no effect.

One dose of staydose places an individual in a state of arrested animation. A character whose Stamina has been reduced to 0 or below, but not below -30, will maintain minimal vital signs if injected within one minute (10 turns) after death. The staydose slows a character's heartbeat and breathing so he can survive with no Stamina points. If the character's Stamina is brought back above 0 within 20 hours, by medical treatment or natural healing, he will live. If not, the character dies. Once the 20th hour is up the first hour of death starts. If the body can be attached to a body-jump box in time it might possibly be resurrected. Only one dose of staydose can be given to a character until his Stamina is raised above 0.

Telol is a truth drug that works only 80% of the time. If successful, the injected character honestly answers up to five simple questions. An injected character passes out for 1d10 hours, whether the drug works or not.

MEDICAL TREATMENT: POISON

Success Rate: Skill Level

Pr: Medical Diagnosis, medkit

Neutralizing a poison inside a victim's body requires proper treatment and a dose of antitox. When the injection is given, the skill level of the character who is treating the condition is located on the Resolution Table. It is modified by a +1 Column Shift for every 20 points of Stamina the victim currently has. A roll is then made at this level with three results possible:

- A White result means the treatment has failed: the injection was wasted, the condition continues, and a second dose given within 20 hours has no effect.
- A Cobalt result means the treatment was miraculously successful: all damage sustained

from the condition is healed and the condition is cured.

- A Blue, Green, or Yellow result means that the condition is neutralized: no more damage is sustained from the condition but previous damage has not yet been healed.

Poisons are also rated by their strength (S) and turns (T). The damage is inflicted every turn instead of every 10 or 20 hours and the duration of the poison is in turns. An S7/T9 poison will cause 7 points of damage every turn for 9 turns.

MEDICAL TREATMENT: RADIATION

Success Rate: Skill Level

Pr: Medical Diagnosis, medkit

Curing radiation poisoning is very much like curing a disease and requires proper treatment and a dose of neutrad. When the injection is given, the skill level of the character who is treating the condition is located on the Resolution Table. It is modified by a +1 Column Shift for every 20 points of Stamina the victim currently has. A roll is then made at this level with three results possible:

- A White result means the treatment has failed: the injection was wasted, the condition continues, and a second dose given within 20 hours has no effect.
- A Cobalt result means the treatment was miraculously successful: all damage sustained from the condition is healed and the condition is cured.
- A Blue, Green, or Yellow result means that the condition is neutralized: no more damage is sustained from the condition but it will take 1d20 hours before the effects of the radiation poisoning wear off.

Radiation poisoning damages by being debilitating (causing negative Column Shift modifiers and negative ability adjustments). A "-1" radiation poisoning would modify the sick character's every skill level by a -1 Column Shift and every ability check by a -10. The modifier is followed by a slash, then an "R" for radiation poisoning, then the duration in one-day periods. If the duration is followed by an exclamation mark, the radiation poisoning will kill the victim after that length of time unless he is treated at a hospital. For example, a -1/R10 is an abbreviation for a "-1" radiation that lasts for 10 days. Radiation poisoning is caused by leaks in machinery or generators that use nuclear fuel or from exposure to an area of radiation, such as a nuclear blast site.

MEDICAL TREATMENT: VETERINARY

Success Rate: Level +X

Pr: Medical Diagnosis

This skill is identical to Medical Treatment: Wounds I, but is designed for use with animals, not characters. If the player wishes to advance his character's knowledge of veterinary medicine, he can do so by taking the identical skills for medical treatment of characters (Infections, Wounds II, III, & IV, etc.) and switch them to veterinary treatment. Once a medical skill has been designated veterinary it cannot be used to treat characters. The success rates and prerequisites are identical.

MEDICAL TREATMENT: WOUNDS I

Success Rate: Level +X

Pr: Medkit

Wounds I is the equivalent of knowing first aid and nursing. It is the only medical treatment skill

that does not require Medical Diagnosis as a prerequisite and is generally available to the public. Included in the skill is knowledge of how to clean wounds, change bandages, resuscitate a victim, and do some minor healing.

A character with this skill must roll on the Level +X column to see how much healing he can do. A result of 98-00 means he misapplied the injection of one dose of biocort and no healing was accomplished. A Yellow result means he applied the injection correctly but only 3 points of wound damage was healed. A Green result heals 6 points of wound damage. A Blue result heals 9 points of wound damage. A Cobalt result heals 12 points of wound damage.

Note that this heals wound, burn, and shock damage and, along with the biocort, the appropriate items from a medkit must be used (local anesthetics, plastiflesh spray, etc.). Only one shot of biocort can be given in a 20-hour period with this skill; a second shot during this time has no effect. If a character suffered more than 12 points of damage from wounds and cannot rest and heal, then he requires minor or major medical attention, possibly even surgery to repair the damage.

MEDICAL TREATMENT: WOUNDS II

Success Rate: Skill Level +2 Column Shift

Pr: Medical Diagnosis, Medical Treatment: Wounds I, medkit

This skill is for those wounds requiring minor medical attention, such as would be treated in an outpatient clinic. It can heal up to 20 points of damage in addition to the 10 points healed by Medical Treatment, Wounds I. The result of the skill check determines how many points can be healed by this skill: White = none, Yellow = 5, Green = 10, Blue = 15, and Cobalt = 20 points. For every 10 points of damage (or fraction of 10 points) that are healed, a full turn of treatment time and an additional dose of biocort are required. In addition, when using Wounds II, a dose of anesthetic is also required. If the skill check fails, the patient recovers no Stamina points and one dose of biocort is used. This skill can only be attempted on a patient once per 20 hours.

MEDICAL TREATMENT: WOUNDS III

Success Rate: Skill Level +1 Column Shift

Pr: Medical Diagnosis, Medical Treatment: Wounds II, medkit or proper medical facilities

This skill can heal any amount of damage to a character. For every 10 points of damage (or fraction of 10 points) healed, a dose of biocort is used. Whenever Medical Treatment: Wounds III is used two doses of anesthetic are also required. The only limit to the amount of damage that can be healed is the patient's original Stamina, the supply of biocort, anesthetic, and time. Using Medical Treatment: Wounds III is akin to performing major medical treatment.

A patient successfully treated by Medical Treatment: Wounds III is laid up for at least 10 hours. The patient has a -1 Column Shift to all actions for 1d10 days after major injury treatment of 40 or more Stamina points.

If the skill check fails, the patient recovers no Stamina points and one dose of biocort and two doses of anesthetic are used up. If a character is not healed by Wounds III, the physician may try to heal the patient with Wounds II, if he has not already done so.

MEDICAL TREATMENT: WOUNDS IV

Success Rate: Skill Level

Pr: Medical Diagnosis, Medical Treatment: Wounds III, medkit or proper medical facilities

This skill is the equivalent of surgery and is absolutely necessary for the treatment of broken bones, massive lacerations, ruptured organs, tumor removals, amputations, etc. All of this is left to the referee's discretion and these occurrences should be rare, but when they do happen the character must receive surgery or die. Wounds II or III can set a broken limb and minor surgery can be put off for a while, but in many cases, especially those dealing with internal injuries, major surgery is required within a few hours.

Wounds IV brings the character up to a surgeon's level of expertise and is required for some other skills, such as Bionics and Cybernetics.

OPTICS

Success Rate: Skill Level

Pr: Physics, techkit, or proper tools and facilities

This skill enables a character to build and repair optical equipment (scopes, visual aids, etc.). No more than one item per week can be constructed, but the price in materials is 10% less than the normal item cost. When repairing damaged optical devices use the standard repair rule.

PERSUASION

Success Rate: Skill Level

Persuasion lets a character try to convince a non-player character or group to follow a reasonable course of action he suggests. The character must explain his plan to the group or person being persuaded, not just mention it to them. If the character uses some sort of translator, he has a -1 Column Shift modifier.

A character can try to persuade a group or individual only once. If the character misses his roll by 30 points or more, his audience gets mad and might do just the opposite of what the character wanted. See the Dramatics skill for further use of Persuasion.

PHOTOGRAPHY

Success Rate: Skill Level +1 Column Shift

Any character can use photographic and holo-vid equipment, but when a difficult shot is needed this skill is a must. It includes knowledge of most types of photographic equipment: film, lenses, filters, lights, etc., how to care for and clean the equipment, and how to set up remote and timed shots. Difficult photographic shots are not just made by reporters tracking down celebrities, they are also made by private investigators and Star Lawmen who need photographic evidence. Any character who wants to be a reporter needs this skill, as most federation and frontier reporting is in a visual medium.

PHYSICS

Success Rate: Skill Level +2 Column Shift

A character with this skill is schooled in the science dealing with the properties, changes, interactions, etc. of matter in any form (gas, liquid, solid, and plasma) and energy (electricity, heat, optics, mechanics, etc.) and atomic, nuclear, and solid-state physics. This also includes knowledge of momentum, velocity, reflection, refraction, and gravity. Only a physicist can use an Electro-CAS or a Magnetic-CAS. Physics is a prerequisite skill for other fields of knowledge

(Acoustics, Optics, etc.). In addition, this skill also allows the character to inspect a damaged character, structure, or ground and determine what kind of physical force caused the damage (heat from flamethrower, laser damage, sonic disruption, etc.).

POLITICS

Success Rate: Level 7

This one-time skill selection gives the character a chance to know the history and due process of federation and planetary politics. This includes knowledge of political bigwigs, their aids, and how honest they all are. It also gives knowledge of the finer arts of political maneuvering, the basics of speech making, and allows the character a skill check on local politics after he has spent at least one day on a planet.

POWER READ

Success Rate: Automatic

Pr: Power read gauge

A character with this skill can check microdiscs, powercylinders, powerclips, and parabatteries for leakage and wear. Using a power read gauge, the character can tell how much energy is left in a power container and translate that information in either minutes of use left if it is powering a device or the number of shots left if it is powering a weapon. The skill also allows a character to use a power recharging device, cutting the cost for recharging by 20%.

PSYCHO-PATHOLOGY

Success Rate: Skill Level

Psycho-pathology lets the character try to help other characters or creatures that are psychologically disturbed. Extreme fright, isolation, or even unusual air or food chemistry can seriously affect a character's mental condition. A psycho-pathologist can help characters recover their confidence or forget their traumatic experiences. This skill also helps to determine what will reassure or frighten a primitive. When a character has this skill and the Exobiologist skill he can even determine what might frighten or reassure an alien (use the lowest skill level of the two for a skill check).

PUMPING FEDERANIUM

Success Rate: Automatic

This skill increases the amount of weight (in kilograms) a character can carry to one and one-half times his Strength score. If the weight a character is carrying is more than his normal Strength Score, he is encumbered. The movement rate of an encumbered character is cut in half in all terrain. A character with this skill can pick up an object that weighs up to triple his Strength in kg, but can carry it only a few meters. A character who has been pumping federanium (the densest element known) is quite developed and may have trouble fitting into suits and equipment normally designed for his race. This skill must be renewed (as a first-level skill) every six months, as if the character kept in training.

RIDE MOUNT

Success Rate: Level +X

This skill allows a character to ride a tamed animal trained to carry a rider. The only time a skill

check is needed is when a character first tries to mount a new species, when a difficult maneuver is performed, or when a mount is spooked or feels endangered. A character gets two chances to ride a new species of mount. Once his skill check is successful, the character can ride any mount of that species any time. If a character fails both checks, he must wait at least a year or campaign time before he can try to ride that species again.

If a mount is frightened or is directed in a path that it feels is threatening (jumping a chasm, narrow ledge of a canyon, etc.), the rider may have to make a check to maintain control over it. The result area needed by the check depends on the circumstances and is at the discretion of the referee.

ROBOTICS: ACTIVATE/DEACTIVATE

Success Rate: Automatic

A character with this skill can activate (turn on) or deactivate (turn off) a robot regardless of its level if he can gain access to its activation progit.

Before a character can deactivate the robot, read its function progit, remove its security lock, or alter its mission or function progit, he must gain access to the robot's internal progit circuitry. At a minimum, this requires removing a protective plate, which takes one turn. The plate can be removed in one turn even if the robot is fighting, but not if the robot is moving and the character cannot gain a firm handhold. Once the plate is off, the robot can be deactivated in one turn. Some robots have specially designed secure compartments for their progit circuitry and multiple plates must be removed before access is gained. The heavier, military versions of robots have anti-tamper devices (explosives, electrical shocks, etc.) built into their protective plates.

ROBOTICS: ALTER FUNCTIONS

Success Rate: Skill Level +1 Column Shift (-1 Column Shift per robot level)]

Pr: gain access, Robotics: List Functions, robocomkit

Altering a function progit requires 1d10 minutes. If the new function progit violates the robot's mission or requires function progit the robot does not have, the robot overrides and ignores the new function progit. Only one robot function progit can be altered at a time. A character with this skill must roll separately for each function progit altered. Changing an altered function progit back to its original form also requires a new roll. A failed skill check for Robotics: Alter Functions can result in a malfunction. See the Malfunction section under Robotics Background in the Skills Notes preceding this section.

ROBOTICS: ALTER MISSION

Success Rate: Skill Level +1 Column Shift (-1 Column Shift per robot level)

Pr: gain access, Robotics: List Function, Robotics: Alter Functions, robocomkit

A character with this skill can try to alter the robot's mission progit. This takes 1d10 minutes plus the robot's level in minutes. Altering the mission progit does not alter the function progit, those must be altered separately. Once a mission has been changed, changing it back to the original mission requires another roll. If the new mission requires function progit that the robot does not have, the robot still tries to follow its new mission as best it can. A failed skill check for Robotics: Alter Mission can result in a malfunction. See the malfunction section under Robotics Background in the Skill Notes preceding this section.

ROBOTICS: IDENTIFICATION

Success Rate: Level +X (-1 Column Shift per robot level)

This skill allows a character the chance to determine a robot's type and level simply by looking at it. If the skill check is successful, then the character is allowed another one (at the same rate) for each fact about the robot that the character wants to know. Possibilities include: what external weapons it is equipped with, what internal weapons it might be equipped with (for its size and type), the manufacturing company or race, what kind of sensors are obviously, etc. Once a skill check is missed, no more facts can be gleaned from that particular robot, otherwise the character can keep asking for details and rolling dice until he has exhausted all the facts. Once a robot has been successfully identified, the character can always identify that robot type again (unless its appearance is changed).

ROBOTICS: LIST FUNCTIONS

Success Rate: Level +X (-1 Column Shift per robot level)

Pr: gain access, robocomkit

This skill allows the character to tap into the robot's function progit after he has gained access to the progit circuitry boards. Once accessed, the robot's functions can be listed. A character who successfully lists the robot's functions can always list them again without having to roll. A robot's mission progit cannot be listed with this skill. Only a successful Robotics: Alter Mission skill check reveals the mission. Thus, a character may know all of the robot's functions and have to guess at its mission.

ROBOTICS: MODIFICATIONS

Success Rate: Level +X (-1 CS per robot modification type)

Pr: Robotics Repair, proper tools and facilities

All nonprogit additions or alterations to a robot are called modifications. These include adding new limbs, weapons, etc. Some modifications are more difficult than others. These will be explained more fully in later volumes of Zebulon's Guide to Frontier Space. For now, treat all equipment added as robot modification type 1. This will assure the success rate to be Level +10.

ROBOTICS: REMOVE SECURITY LOCKS

Success Rate: Skill Level +2 CS (-1 CS per robot level)

Pr: robocomkit

After the final protection plate has been removed from a robot's progit circuitry board, there may be a security lock. The lock must be removed before the List Functions, Alter Functions, or Alter Mission skills can be tried. A robot can be deactivated after the protection plates are taken off but before the security lock is removed. Once a security lock has been removed, it cannot be used again. A failed skill check for Robotics: Remove Security Lock can result in a malfunction. See the Malfunction section under Robotics Background in the Skill Notes preceding this section.

ROBOTICS: REPAIR

Success Rate: Skill Level (-1 CS per robot level)

Pr: Robotics: Identification, robocomkit or proper tools and facilities

A character must have this skill to repair robots. Robots are repaired according to the standard repair rules.

ROBOTICS: ROBOPSYCHOLOGIST

Success Rate: Skill Level

Pr: Robotics: Alter Functions and Robotics: Alter Mission, of at least the same level as this skill

This skill allows a character with Robotics: Alter Functions and Robotics: Alter Mission to use those skills verbally when dealing with the higher levels of robots that can speak, listen, and think. The success rate is that of this skill, but it cannot exceed the level of the Alter Functions or Mission skills. For example, a character with Robotics: Alter Functions Level 2, Robotics: Alter Mission Level 1, and Robotics: Robopsychologist Level 3 would have a chance to verbally alter a robot's functions as Skill Level 2 or alter its mission as Skill Level 1 because those are the lowest skill levels for those tasks, even though the character is a third-level robopsychologist.

Robopsychology allows the character to speak and argue with a robot and try to tap its memory and learn information from it or get it to change its programmed way of thinking. The robot and character must be able to hear each other and the robot must not be attacked during the conversation. This can sometimes be very dangerous for the character, especially if one of the robot's functions is to eliminate organic lifeforms, capture a robotics expert, etc. On the other hand, some of the higher security robots require so much time taking their protog security plates off and removing security locks that the risk may well be warranted.

A robopsychologist can also detect by conversation if a robot's programming has gone awry or been tampered with.

RUNNING

Success Rate: Automatic

This skill increases the endurance of a character, who can now run at top speed for a number of minutes equal to his Strength score divided by 5, rounded up. The character then must rest for five minutes before running again. This skill must be renewed (as a first level skill) every six months, as if the character kept training.

SECURITY SYSTEMS: ACTIVATE & OPERATE

Success Rate: Skill Level +1 Column Shift

This skill allows the character to identify and completely activate internal, perimeter, and vehicular security systems. Activating a security system includes turning it on, directing its operation, and activating any weapon systems it uses. This does not allow the character access to a mainframe computer's security program, just to specialized security devices and systems (the system may have a small computer to coordinate its activities, but this is not considered a computer Security maxiprogram). The chance to succeed may be smaller (selected color result areas) due to alien design; this is left to the referee's discretion. Obviously, if the security system is damaged or unpowered it does not activate until it is repaired or repowered.

SECURITY SYSTEMS: DEACTIVATE

Success Rate: Skill Level +1 CS (-1 CS per security level)

Pr: Security Systems: Activate & Operate, Security Systems: Detect, techkit

(See Security Systems: Detect first.) Once a character has successfully detected a security system, he may try to deactivate it. If the character fails, the referee must decide whether the alarm goes off; if the roll was missed by only a small amount, the alarm might not have been

triggered.

SECURITY SYSTEMS: DETECT

Success Rate: Skill Level +1 CS (-1 CS per security level)

Pr: Security Systems: Activate & Operate, techkit

This skill gives a character a chance to detect security systems: alarms, scanners, defenses, etc. Every time a character is in a location with one of these security devices in it, he can automatically identify it. Devices that are hidden or disguised must first be detected (Intelligence check) before identification takes place. Once a character has seen enough of these security devices to make a guess as to the security level of the place (referee's discretion) he can roll his skill check. The security level is determined by either the level of the Security maxiprogram used to run the security system or, if no computer is used, by either the Lock levels (see Security Systems: Open Locks below) or noncomputer, nonlock security devices. This same formula is used with the Security Systems: Deactivate skill, but not with the Security Systems: Open Locks skill.

SECURITY DEVICE LEVELS

Method	Security Level
Trip Wire or other crude detection methods	1
Radioactive, Seismic, Beam, and Intense Light Scan	2
Odor or Normal Video Scan, Pressure Sensitive and Mechanical detectors	3
Enhanced Optics, Parabolic, UV and Sonar Scan	4
Motion Scan, Sound detectors	5
Voice Recognition Scan	5-6
Radar, Shape and Skin Prints Scan	6
Retinal Scan	7-8
Brain Scan	9
Full Body Scan	10

SECURITY SYSTEMS: OPEN LOCKS

Success Rate: Skill Level +1 CS (-1 CS per lock level)

Pr: Techkit

A character can try to open locks without the necessary "key." The following table lists the types of locks and their level. Lock levels can be as high as Level +10.

LOCK LEVELS

Lock Type	Lock Level
-----------	------------

Mechanical Locks	0-5
Grey Card Lock	1
Blue Card Lock	2
Prog-Locks	2
Electrical Locks	2-4
Green Card Lock	3
White Card Lock	4
Silver Card Lock	5
Red Card Lock	6
Personalized Recognition Lock (skin prints, retinal, voice patterns, brain scan, etc.)	6
Black Card Lock	7
Gold Card Lock	8
Baton Locks	5-10

SOCIETY

Success Rate: Skill Level

This one-time skill selection gives the character a chance to know the social elite on a federation, planetary, or local scale. This includes knowledge of the rich and famous (including celebrities), what their status in society is, where they are located, what their interests and backgrounds are, social graces and maneuvering, and major social activities. The skill can be invaluable when working undercover or on a specific case. The skill must be taken for every different society, except for the player character's own society, which is Level +X when he first takes the skill. The referee may also decide that it can be a positive column shift modifier when bluffing.

STABLE MOUNTS

Success Rate: Automatic

Pr: Ride Mount

A character with this skill knows the proper care, feeding, and stabling of mounts. In addition, he knows the best way to hobble or protect mounts during times of sudden danger (dust storms, thunderstorms, blizzards, etc.).

STEALTH

Success Rate: Skill Level

Stealth is the ability to move without being seen or heard. This ability is useful for stalking animals, but can also be used to sneak up on guards or follow suspects. The success rate can be modified by glaring lights, wide open spaces, crowds, etc.

The skill check for a character using Stealth to sneak up on someone must be made every 30 meters if the user is moving slowly or 15 meters if the user is moving quickly. The skill check for using Stealth to "tail" a suspect must be made every 30 minutes of stalking.

SURVIVAL

Success Rate: Skill Level +2 Column Shift

This skill gives a character the chance to do several things related to survival in a specific climate. The player must designate the climate when he takes the skill (desert, arctic, jungle, plains, veldtland, etc.). The number of different survival skills a character can take is only limited to what he wants to spend. Survival skills do not cross over from climate type to climate type unless a certain area is indigenous to both. A character possessing this skill can a) find food or water, if any is available, b) find or improvise shelter in the best possible location, and c) set or avoid primitive traps and snares. These traps are for the purpose of food gathering or defense (pits) but if set in a developed area (city, farm, community, etc.) there is a -2 Column Shift.

THEOLOGY

Success Rate: Skill Level +2 Column Shift

This skill gives a character detailed information on one of the thousands of religions and beliefs practiced in the federation and on the frontier. This includes knowledge of gods and pantheons, taboos, clerical organizations, and the type of structures they use for worship, if any. This skill might add a positive modifier to an attempt to bluff.

TRACKING

Success Rate: Skill Level

This skill gives a character the chance to follow a creature, person, or machine by watching for its trail. This skill works only in undeveloped areas (forests, jungles, etc.). Following a character in a developed area requires the Stealth skill. The referee should modify this skill as he sees fit due to weather and terrain modifications (rain washing out tracks, rocky ground, snow covering tracks, etc.). This skill can also be used by a character to hide his own tracks.

VEHICLE: AQUATIC

Success Rate: Level +X

A character with this skill can pilot boats, water-ski cycles, and any other aquatic vehicles with complete control.

VEHICLE: ATMOSPHERIC

Success Rate: Level +X

A character with this skill can expertly pilot glijets, jetcopters, aircars, air transports, and other vehicles of all types that fly through a planet's lower atmosphere.

VEHICLE: CARS

Success Rate: Level +X

A character with this skill can expertly drive ground cars, hover cars, and any other car-type vehicles that stay close to the ground.

VEHICLE: CYCLES

Success Rate: Level +X

A character with this skill can expertly drive ground cycles, hovercycles, and any other cycle type vehicles that stay close to the ground.

VEHICLE: MACHINERY

Success Rate: Skill Level +1 Column Shift

A character with this skill can attempt to operate vehicular machinery such as construction equipment, special survey vehicles, etc. Any vehicle that does not fall into any other Vehicle operation skill belongs in this one.

VEHICLE: REPAIR

Success Rate: Skill Level

Pr: Techkit or proper tools and facilities

A character with this skill has a chance to repair any type of vehicle using the standard repair rules. In addition to repairing vehicles that have been damaged in combat, the referee can include mechanical breakdowns on random encounter tables. This is recommended if the characters are on a long cross-country journey, where a breakdown is likely and the nearest repair shop is several hundred kilometers (or light-years) away. When a vehicle breaks down, roll 2d10 on the following table to determine what has happened:

VEHICLE BREAKDOWNS

Dice Roll	Problem
2	fluid loss (oil, steering fluid, coolant, etc.)
3	broken axle or hoverfan *
4-5	broken driveshaft or transmission *
6-8	minor engine failure
9-10	broken steering device
11	steering loss *
12-15	minor drive train failure
16-17	broken suspension or mounting
18-19	major engine failure, repairable *
20	blown engine, unrepairable **

* This breakdown takes twice as long to repair as a normal breakdown.

** A blown engine cannot be repaired in the field. In a shop, it takes four times longer to repair than a normal breakdown.

VEHICLE: TRANSPORTS

Success Rate: Level +X

A character with this skill can expertly drive ground transports, hover transports, explorers, and any other transport-like vehicles that stay close to the ground.

WEAPONS: BEAM WEAPONS

Success Rate: Skill Level

This skill allows a character to use a laser, rafflur, electrostunner, sonic, maser, or bolt weapon with better accuracy and damaging potential than an unskilled character.

WEAPONS: DEMOLITIONS

Success Rate: Skill Level +1 Column Shift

This skill instructs the character on the uses of TD-19, TD-20, Plastid, the numerous detonators

used for explosives, how to use type I missile warheads as mines, and how to use and throw an explosive damage pack. Only a character with demolitions skill can legally buy or use explosives or detonators. He can recognize and combine all of these items automatically. However, setting and defusing charges or mines requires a skill check. A character with this skill and the Chemistry skill can easily manufacture small explosives one-tenth the strength of TD-19 for around 12 Cr.

Only characters with this skill can set charges. The number of turns needed to set a charge is the character's skill level subtracted from nine. At first level, a character needs eight turns to set a charge, but at eighth level he needs only one turn.

Charges can be detonated by the various detonators described elsewhere in this book. TD-19 or TD-20 charges can also be set off with a laser. If the expert hits the charge, it explodes.

A demolitions expert can try to defuse a charge that was set by another expert. Defusing a charge takes one turn, no matter what level the expert is. The expert's chance to succeed is his success rate plus a further modifying column shift. The modifying column shift is found by comparing the defusing character's skill level to that of the character who set the charges. If the set-up character's skill level is higher, there is a -1 Column Shift to the skill check. If the defusing character's skill level is higher, there is a +1 Column Shift to the skill check. No column shift exists if both characters are the same level in this skill. A character can defuse one of his own charges automatically.

WEAPONS: GRENADES

Success Rate: Skill Level

This skill allows a character to use grenades with better accuracy and damaging potential than an unskilled character.

WEAPONS: MARTIAL ARTS

Success Rate: Skill Level

This skill makes a character a better fighter in melee than an unskilled character. This skill also increases the damage caused by a successful bare-hands attack, adding one point of damage per skill level.

Martial Arts also teaches the character two important abilities: defensive throws and how to take a fall. When this skill is taken the character automatically learns how to reduce damage from falling by -1 point of damage per skill level. The character also automatically learns how to inflict damage when breaking out of a hold (see Wrestling under Special Actions in the Melee Combat section). When a character with this skill breaks a hold, he automatically knocks his opponent down, causing damage equal to his punching score.

WEAPONS: MELEE WEAPONS

Success Rate: Skill Level

This skill allows a character to use both modern and primitive melee weapons with better accuracy and damaging potential than an unskilled character. This skill also teaches characters how to throw weapons (primarily javelins) and shoot primitive weapons (usually bows). Other throwing weapons are usually alien in origin, but can be learned quickly by a character with this skill. Any instances of a civilization using projectile weapons other than bows and arrows or

auto-weapons (see P.G.S. Weapons section) is rare.

WEAPONS: MISSILES

Success Rate: Skill Level

This skill enables a character to use types I through III missiles and missile launchers with better accuracy and damage potential than an unskilled character. It also gives a character full knowledge of missile warheads.

WEAPONS: P.G.S. WEAPONS (Projectile/Gyrojet/Sprayer Weapons)

Success Rate: Skill Level

This skill allows a character to use an auto-pistol or rifle, grenade rifle or mortar, acid sprayer, flamethrower, micromissile, needler, or gyrojet weapon with better accuracy and damaging potential than an unskilled character.

WEAPONS: POWERED ASSAULT ARMOR

Success Rate: Level +X

A character with this skill can use powered assault armor with complete control. P.A.A. will be explained in greater detail in future editions of *Zebulon's Guide to Frontier Space*.

WEAPONS: REPAIR

Success Rate: Skill Level

Pr: Must have the weapon skill before being able to repair it, proper tools

This skill allows a character to maintain and repair a weapon that he knows how to use (has a skill level with that weapon). Since many of the new weapons are technological marvels, their repair may require tools, materials, and time that are not readily available. This depends on the amount and type of damage that was done to the weapon and is left to the referee's discretion.

ZOOLOGY

Success Rate: Skill Level +2 Column Shift

A character with this skill is schooled in the science of animals, their lives, structure, growth, classification, etc. Only a character with Zoology can name a new animal life form or use a bioscanner or Fauna-CAS to analyze a zoological sample. A successful bioscanner analysis (skill check) indicates the type of animal and whether it is edible or poisonous. A zoologist making a successful skill check when inquiring about an animal's potential medicinal or poisonous properties can tell which of these properties the animal may have. If the medicinal or poisonous properties lie in a gland or sac within the animal, only a character with Biology Level 2 can safely remove them. Any facet of a campaign that deals with animal life should be handled by a zoologist or biologist.

EXPANDED SKILLS LIST

Skill	Success Rate
Acoustics *	Skill Level
Agility	Professional
Analyze Animal Behavior	Skill Level +2 CS
Analyze Ecosystems*	Skill Level
Animal Taming	Skill Level
Animal Training *	Skill Level
Appraisals	Skill Level
Archaeology	Skill Level +1 CS
Biology *	SkL of Botany + Zoology
Bionics *	Skill Level
Bluff	Skill Level
Body Speak	Level +X
Botany	Skill Level +2 CS
Camouflage	Skill Level
Charisma	Professional
Chef	Automatic
Chemistry	Skill Level +2 CS
Climbing	Automatic
Communication	Skill Level
Communication Devices:	
Operate	Skill Level +1 CS
Repair*	Skill Level
Computers:	
Access & Operate	Level +X (-1 CS per COML)
Bypass Security*	Skill Level +1 CS (-1 CS per MXPL)
Defeat Security*	Skill Level +2 CS (-1 CS per MXPL)
Display Information*	Skill Level +3 CS (-1 CS per COML)
Interface*	Skill Level (-1 CS per COML)
Program Manipulation*	Skill Level +1 CS (-1 CS per MXPL)
Program Writing*	Special
Program Bodycomp*	Skill Level +1 CS
Repair Bodycomp*	Skill Level +1 CS
Repair Mainframe*	Skill Level +1 CS (-1 CS per COML)
Repair Specialized*	Skill Level +1 CS
Concealment	Skill Level or Level +X
Cryptography	Skill Level
Cybernetics*	Skill Level
Disguise*	Skill Level +1 CS
Dramatics*	Skill Level +2 CS
Empathic Understanding	Skill Level
Endurance	Professional
Engineer:	
Alternate Energy*	Skill Level
Architecture*	Level +X
Civil*	Level +X
Hydraulic*	Skill Level
Mechanical*	Skill Level
Military*	Skill Level
Nuclear*	Skill Level
Entertaining	Special

Exobiology *	Skill Level
Finance	Level 5
Find Directions	Skill Level +1 CS
Forensic Medicine*	Level +X or Level /0
Forgery (to forge*)	Skill Level
Forgery (to detect)	Skill Level +2 CS
Gemology	Skill Level
Genetics*	Skill Level
Geology	Skill Level +2 CS
Geophysics	Skill Level +2 CS
Haggling	Skill Level
Hypnosis	Skill Level
Intelligence	Professional
Law	Skill Level
Machinery Operation	Skill Level +2 CS
Machinery Repair*	Skill Level
Making Items/Structures	Automatic
Matter Transferal Devices	Skill Level +1 CS
Medical Devices*	Skill Level +1 CS
Medical Diagnosis *	Skill Level +2 CS
Medical Treatment:	
Disease*	Skill Level
Infection*	Skill Level +1 CS
Infestation*	Skill Level
Miscellaneous*	Automatic
Poison*	Skill Level
Radiation*	Skill Level
Veterinary*	Level +X
Wounds I*	Level +X
Wounds II*	Skill Level +2 CS
Wounds III*	Skill Level +1 CS
Wounds IV*	Skill Level
Optics*	Skill Level
Persuasion	Skill Level
Photography	Skill Level +1 CS
Physics	Skill Level +2 CS
Politics	Level 7
Power Read*	Automatic
Psycho-pathology	Skill Level
Pumping Federanium	Automatic
Ride Mount	Level +X
Robotics:	
Activate/Deactivate	Automatic
Alter Functions*	Skill Level +1 CS (-1 CS per ROBL)
Alter Mission*	Skill Level +1 CS (-1 CS per ROBL)
Identification	Level +X (-1 CS per ROBL)
List Functions*	Level +X (-1 CS per ROBL)
Modifications*	Level +X (-1 CS per ROBL)
Remove Security Locks*	Skill Level +2 CS (-1 CS per ROBL)
Repair	Skill Level (-1 CS per ROBL)
Robopsychologist*	Skill Level
Running	Automatic
Security Systems:	
Activate & Operate	Skill Level +1 CS
Deactivate *	Skill Level +1 CS (-1 CS per SECL)

Detect *	Skill Level +1 CS (-1 CS per SECL)
Open Locks *	Skill Level +1 CS (-1 CS per LOKL)
Society	Skill Level
Stable Mounts *	Automatic
Stealth	Skill Level
Survival	Skill Level +2 CS
Theology	Skill Level +2 CS
Tracking	Skill Level
Vehicles:	
Aquatic	Level +X
Atmospheric	Level +X
Cars	Level +X
Cycles	Level +X
Machinery	Skill Level +1 CS
Repair*	Skill Level
Transport	Level +X
Weapons:	
Beam Weapons	Skill Level
Demolitions	Skill Level +1 CS
Grenades	Skill Level
Martial Arts	Skill Level
Melee Weapons	Skill Level
Missiles	Skill Level
P.G.S. Weapons	Skill Level
Powered Assault Armor	Level +X
Repair *	Skill Level
Zoology	Skill Level +2 CS

* Requires prerequisite skill

LOKL -- Lock Level

ROBM -- Robot

Modification Type

CS -- Column Shift

MXPL -- Maxiprogram Level

SECL -- Security Level

COML -- Computer Level

ROBL -- Robot Level

SkL -- Skill Level

COMBAT

The new STAR FRONTIERS® combat system is similar to the expanded combat system in the Alpha Dawn game rules in many ways. For example, the procedures for surprise, initiative, declaration, movement, and combat turns are identical. It uses the same character abilities as the old system, so modification of veteran characters is very simple for the referee. But this combat system is very different in its resolution.

This new combat system uses an integrated resolution system completely different in its method of determining whether a character has hit a target and, if so, how much damage is done. This was described briefly in the Resolution System section. With this new system, only one roll is needed to determine whether an attack hit and how much damage it caused. More emphasis is placed on weapon skills than on the character's ability scores. This allows the players more freedom in creating and playing their characters, and gives them a better chance of surviving combat.

If the new combat system had to be described in one word, it would be "streamlined." The emphasis is on speed and simplicity of play. The combat system is explained in its entirety in this section. Some sections from the Alpha Dawn rules are repeated here as a convenience, to reduce cross-referencing between two books.

COMBAT SEQUENCE

The combat sequence is identical to the original combat sequence. A quick outline of this sequence is presented below, followed by a detailed explanation of each step. Wherever a dice roll must be made for non-player opposing forces, the referee makes that roll.

1. Check to see if any character is surprised.
2. Roll for initiative. (Throughout the combat rules, the side with initiative is called side A and the side without initiative is called side B.)
3. Announce what each character will do. Side B declares first.
4. Side B moves. Characters on side A may shoot at opponents moving through their field of fire.
5. Side A moves. Characters on side B who did not move may shoot at opponents moving through their field of fire.
6. Side A resolves any wrestling attempts, remaining weapon fire, weapon tosses, and melee. Wrestling attempts are resolved before other types of combat.
7. Side B resolves any wrestling attempts, remaining weapon fire, weapon tosses, and melee. Wrestling attempts are resolved before other types of combat.

SURPRISE

The referee should decide which characters may be surprised by an attack. Any character who

may be surprised should make an Intuition check.

If a character fails the check, he does not suspect anything and will be surprised. When a character or group is surprised, it automatically loses initiative for the first combat turn and can do nothing that turn but move and take cover.

If a character passes the check, he notices something unusual in the situation that "tips him off": moving shadows, footsteps behind him, etc. It is up to the player as to how the character reacts to this information.

Visibility: When characters have an encounter, one factor that affects whether they can be surprised is how far they can see, or visibility. A character standing on flat, level ground can see a man-sized object up to 1 kilometer away, but cannot see any details about the object. A character can see details at a distance of about .5 kilometer. Of course the weather and terrain can alter the visibility drastically. Snow, fog, rain, forest, hills, blowing dust, or heat shimmers can diminish visibility from half the normal distance down to a few meters. Optical enhancement devices can multiply the distances. Binoculars and magnifying glasses, for instance, triple the normal visibility. A character can see farther if he climbs to a higher elevation, but the distance at which he can see detail does not change with elevation.

INITIATIVE

One player on each side rolls 1d10 and adds the highest Initiative Modifier (IM) on his side to the result. The side with the highest total has initiative and is side A this turn. If the results are tied, the side with the highest modifier has initiative.

If there are more than two teams in a fight, simply add more sides (C, D, etc.) to the sequence as they are needed. The side with the lowest initiative roll always moves first, with the other sides following in order. If only a few characters are involved in a fight, the referee can treat each character as a separate team and have everyone roll his own initiative.

Holstered and Slung Weapons: If a character's weapon is in a holster or slung over his shoulder, the character must subtract 3 from his Initiative Modifier when rolling for initiative. If the character is rolling initiative for a group, the modifier applies to the entire group. If the group is mixed (some characters holding their weapons, some not), then any Initiative Modifier reduction for the group is at the referee's discretion.

DECLARATION

All characters must decide what they will do at the start of each turn and declare their intentions before the first move. The referee declares for the characters' opponents. Side B must declare first, allowing side A to react to side B's moves. Declarations should be as realistic and specific as possible. For example, instead of saying, "I will throw a grenade," the player should say, "I will throw a dozen grenades, set to explode on contact, at the Sathar and then duck back behind the wall." Declarations must include how many shots are to be fired, what power settings or bursts are to be used (if applicable), what grenade or warhead types are to be used (if applicable), and any other weapon variables that will affect the situation (see Rate of Fire, Variable Power Settings, Bursts, and other related sections in the Alpha Dawn rules).

Sighting: If the opponents cannot see each other the referee may ask for declarations before the initiative. This forces players to act without knowing what their opponents will do.

A character must be able to see his target in order to shoot or throw a grenade at it. A character can see his target if a straight line from the center of his square (or miniature base) to the center of his target's square (or miniature base) is not blocked by an obstacle. If the character is in a position where he can lean around, over, or under the obstacle to shoot, it does not block his sight.

MOVEMENT

Moving Through Fields of Fire: Characters on Side B move first. If a character moves through an opponent's field of fire, the opponent may shoot at him as he moves. Everything in front of a character is in his field of fire; see Opportunity Shots. Side A moves after side B. If a character from side A moves through an opponent's field of fire, and the opponent did not move this turn, the opponent may shoot at him as he moves.

Melee Distance: When a character starts a turn within two meters of an opponent who has declared he will attack the character in melee, the character cannot move. If both characters declare they are attacking each other in melee, the character on side B gets to move into his opponent's square. The only exception to this is the Humma's special ability to charge (see Melee).

Dodging: Dodging is a special type of movement. Instead of running straight across an opponent's field of fire, a dodging character ducks, weaves, and zigzags through a dangerous area. Dodging makes a character harder to hit, but also slows him down; characters who dodge move at one-half their running speed but are considered a fast-moving target on the Combat Modifiers Table.

STRUCTURAL DAMAGE

The structural points of various types of doors, walls, and vehicles are shown for comparison sake on the Structural Points table.

NEW COMBAT TERMINOLOGY

Before reading any further, make sure you have read the chapter on the new resolution system. The following is based on that chapter.

Dexterity Modifier: The revised combat system relies less on a character's Dexterity than on his weapon skills. However, Dexterity is still a factor. A character with high Dexterity will be a slightly better shot or fighter than someone who is clumsy. Check the Dexterity Modifier table to determine a character's Dexterity Modifier (DM).

Maximum Damage: The new combat system has a completely different method of determining how much damage is caused by a successful attack. Every weapon has a maximum damage number., even those that are special or have variable power settings. The weapon never causes more damage than that number. If a player rolls a successful attack, he need only note which color result area his roll is in to determine how much damage the attack

caused.

A Cobalt result means that the target suffers the maximum damage. A Blue result means that the target only received three-quarters of the maximum damage. A Green result indicates that only one-half the maximum damage was inflicted. A Yellow result shows that only one-quarter of the maximum damage was inflicted on the target. Therefore, if a character using a maser penetrator (maximum damage = 32) rolls in the Cobalt result area, all 32 points of damage are delivered to the target. If the attack roll was in the blue result area, only 24 points would hit the target. A Green result would deliver 16 points, while a Yellow result would tag the character with 8 points of damage. This is the damage a target takes before any reductions for armor or screens. The Fractional Results table lists the damage caused by a three-quarters, one-half, or one-quarter attack.

Combat Result Shifts (RSs): Shifting result areas change the amount of damage an attack causes. For example, a +1 RS changes three-quarters damage to full damage.

New Weapons Classifications: Besides covering some new weapons, the weapons and skills are grouped together differently. The original rules had ranged and melee weapons, but the new rules reorganize these into ranged weapons, area effect weapons, and melee weapons.

RANGED WEAPONS

Any weapon that attacks from a distance and delivers its damage primarily to a single target is called a ranged weapon. In the new combat system, ranged weapons include beam weapons, needlers, auto-weapons, byrojet weapons, and micro-missiles.

Primitive ranged weapons, such as javelins or bows and arrows, may also be included.

RANGED WEAPON COMBAT PROCEDURE

1. The attacking character's skill level with the weapon establishes the base column on the Resolution Table. If the character has no applicable weapon skill, his base column is Level /0.
2. Apply all appropriate combat modifiers, Dexterity modifiers, and shift columns for the left and/of right. The final result is the strike column.
3. Roll percentile dice and locate the final result on the Resolution Table. If the result is in a white area, the attack fails; if in a colored area, the attack succeeds.
4. If the attack is successful, the amount of damage delivered to the target is determined using the colored result areas. The effect or armor or screens is then considered.

AUTOMATIC ROLLS

The Resolution Table accounts for automatic hits and misses. Any roll of 25 or less always hits, even on the -X column, and any roll of 98 or more always misses, even on the +X column.

Automatic Hits: There are two kinds of automatic hits. The first is a shot that cannot miss. An example of this is a character who holds a gun next to a canister of compressed air and pulls the trigger; there is no way the character can miss the canister. The referee must use his common sense to decide when a shot cannot miss.

The second type of automatic hit happens when a player rolls 01 or 02 on his roll to hit. Such a low roll obviously hits and causes maximum damage. Its benefit is that a -1 Result Area Shift has no effect; the attack still causes maximum damage. This is the only way to cause maximum damage when attacking with a -1 RS.

Automatic Misses: Any shot will miss on a roll of 98-00, no matter what the character's chance to hit is. This rule applies even to shots the referee has decided cannot miss; the player must roll the dice anyway, and on a roll of 98-00 his weapon malfunctions and fails to fire.

Some shots, of course, are just impossible to make due to range, limited visibility, etc. Again, it is up to the referee's common sense to identify these impossible shots.

ADDITIONAL SKILL CONSIDERATIONS

Skill Levels: The weapon skill level possessed by a character for a weapon he is using determines his base column on the Resolution Table. Beam weapons Level 2, for example, makes column +2 the character's base column when firing a beam weapon.

Any character who uses a weapon without possessing the necessary skill for that weapon uses the 0 column for his base column and suffers a -1 Result Shift. No matter how many positive column or result shifts apply to the situation, his strike column can never shift to the right past the /0 column and he can never get a Cobalt result (unless he rolls 01 or 02). The strike column can, however, shift left all the way to the -X column.

Heavy Weapons: Heavy lasers, sonic devastators, and rafflur M-10s are considered heavy weapons. When a character fires one of these mounted weapons he has a -1 Column Shift modifier. A character with no training in that weapon uses Level -1 as his base column.

COMBAT MODIFIERS

Range: All weapons have three ranges: short, medium, and long. Shooting at targets at medium range has a -1 CS modifier. Targets at long range have a -2 CS modifier.

The new combat system divides weapons into six groups: small defensive devices; pistols, long pistols and short rifles; normal rifles; long-range weapons; and missiles. All of the weapons within each group have the same ranges. For example, all pistols have short range of 20 meters, medium range of 60 meters, and long range of 125 meters.

The range groups are letter coded. The appropriate code is listed behind each ranged weapon on the Weapons table. The range groups are defined on the Weapon Ranges table.

Telescopic Sights: Telescopic sights allow a weapon to be treated as if it was in the next higher range group (see their description in the Equipment section).

Movement: All movement, whether running, dodging, flying, or in vehicles, is confined to two simple modifiers, one for moving slowly and one for moving quickly. Notice that the modifier applies to both the target and the attacker; that is, if both the attacker and the target are moving slowly, the total modifier is -2 CS. "Slow" is around the speed of a jogging human or a gently loping animal. "Quick" is anything faster than slow.

Target Size: A number of different concepts are combined in the target size modifier. In addition to the actual size of the target (man-sized, larger, or smaller) these modifiers also represent the amount of the target showing. If a man-sized target is lying prone, is half-hidden, or is otherwise partially concealed, it should be considered smaller than man-sized when being shot at. In the same way, a large creature that is burrowed into the ground or partially blocked by an obstacle is a smaller target, probably man-size.

Advantage Modifier: The advantage modifier is for any condition that is either advantageous or disadvantageous to the attacker. If the attacker is in a better position than the defender (above or behind him, for example), or if the defender is disadvantaged (encumbered, surprised, stunned, drugged, etc.), the attack gains a +1 CS for each distinct advantage he has. Likewise, if the attacker is disadvantaged (in a poor combat condition, surrounded by attackers, encumbered, or groggy himself) or if the defender is at an advantage, then the attacker has a -1 CS for each distinct disadvantage he has. Advantages and disadvantages are announced by the referee before the dice roll.

Unusual Firing Procedure: Three specific actions are covered by this modifier. Careful aim requires a character to not move during his turn and take only one shot. He does not need to rest or brace his weapon on anything, but he can do nothing during the turn except fire one shot. If the character is shot or hit in melee during the turn, the character loses the bonus. This bonus does not apply to bursts or thrown weapons.

Using the wrong hand for firing or wielding a one-hand weapon is still a negative combat modifier, except for those creatures who are ambidextrous, like Vrusks.

Using two weapons at once may seem very heroic to some character, but it still garnishes a negative combat modifier in addition to the negative modifier for using the wrong hand with one of the weapons if the character is not ambidextrous. These weapons can be fired at different targets, if the targets are adjacent to each other.

There are no modifiers for being wounded. The adrenaline boost from being in a fight counters the character's pain.

OPTIONS

Energy Settings: Certain ranged weapons have energy settings -- the amount of energy used (and damage caused) can be set by the character. These weapons are indicated by the notation "pS" (per SEU) under the Maximum Damage column on the Weapons table.

At the beginning of the combat sequence, when a character must declare his intentions, the setting of his weapon must also be declared. The maximum damage is then considered to be the amount listed multiplied by the setting. For example, a player running a Star Lawman using a Ke-1500 Laser long pistol declares his setting to be 8 SEU. In the Maximum Damage column the Ke-1500 is shown to cause 12 points of damage per SEU used, and $12 \times 8 = 96$ maximum points of damage.

The energy setting for a weapon can be changed only at the beginning of a turn and the rate of fire for that turn cannot exceed a single shot.

Rate of Fire: Some weapons can be fired more than once during a turn (this is different from a burst, which is considered one shot). Characters must declare how many shots they will fire at the start of a turn. The attacker rolls to hit separately for each shot. The rate of fire for each weapon is shown on the Weapons Table.

Bursts: Auto-pistols and auto-rifles can fire a burst of 10 bullets as one shot. A burst can be aimed at up to five adjacent targets in an area up to 10 meters wide, or at just one character. While firing a burst covers a greater area, it also severely throws off the attacker's aim. Therefore the two factors cancel each other out with a combat modifier of 0. Only one die roll is needed to hit all targets. If the burst is aimed at one target, the maximum damage caused is 44 points. If it is aimed at more than one target, the maximum damage is 44 points plus 12 points of each additional target. These points are divided as evenly as possible among the targets. Any leftover points of damage are lost.

For example, a character fires a burst from his 5.56 caliber auto-rifle at a group of five pirates charging toward him. The rolled result is a hit, so all five take damage. The maximum damage is 44 plus $(5 \times 12 = 60) = 104$ points. The maximum damage is 104 points, but the player's dice roll is in the Green area so only one-half the maximum damage, or 52 points, is inflicted. The 52 points divided between the five pirates gives each pirate 10 points of damage, the leftover 2 points are discarded.

Opportunity Shots: Characters who are firing more than one shot during the turn can aim at an area instead of an opponent, if the area is no more than 5 meters wide. If an opponent moves through this "covered" area, the character can fire a shot at him. Opportunity shots are like Careful Aim shots; the character can do nothing else that turn, but an Opportunity shot cancels the negative CS modifier for target movement. This tactic is useful if opponents are hidden at the start of the turn.

Shooting at Targets in Crowds: If a character fires a weapon at someone who is standing in a crowd, the target is treated as smaller than man-sized (or man-sized, if the target is larger than man-sized). If the shot misses the intended target, the attacker should make a second roll on column -X to see if his shot hits someone else. The referee decides who the shot hits. This rule also applies to shots at targets that are in melee and attempts to shoot past someone who is partially obscuring a target.

Ammunition and Reloading: Players must keep track of their character's ammunition. Weapons that require powerpacks can be operated from powerclips or from power backpacks. The exception to this is the raffur series of weapons and WarTech's bolt weapons (see the description of these weapons in the Equipment Section). Backpacks and powerpacks can power other equipment besides weapons, however, so players must keep accurate records of their power supply.

A character can reload a weapon with a fresh clip or attach it to a different powerpack in one turn if he does not run or dodge. A weapon cannot be fired on the turn it is reloaded.

Structural Damage: The amount of damage caused by ranged weapons used against structures is shown on the Structural Damage table.

AREA EFFECT WEAPONS

Any weapon that inflicts its damage over a wide area is called an area effect weapon. In the new Star Frontiers combat system, area effect weapons include all grenades, explosives, missiles (excluding the micromissile), and mines.

AREA EFFECT WEAPONS COMBAT PROCEDURE

1. The attacking character's skill level with the weapon establishes the base column on the Resolution Table. In unskilled, the base column is /0.
2. Apply all appropriate combat modifiers, Dexterity modifiers, and shift columns to the left and/or right. The final result is the strike column.
3. Roll percentile dice and locate the final result on the Resolution Table. If the result is in the White area, the attack fails, but the attacker rolls 1d10 and consults the Area Effect Weapon Miss Diagram to determine where the weapon landed. The referee then determines if anyone or anything was damaged in the area.
4. If the result is in the Yellow, Green, or Blue areas, it means that the target received the indicated amount of damage but the weapon actually landed and exploded off-target. The attacker rolls 1d10 and consults the Area Effect Weapon Miss Diagram to determine where the weapon landed. The referee then decides whether anyone or anything else was damaged in the explosion. If the result is in the Cobalt area, it means that the target was the center of the explosion to determine whether anyone or anything else was damaged in the explosion. The effect of armor or screens is then considered.

Automatic Hits and Misses: Automatic hits and misses are identical to those for ranged weapons.

Skills: Skill use is identical to that for ranged weapons.

When an attacker wishes to throw a grenade or explosives pack, he uses his grenade or demolitions skill level, not his throwing skill level. A character can throw a grenade (or up to 500 grams of explosion) a distance equal to the sum of his Strength and Dexterity scores divided by 4. This factor should be determined when the character is created and changed only when ability scores go up or down. Write this throwing score on your character sheet for easy reference.

Combat Modifiers: No range modifiers apply to thrown area-effect weapons; if it is within the character's range, it is close enough. Missiles always use range category F.

The interpretation of "slow" and "quick" is different for missile combat. When firing a missile at a target, the referee should consider not only how fast the target is moving, but how far away it is. A jetcopter flying at full speed within 50 meters of an attack is moving quickly. Flying at the same speed hundreds or meters away it may be considered to be moving slowly. The referee must use his common sense.

The only time target size is considered is if the target is relatively huge in comparison to the attacker. Then a +1 CS may be granted to the attacker. Generally, though, area effect damage negates the consideration of size.

Rate of Fire: Note that the type I missile's rate of fire is listed as variable. This applies to MLTCs (Multiple Launch Tube Clusters) that commonly fire type I missiles and can be automated to launch more than one at a time. Normally a hand-held type I missile has a rate of one launch per turn. Type II missiles require two turns to launch and type III's take three turns to launch. All grenades, whether fired or thrown, have a rate of one per turn, except the small, sonic marble grenades, up to three of which can be tossed or fired per turn.

NEW TERMINOLOGY

Immediate and Secondary Blast Areas: When TD-19 packs and type I through type III missiles detonate, the blast radius listed on the Weapons table is the immediate blast area. Everyone in the immediate blast area rolls at the level of the attack to see what damage they receive (Cobalt = maximum, Blue = three-quarters, Green = one-half, Yellow and White = one-quarter). Then armor and screens, Stamina Checks for certain warheads, and other defenses are considered.

If the blast occurs in the open, there is a secondary blast area. The secondary blast area has 1.5 times the radius of the immediate blast area. For example, if the immediate blast area has a radius of 15 meters, the secondary blast radius extends another 7.5 meters, from 15 meters to 22.5 meters from the blast point. Anyone outside the secondary blast area but within the secondary blast area must pass a Reaction Speed check. Characters who fail the check must roll on column +1 of the Resolution Table. The results of that dice roll are interpreted on the Area Effect Weapon Result table.

GRENADES

A grenade has no secondary blast area.

A grenade can be set to explode in one of two ways, either on contact or with its built-in timer. A character tossing a grenade must declare at the beginning of the turn which method he is using.

A Cobalt result when throwing a grenade means it hit its target. If it is set to explode on contact, it has no chance to bounce around. If it is set on a timer, or it does not make a direct hit, the referee must use the Area Effect Weapon Miss diagram.

If the grenade was set to explode on contact, it detonates 1 to 10 meters away from the target in the direction indicated by the Area Effect Weapon Miss diagram. The actual distance depends on the situation and how far the grenade was thrown; the referee must use his discretion. The referee also should check for any damage caused to anyone or anything in the blast area.

If the grenade is on a timer then it could bounce quite a distance. The direction is determined by the Area Effect Weapon Miss diagram. The diagram could be anything up to one-half the distance from the thrower to the target. Again, the referee should check for damage caused to characters or objects other than the target in the blast area.

Explosives: Explosives do have secondary blast areas.

Fifty grams of Tornadium D-19 ("kaboomite") causes maximum damage of 40 points to anyone or anything within 1 meter of the explosion. Each additional 50 grams causes an additional 25 points of damage. The immediate blast area increases by 1 meter for every 100 grams used. Up to 250 grams of TD-19 can be thrown like a grenade, and causes full damage to living creatures but only half damage to structures.

Tornadium D-20 is a shaped charge. It has no secondary blast area. TD-20 is shaped so that its blast is focused in a single direction, rather than blasting equally in all directions. If anyone is foolish enough to throw a charge of TD-20 as a weapon, use the Area Effect Weapon Miss Diagram to determine in which direction the blast is released. The blast radius per gram is identical for TD-20 and TD-19. A thrown charge of TD-20 causes full damage to structures, but only half damage to living creatures.

Plastid cannot be thrown.

MISSILES

When the result of a strike roll for a type I, II, or III missile is in a White area it indicates that the attack was a complete miss: the missile's detonation was too far away to do damage to the target. The attacker must roll 1d10 and consult the Area Effect Weapon Miss diagram to see in which direction the missile strayed. The referee should determine the distance the missile overshot or undershot its target (anywhere from 20 to 50% of its flight distance) and check the immediate and secondary blast areas for inadvertent damage.

When the result of a strike roll for a type I, II, or III missile lands in a Cobalt area, it indicates that the missile landed on target.

When the result of a strike roll for a type I, II, or III missile lands in a Blue, Green, or Yellow area it indicates that the missile did not hit dead center, but that the target is in the immediate blast area. A roll on the Area Effect Weapons Miss diagram indicates in which direction the missile was off. The extent of the miss is at the referee's discretion, but the target must be in the immediate blast area.

Mines: Mines have no secondary blast areas.

Certain type I missile warheads can be affixed with detonators and unusual delivery systems (outlined in the Equipment section) and used as mines. The warheads that can be used in such a manner are the electrical discharge, field crusher, gas, high explosive, sonic, standard explosive, and tangler warheads designed for use with type I missiles.

Gas: Gas used in grenades, missile, or mines does not necessarily affect huge creatures. Doze and poison grenades may not contain enough gas to affect the huge creature's respiratory system. The number of gas grenades needed to possibly affect a creature is equal to its current Stamina when the grenade hit, divided by 50, rounded down (but never less than one).

Structural Damage: The amount of structural damage caused by grenades and missiles is shown on the Structural Damage table. The amount of structural damage a grenade causes is always doubled if it is placed rather than thrown. Structural damage from TD-19 and 20 is explained in the individual descriptions.

MELEE

Fighting hand-to-hand or with non-ranged or non-area effect weapons is called melee. Characters must be within two meters of each other to engage in melee. (Humma are an exception, being allowed to charge.)

MELEE PROCEDURE

1. The attacking character establishes his base column on the Resolution Table, using either the /0 column or, if he has an appropriate hand-to-hand combat skill, using that skill level.
2. Apply all appropriate combat and Dexterity modifiers and shift columns to the left and/or the right. The final result is the strike column.
3. Roll percentile dice and locate the final result on the Resolution Table. If the result is in the White area, the attack fails; if in a colored area, the attack succeeds.
4. If the attack is successful, the amount of damage caused to the opponent is announced, using the colored result areas to determine the portion of damage inflicted. The effect of armor or screens is then considered.

Automatic Hits: There are two kinds of automatic hits in melee. The first is hitting a character who cannot defend himself (one who is being held by another character or is stunned). Anyone attacking a defenseless character gets a +3 Column Shift and a +3 Result Shift if the victim is conscious, or scores an automatic hit doing maximum damage if the victim is unconscious.

The second type of automatic hit happens when an attacker rolls 01 or 02 on his roll to strike. When this type of automatic hit is made the opponent takes maximum damage and is knocked unconscious for 1d100 turns.

Skills: Melee relies heavily on a character's martial arts and melee weapons skills. Any character who has no skill levels in melee weapons or martial arts uses the 0 column on the Resolution Table and suffers a -1 Result Shift. No matter how many positive column or result shifts apply to the situation, his strike column never shifts to the right past column /0 and his result area can never be higher than blue. The strike column can, however, shift left all the way to the -X column.

Two skills specifically apply to melee: Weapons: Martial Arts and Weapons: Melee Weapons.

Ability: While skill is the dominating factor in melee, physical ability also comes into play. The player can use his character's Dexterity Modifier (and must use it, if it is negative) to modify his strike column. If the character's Strength score is higher than his Dexterity score, the player can use a Strength modifier instead. The Strength modifier is determined in exactly the same way as the Dexterity Modifier.

SPECIAL ABILITIES

Battle Rage: Yazirians have a special ability to work themselves into a fighting frenzy, gaining a +2 Column Shift on their chance to strike in melee. A Yazirian must roll a number less than or equal to his battle rage score on 1d100 to become enraged. Yazirians can try to become

enraged once per combat situation.

Charge Spring: Humma can spring great distances. This gives them a form of charge bonus in combat. Unlike the other races, which must be within two meters to engage in melee, a Humma can spring up to 25 meters horizontally and, if it lands within two meters of an opponent, make a free melee attack against the opponent.

WEAPON MODIFIERS

After each melee weapon on the Weapons table is a column shift number. A character using that type of weapon modifies his strike column accordingly.

NUMBER OF ATTACKS

A character gets one bare-hand attack for every arm-leg pair he has. Humans, Vrusk, Yazirians, Ifshnit, Osakar, and Sathar always get to make two attacks. Because of their weakened forearms, Humma make only one attack, unless charging. A Dralasite can attack twice if it has four or five limbs, three times if it has six or seven, etc. Mechanons may have varying types and numbers of attacks depending on their structure and programming. Any character using a weapon in melee makes only one attack per turn.

DAMAGE

Punching: The amount of damage a character inflicts with his bare hands (or claws or pseudopods) depends on the character's Strength score. Simply take one-tenth of the character's Strength, rounded down, and that gives you the damage he does when punching. This damage is constant unless the character's Strength improves.

Stunned: A stunned character cannot attack, move, or defend himself for as long as he is stunned.

Melee Weapons: The maximum damage column on the Weapons table shows how much damage each weapon can do. Add to this the character's punching damage from above. Characters using shock gloves, sonic knives, sonic swords, or stunsticks do not add their punching score. It is this entire, adjusted maximum damage that is considered when the colored result area is found on the Resolution Table.

For example, a character with a Strength score of 72 uses a medium sword to strike an opponent wearing a skeinsuit. The final result is in the Blue result area. The maximum damage of a medium sword by itself is 20. Added to this is the attacker's punching score of 7 (one-tenth of 72, rounded down) for an adjusted score of 27. A Blue result means that the target received three-quarters of the adjusted maximum damage or 20 points. The target is wearing a skeisuit which absorbs another one-fourth of the damage or 5 points. Thus the defender suffers 15 points of damage from the attack.

SPECIAL ACTIONS

Wrestling: The base column for wrestling is the character's Martial Arts skill level or, if unskilled, Level 0.

A character attempting to wrestle can try to grab an opponent and pin him down by twisting his arm, getting a headlock, etc. Wrestling is resolved after movement but before other attacks. The attacker can use no weapon while wrestling. If the attack succeeds, the character rolls on the +X column every turn afterward to maintain the hold (a 98-00 means the hold slipped). The color result area determines how much of the attacker's punching score damage is inflicted each turn. A character can release a hold whenever he wants.

A character who is pinned can do nothing except try to break out of the hold. To do this, he must wrestle his opponent; a successful roll means the character has twisted free, but he has not grabbed or pinned his opponent.

A character or creature can only wrestle his opponents that are the same size or smaller than itself. Only one wrestling attempt can be made per turn.

Disarming: A character who tries to force his opponent to drop a weapon must make a strike roll with his Martial Arts level or, if unskilled, Level 0, with a -2 Column Shift modifier. If the attack succeeds, the opponent drops the weapon but does not receive any damage. Either character can try to pick up the weapon. Doing so requires a 1d100 roll that is equal to or less than the character's Dexterity score.

Number of Attackers: A character can be attacked by up to three opponents at once, if the opponents are the same size as the character. If the attackers are larger or smaller than their opponents, the referee must decide how many can attack at once.

Weapons: A character who is involved in melee can shoot a pistol at an opponent that is in melee with him, but cannot shoot at anyone who is not involved in the melee. Long pistols or short rifles may be fired in melee, but there is a -2 Column Shift to strike; normal rifles receive a -3 Column Shift to strike. The referee should check to see if any misses hit someone else (see Shooting in Crowds).

STRUCTURAL DAMAGE

The amount of damage caused by melee weapons is shown on the Structural Damage table.

WEIGHTLESS COMBAT

Whenever a character in freefall or zero gravity enters into combat, he must make a Reaction Speed check. If he fails the check, the character has lost his balance and is spinning out of control. A spinning character can do nothing until he regains control.

To regain control, the character must pass Reaction Speed check. The character can make a check at the end of every turn, starting the turn after he loses control. If he passes the check, he has regained control and can move and attack on the next turn.

Characters who are wearing magnetic or velcro-soled boots and characters who are firing any beam weapon never lose control.

FIGHTING ANIMALS AND ROBOTS

Animals: Combat with animals usually starts with ranged combat. If an animal has a special

ability that lets it attack from a distance, it follows normal ranged weapon combat rules (unless it is an area effect). If the animal is still alive when it reaches melee distance, the normal melee rules are used. Animal attack numbers, used in the Alpha Dawn combat system, now have level equivalents for the animal's base column. Those equivalents are listed on the Animal Attack Conversion table.

Robots: A robot's base column is +1 with a +1 Column Shift for each of the robot's levels. This number is used in all combat. A robot's Initiative modifier is its level plus three. Other combat modifiers apply as well.

Remote weapon systems usually are controlled by mainframe computer security maxiprogs. Their base column is +2 with a +1 Column Shift for each program level. Their Initiative modifier is their level plus three.

NOTES FOR THE WEAPONS TABLE

Range lists one of the six range codes that applies to the weapon.

Blast Radius indicates the immediate blast radius of an explosive weapon. It is always expressed in meters.

Maximum Damage lists the full amount of damage a weapon can cause before any skill, ability, or item additions are applied. The abbreviation "pS" indicates damage per each SEU used.

Column Modifier is the number and type of column shifts that are inherent with a particular melee or thrown weapon's use.

Ammo Capacity shows what type of ammunition or energy the weapon uses.

SEU Used lists the number of standard energy units used in one attack (if the weapon uses energy).

ROF is the maximum number of shots the weapon can fire in one turn. Numbers in parentheses indicate a burst. A fraction such as 1/2 means the weapon can be fired once every two turns, 1/3 means that the weapon can be fired once every three turns.

Effective Defenses indicates what sort of defensive suit, screen, or action will help protect the target from damage.

Mass is the weapon's approximate weight in kilograms.

Cost is given in Credits and does not include ammunition. The fact that a cost is listed does not mean the item is commonly available.

Special indicates the weapon has an unusual facet. Check its description for details.

Stun, Sleep, or sl: indicates a weapon can stunn or put a character to sleep. If it hits, the victim must roll his current Stamina or less on 1d100 or be stunned or fall asleep (whichever is appropriate) for 1d100 turns. Stunning has no effect on anyone with an anti-shock implant or a gauss screen.

Varies indicates that different damage, warheads, etc. can be used with the weapon. The definition of the weapon should be consulted for details.

Msl# is a missile multiplier. It means that the concept referred to, range, damage, etc., is multiplied by the missile type used either I, II, or III.

MENTALISTS: THE OPTIONAL SKILLS AND PROFESSION

Introduction

Everything that has been discussed in this book so far is an intricate interweaving of various aspects of the new STAR FRONTIERS rules that depend on each other for information and explanation. This section, dealing with the Mentalists, is set aside because it is of optional use. The referee does not have to include these options in his game, and if he does omit them, it will not unbalance the rest of the system.

The reason this profession (though more of a following than a profession) is optional is because it deals with the concept of mental powers, often referred to in other role-playing games as psionics. Some referees and players do not care for the concept and use of mental powers in their game, others like it. Therefore, it is set aside to be added at the referee's discretion.

DISCIPLINES

Discipline is the term used for the powers Mentalists can learn and develop. While the discipline structure is similar to the skill structure of the four normal professions, disciplines should never be confused with skills. Almost anyone can learn a skill, only certain individuals can learn disciplines.

WHO CAN USE MENTALIST DISCIPLINES

There are two types of characters who use mentalist disciplines. A normal character belonging to one of the four normal professions but who has a Logic score of 80 or more can learn some Mentalist disciplines (those denoted by an asterisk). A character meeting these requirements is usually referred to as an *enlightened character*. A character with a Logic of at least 75 who wants to devote his life and profession to the Mentalist following is referred to as a *Mentalist*. The referee can use neither, one, or both of them, as he desires. Mental disciplines add a new, exciting aspect to the game, but will also require more care in balancing the campaign. The decision is up to the referee.

Enlightened Characters: If a normal character, after he is created, has a Logic score of 80 or greater he can learn some Mentalist disciplines, even though he belongs to another profession. These disciplines are designated by an asterisk. When the character is being created, no unusual ability adjustments may be made to increase the character's Logic ability.

There are very few enlightened characters. If discovered, they are sometimes persecuted or driven out of a community. Some settlements that accept Mentalists are leery of an enlightened character, perhaps because they can easily identify a Mentalist, but not an enlightened character, and people often fear what they do not know.

For every five points above a 75 Logic that an enlightened character has, he can add one asterisked discipline or one more level to an asterisked discipline he already possesses. For example, a character with an 84 Logic can choose one asterisked discipline. A character with an 85-89 Logic could choose two established disciplines or two levels of one discipline.

An enlightened character can increase his levels or number of disciplines over the course of his adventuring if he increases his Logic. Once the new Logic score is increased past the new 5 point mark and a new level or discipline is chosen, it can be used automatically, as if the character suddenly had a revelation of his powers. Once a discipline has been established the character will always have it, even if his Logic drops below the required score. A character who has chosen a power, had his Logic score lowered, and then raises it back up again cannot choose a new discipline or level.

Experience points may never be used to increase an enlightened character's disciplines.

Mentalists: A player who wishes to play a Mentalist character must state his desire before any adjustments are made when his character is created, because of the peculiar nature of score adjustments for the Mentalist. Usually ability score pairs are adjusted, but a Mentalist character can adjust an individual ability score to increase his Logic to between 75 and 90. However, the first abilities that must be decreased for the purpose of this transfer are Strength and Stamina. Any points used to increase Logic must first come from either of these two abilities until they both have reached 30, then the points can be taken from any other ability. The actual Logic ability number, between 75 and 90, is up to the player and depends on how many initial disciplines he wants and how physically weak he wishes his character to be.

A Mentalist uses and chooses disciplines as the other professions use their skills. He begins the game with any three disciplines or three levels of disciplines he chooses plus, for every five points above a 70 Logic that he has, he can add one discipline or one more level to a discipline he already possesses. For example, a Mentalist with a 79 Logic can have either four disciplines (three for the profession plus one for Logic), or four levels of one discipline, or two levels of two disciplines. A Mentalist may increase his disciplines or levels by increasing his Logic accordingly or by using his experience points.

Mentalists use their experience points to gain disciplines or levels exactly the same as a normal character uses his experience points to gain skills and skill levels. The success rate of the disciplines are expressed the same as normal skills (automatic, fixed, column shifts) and the cost per discipline is exactly the same as skills on the Skill Cost table.

A referee may approach Mentalist discipline training in one of two ways. Either treat Mentalists as enlightened characters (the discipline comes naturally to them when their experience points have been spent) or decide that they need training or practice first, as is applicable to normal skill learning.

While no Mentalist can join another profession, he can alter his occupational standing, just like his non-Mentalist brethren. A Mentalist has profession discipline costs and nonprofession discipline costs, just like a normal character. He is also severely limited to the number of non-Mentalist skills he can choose. Experience points are used to obtain these as nonprofession discipline costs.

The term *limit* is introduced for the first time with Mentalist disciplines. The refers to the number of attempts or successful uses of a discipline the Mentalist can try or use in a given time frame or because of his level. For example, a discipline listed as "Limit: Two successful uses per day" means that once the user has successfully used the discipline twice, he cannot attempt its use again for 20 hours.

The Mentalist Profession: Mentalist is the common name given to those characters who have discovered they have strong mental powers and potential and have dedicated their lives to using those powers. It is not so much a religion as it is a dedication to a way of doing things. Their purpose in line is to fulfill some type of useful function that they are suited for, considering their disciplines. Typical positions held by Mentalists include Star Law Psi-Corp officers (a branch of Star Law specifically created for Mentalists), corporate spied or advanced men on planets, private consultants in Mentalist activities, and embassy security employees. Mentalists almost always wear some type of distinctive uniform (usually light blue) or medallion to signify their profession. This is not only a source or great pride for them, but required by law on many planets.

The following is a list of all Mentalist disciplines plus their success rates. Again, all of the disciplines are available to Mentalists. The asterisked disciplines are the professional disciplines the Mentalists can learn at half cost and also the only disciplines an enlightened character can learn.

MENTALIST DISCIPLINE LIST

Title	Success Rate
Analysis I *	Discipline Level
Analysis II *	Discipline Level
Beam	Discipline Level
Channeling I	Discipline Level
Channeling II	Discipline Level
Clairaudience *	Discipline Level +2 CS
Clairvoyance *	Discipline Level +2 CS
Confusion *	Discipline Level +1 CS
Cryokinesis	Discipline Level
Density *	Discipline Level
Detection *	Discipline Level +2CS
Disruption	Discipline Level
Electrascreen *	Discipline Level +2CS
Empathy *	Discipline Level +1CS
Fear	Discipline Level
File *	Level + X
Heal Others	Level + X
Heal Self *	Level + X

Heal Self Fully	Discipline Level
Illusion	Discipline Level
Infatuation	Discipline Level +1 CS
Infrasceen *	Discipline Level +2 CS
Levitation	Level + X
Link	Discipline Level
Paralyze	Discipline Level
Pyrokinesis	Discipline Level
Shield	Automatic or Level + X
Static *	Discipline Level +1 CS
Suggestion *	Discipline Level
Telekinesis *	Discipline Level +2 CS
Telemanipulation	Discipline Level
Telepathy:	Level + X
Animals *	
Telepathy: Alien	Discipline Level
Telepathy:	Level + X or
Character *	Discipline Level
Teleport:	Discipline Level +1 CS
Limited	
Teleport:	Discipline Level
Unlimited	
Timeread *	Level + X
Trance I *	Discipline Level
Trance II *	Discipline Level
Trap	Level + X
Truesight	Discipline Level

The only normal skills that Mentalists are allowed to use are listed below. They are available to the Mentalist at nonprofession discipline costs.

Bluff

Chef

Communication Devices: Operate

Computers: Access & Operate

Computers: Display Information

Disguise

Dramatics

Entertaining

Haggling

Hypnosis

Machinery Operation

Making Items/Structures

Medical Diagnosis

Ride Mount

Running

Survival

Theology

Vehicles: all

Weapons: Martial Arts

Weapons: Beam Weapons

Mentalist Combat

Modifiers: When a Mentalist attack discipline is used, the target usually receives no chance to evade the attack (such as a Reaction Speed check). If there is a check allowed, it will be included in the discipline description.

If a Mentalist uses an attack discipline on normal characters, the success rate is normal.

If a Mentalist uses an attack discipline on an enlightened character (knowingly or unknowingly), his success rate has a -1 Column Shift modifier.

If a Mentalist uses an attack discipline on another Mentalist (knowingly or unknowingly), his success rate has a -2 Column Shift modifier.

Except for any modifiers that may be inherent in a discipline, these are the only modifier considerations for mental combat. •

Damage: Unless otherwise stated, any damage done by mental attacks is considered the same as damage done by physical attacks and is reduced from the character's Stamina in the same fashion.

Options

The referee can use Mentalists or their disciplines for NPCs only. In a future volume of Zebulon's Guide to Frontier Space, some creatures may even have the option to use mental discipline for communications or attack. So if a referee uses a discipline used by an intelligent creature it could certainly be valid. If the referee wishes to limit the Mentalist to an NPC race or character type, he might want to create a cult around it and center them on one planet or geographic location. They may be malevolent or benevolent, as the referee desires.

Disciplines

Disciplines whose names are followed by an asterisk are the only disciplines available to

enlightened characters and are also the disciplines that may be chosen by Mentalists at half cost.

Analysis I *

Success Rate: Discipline Level

A character using this discipline has a chance to pick up an item and figure out its intended use. If the artifact is alien, a negative modifier may be imposed by the referee. Once an artifact's purpose is identified, a specific skill may be needed to operate it (Communication Devices: Operate, Machinery Operation, etc.). If the item is not covered by one of the existing skills, then a second discipline check is needed, using the discipline level +3 Column Shift for the success rate. A character making this check will know how to operate or use the artifact.

Analysis II *

Success Rate: Discipline Level

This discipline allows a character to read psychic impressions left on an object by the last person who used it. Information that can be gained includes what the user looked like, what he thought while using it, what he was doing for the last few hours before the item was lost, stolen, or otherwise left his possession. The longer the item has been untouched, the dimmer the impression. This discipline is used most often by Star Law officers and spies.

Beam

Success Rate: Discipline Level

Limit: One successful use per level per day

A character with this discipline can attack another character's mind. The target must be within 30 meters. The damage caused by a successful discipline check depends on the colored Result Area: a Cobalt result indicates 40 points of damage, a Blue result indicates 30 points of damage, a Green result indicates 20 points of damage, and a Yellow result indicates 10 points of damage. This mental attack can work on any creature of at least animal intelligence, including cyborgs.

Channeling I

Success Rate: Discipline Level

Limit: Two successful uses per level per day

A successful use of this discipline allows the user to channel energy attacks directed at him (beam weapons, electrical current, sonic waves) around him so as not to be harmed by them. If someone is standing directly behind the user, the attack should be rolled again with a -3 Column Shift to determine if that character was accidentally hit by the attack. Each successful discipline use lasts 3 turns.●

Channeling II

Success Rate: Discipline Level

Limit: Two successful uses per level per day

A successful use of this discipline allows the user to manipulate magnetic and gravitational patterns around himself, so as to affect any melee or ballistic attacks. If someone is standing directly behind the user, a ballistic attack should be rolled again with a -3 Column Shift to determine if that character was accidentally hit by the attack. Each successful discipline use lasts 3 turns.

Clairaudience *

Success Rate: Discipline Level +2 CS

A character with this discipline can "listen" through anything up to a distance of 20 meters (if the area is known to him) or 10 meters (if the area is unknown). This listening is directional and does not cover a large area. The area listened to cannot be larger than a 5-meter radius. When zeroed in on, sounds from the area can be heard as if the user was there himself. Any sound attack in the area has full effect on the character using this discipline.

Clairvoyance *

Success Rate: Discipline Level +2 CS

A character with this discipline can "see" a distance of 40 meters (if the area is known to his) or 20 meters (if the area is unknown). This directional sight focuses on an area that is no larger than a 5-meter radius. It is affected as sight would be by darkness or light attacks (flash grenades). Optical enhancement devices cannot be used with this discipline.

Confusion *

Success Rate: Discipline Level +1 CS

Limit: Two successful uses per day per level

This discipline allows a character to try to confuse the enemy. The user must roll 1d10 and therefore consults the Confusion Table to determine how that confusion will manifest itself. The duration of the confusion is 1d10 turns. This discipline can only be used to affect a single target.

Confusion Table

Roll Effect

- 1 The target sits down to think things over. He does nothing else.
- 2 The target begins weeping or laughing uncontrollably. A -1 Column Shift to all actions.

- 3 The target walks around randomly as if he is lost. Use the Area Effect Weapon Miss diagram every turn to determine in what direction the target is walking.
- 4 The target becomes fascinated with one action and will perform or watch it to the exclusion of all else.
- 5 The target attacks the nearest character, no matter who it is.
- 6 The target attacks everyone (different character each turn).
- 7 The target attacks the nearest large machine or creature.
- 8 The target walks up to the nearest character, throws his arm around his shoulder, and begins discussing the philosophy of life.
- 9 The target is so confused he begins to swoon. A -2 CS to all actions.
- 10 The target rolls over and falls asleep.

Cryokinesis

Success Rate: Discipline Level

With this discipline a character concentrating on a creature or item can eventually do damage to it by slowing down the surrounding molecules, thus freezing it. Every time this discipline is used, the character must concentrate full on the item or creature for three complete turns before damage will take place. The damage depends on the colored Result Area of the successful discipline check: a Cobalt result indicates 20 points of damage, a Blue result indicates 15 points of damage, a Green result indicates 10 points of damage, and a Yellow result indicates 5 points of damage.

During the three turns preceding the damage, the temperature surrounding the target is noticeably lower than normal. Any creature or item impervious to cold (artic creatures, federanium) takes no damage. any creature, plant, or item that the referee determines is especially susceptible to the cold (tropical plants and animals) will suffer double damage from

this discipline.

Density *

Success Rate: Discipline Rate

A character using this discipline may adjust his body density. The speed in which he can do this is one-tenth his normal body weight per turn. If the character's density is considerably lightened, the character can move faster, climb easier, and float in water without effort. If the character's density is sufficiently increased, he can act as a rope anchor, easily crash through windows or doors, ignore minor wounding influences (thorns, broken glass, small animal bites). The referee must decide, for his own campaign, what actions are available to a character during the different degrees of density control.

Detection *

Success Rate: Discipline Level +2 CS

A character with this discipline may detect the presence, direction, and relative range of all Mentalist disciplines being attempted or used during the duration of this discipline. The duration of this discipline is five turns. During this time the character can use no other disciplines; even a Mental Shield will not work. The direction and range extend to 50 meters before becoming too vague to pinpoint. This does not define what disciplines are being attempted or the type of mind attempting them.

Disruption

Success Rate: Discipline Level

Limit: One successful use per level per day

A character with this discipline can explode inanimate objects. The size of the targeted object can be no larger than a 40-cm cube (a little smaller than a 16-inch cube). Any item made of federanium will not explode. The object must be clearly seen by the user and be within 20 meters of him. If the object is moving, the referee should impose the movement combat modifiers (see the Combat section in this book). Any exploding item causes 10 points of damage to those within 3 meters of it. If the item has any energy in it (even one shot or use left in a powerclip) its explosion is identical to that of a fragmentation grenade.

Electrascreen *

Success Rate: Discipline Level +2 CS

A character using this discipline can create and project a shape in the electromagnetic spectrum. Anyone scanning for the tell-tale electromagnetic pulse of a force field believe they see one. The shape and size are up to the user, but the larger or more intricate the design, the longer it takes to create. Examples of this discipline's use includes tricking the enemy into seeing a character surrounded by a force field where none exists, covering an enemy's vehicle with an electromagnetic dome so their own troops will not recognize them, or putting up a force wall to hide actual force fields behind it.

Empathy *

Success Rate: Discipline Level +1 CS

Limit: One try per encounter

This discipline is very similar to the Empathic Understanding skill. But it not only allows the character to gain a general impression of the mood and intentions of individuals or groups, it also allows him to broadcast his emotions to an individual or group. Broadcasting emotional attitudes like friendship, love, caution, helpfulness, and so forth can sometimes prove invaluable in clearing up a misunderstanding. The character cannot broadcast these emotions unless he truly feels them. These feelings should help dictate his actions. As with the skill, this discipline only allows vague and undefined information to be learned and only one attempt at it can be made per encounter.

Fear

Success Rate: Discipline Level

A character with this discipline can attack an enemy's id, releasing from within it an unreasoning fear. The frightened character wants to run away and hide (all actions while afraid are at a -1 Column Shift). He attacks anyone attempting to stop him from doing this. After the first two turns of being afraid, the frightened character is allowed a Logic check every turn to regain his composure. Once made, it still takes two turns to get complete control of himself. While frightened the character can only perform actions that help him to escape (including disciplines). The direction of the escape is always away from the attacker, even if he cannot be seen.

File *

Success Rate: Level +X

This discipline allows the character to mentally file away any information he hears or sees in the following five turns. The memory of the material is perfect, if the discipline check is made, and may be retrieved whenever the character desires. Some characters who specialize in this discipline and who willingly subject themselves to telol doses and Empathy disciplines become professional witnesses. No more than 10 files can be stored at any one time in the user's mind.

Heal Others

Success Rate: Level +X

Limit: Two uses per day

This discipline is identical to the Medical Treatment: Wounds II skill, except that the healing can only be applied to a character other than the user and no use of biocort is necessary.

Heal Self *

Success Rate: Level +X

Limit: Two uses per day

This discipline is identical to the Medical Treatment: Wounds II skill, except that the healing can only be applied to the user and no use of biocort is necessary.

Heal Self Fully

Success Rate: Discipline Level

Limit: One successful user per week

When a character uses this discipline successfully he can completely heal all his wounds in 10 turns, no matter how they were caused. This healing can only be performed on himself and can only be attempted once every 10 hours. Once successful, the drain on that part of the character's mental reserves is so great that the character cannot attempt it again for a week and he operates at a -2 Column Shift for all actions for 10 hours following.

Illusion

Success Rate: Discipline Level

Limit: Two successful uses per day

This discipline gives the user the ability to create illusions in the mind of those creatures within 10 meters of himself. The illusion they all see must be the same. Such illusions have all the verbal, visual, and olfactory aspects they normally would, but can cause no damage. It automatically fades after 20 turns. The user must concentrate on the illusion for the entire duration of its existence to be believable. If the illusion is of something silly, confusing, or extremely contradictory, then the referee should secretly roll an Intuition check for them to disbelieve it.

Infatuation

Success Rate: Discipline Level +1 CS

This discipline provides a unique aura to the user. If the check is made, a character attacking the user quickly changes his mind because there is something about the user that he likes. Instead, he attacks another character if one is available (he will not attack one of his comrades). Once the discipline is established (usually at the start of an encounter that involves combat), the attacking characters ignore the Mentalist for two turns. After that they are allowed a Logic check every turn of combat to shake the infatuation. Each opponent must shake the infatuation on his own to attack the user. The discipline lasts until the end of the combat encounter.

Infrascreen *

Success Rate: Discipline Level +2 CS

A character using this discipline can create and project a shape in the infrared spectrum. Anyone scanning for infrared security beams or the infrared heat images that most creatures and some machines put out believe they see one. The shape and size are up to the user, but

the larger or more intricate the design, the longer it takes to create. Examples of this discipline's use include tricking an enemy using infrared optics into seeing a character's heat pattern where none exists, or causing infrared flares in the scanner's field of vision that are so bright they cover hiding characters.

Levitation

Success Rate: Level +X

A character may levitate himself using this discipline. The maximum height a levitating character can ascend is one meter for every five Logic points he has, rounded down. For example, a Mentalist with an 83 Logic can levitate 16 meters (83 divided by 5 = 16.6, rounded down to 16). The maximum rate of ascent or descent a levitating character can achieve is no more than than meters per turn.

The clothing the user is wearing has no effect on his levitation, while the amount of equipment he is carrying does. While levitating, a character may not have in his possession equipment weighing more than one-half his normal carrying capacity. The user may perform one other action while concentrating on his levitation. The maximum duration a character can remain levitated at any one time is 10 turns, followed by two turns of rest.

Levitation only allows vertical movement. Sideways movement is only achievable by the levitating character pulling himself along an object. A levitating character cannot create forward momentum to affect the direction of his ascent. It is always straight up. While wind has no effect on a floating user's ascent direction, it can slow him down if the referee feels it is strong enough. If knocked unconscious while levitating, a character falls.

Link

Success Rate: Discipline Level

A Mentalist may wish to link his mind to that of another Mentalist, thus giving him additional strength. Up to five Mentalists can be linked in this manner. For every Mentalist linked to his mind, a character gains a +1 Column Shift for the discipline he is attempting. If the discipline involves a range factor, the original range is increased by 50% for every mind linked. If the discipline inflicts damage, the original damage is increased by 25% for every mind linked. Thus, if four Mentalists are linked to a Mentalist using an attack discipline, he would have a +4 Column Shift added to the success rate, the range (if any) would be three times normal, and the damage would be double the normal amount. Mentalists who are using the Link discipline can do nothing else. If the character they are linked to sustains damage, they absorb one-tenth of that damage too, rounded down.

Paralyze

Success Rate: Discipline Level

Limit: One successful user per day

This discipline allows a character to mentally attack the motor system of an enemy's brain. If successful, the target becomes completely paralyzed for 1d10+2 turns. He cannot move or

speaking, but he can see, hear, smell, and use Mentalist disciplines (if applicable). Only a creature with a brain can be paralyzed (including cyborgs). No drug can override this mentally inflicted paralysis.

Pyrokinesis

Success Rate: Discipline Level

A character with this discipline who concentrates on a creature or item can eventually cause it damage by speeding up the surrounding molecules, thus heating it up and possibly even causing it to burst into flames. Each time this discipline is used, the character must concentrate fully on the item or character for three complete turns before damage occurs. The damage depends on the colored Result area of the successful discipline check: a Cobalt result indicates 20 points of damage, a Blue result indicates 15 points of damage, a Green result indicates 10 points of damage, and a Yellow result indicates 10 points of damage. This damage increases by 5 points if the creature or item is ignited.

An item can ignite if it is highly flammable (paper, wood, petrol). A creature can ignite if it is successfully attacked with this discipline three consecutive turns. This 5 points of flame damage is repeated each turn that the item or creature is on fire.

During the three turns preceding the damage, the temperature surrounding the target is noticeably higher than normal. Any creature or item impervious to the heat (tropical creatures or plants, federanium) takes no damage unless they are ignited (5 points). Any creature, plant, or item that the referee determines is especially susceptible to the heat (artic creatures) suffers double damage from this discipline.

Shield

Success Rate: Automatic or Level +X

This discipline automatically allows a character to know when someone is trying to intrude on his thoughts or mentally attack him. It does not indicate who is doing the intruding or attacking. Nor does it define what discipline is being used. If he desires, the character can, in the next turn, put up his mental shield. This prevents Telepathy, Empathy, and Illusion from working on him. It also protects him with a -3 Column Shift for all mental attacks used against him. The character can maintain the shield for as long as he is conscious, but he can perform no other disciplines while concentrating on his shield.

He can perform other nondiscipline activities while keeping his shield up. The referee should make sure that this discipline is not abused. A character who has the shield up most of the time will become easily exhausted and can even suffer Logic loss because of the damaging effects of trying to be always mentally protected.

Static *

Success Rate: Discipline Level +1 CS

With this discipline a character can send out a disruptive field of mental energy which interferes with broadcast transmissions, including communications transmissions, scanner transmissions,

and robots operating from a main power supply station or computerized control facility. The area affected extends out from the user up to a radius in meters equal to the Logic score of the user. For example, a character with a Logic score of 83 could expand this interference area anywhere from within a few centimeters or himself up to an including 83 meters. The duration of this discipline, once the check has been made, is five turns.

Suggestion *

Success Rate: Discipline Level

This discipline allows a character to mentally suggest something to another character and have him agree with it. If the check is made, a reasonable mental suggestion (we are harmless, look the other way) to a character will be obeyed. The trick here is to be brief and reasonable. This differs from the Hypnosis skill in that it is instant and does not possibly alter a character's perception of reality. If the referee believes a suggestion is slightly unreasonable because of extenuating circumstances, he should add a negative modifier to the discipline check. Otherwise, in the case of outright unreasonable suggestions (give me your gun, strike your comrade) there should be no check at all. A check is made for every suggestion, but once a specific Suggestion check is missed it cannot be used again during that encounter.

Telekinesis *

Success Rate: Discipline Level +2 CS

With this discipline a character can mentally lift an object into the air or move it along a surface. The maximum range of this discipline is 15 meters from the user. The amount of weight (in kg) that can be lifted is equal to one-fourth the user's Logic score, rounded down. The maximum time that an item can be telekinetically levitated is 10 turns. The discipline then cannot be used again for turns. The success rate is modified by a -2 CS when trying to telekinetically move or lift an animate object, like a jet. This skill allows for no more manipulation than pushing, pulling, lifting, or lowering.

Telemanipulation

Success Rate: Discipline Level

Pr: Telekinesis Level 3

This discipline is similar to Telekinesis, except the range is shorter and the ability to manipulate is better. The maximum distance an object can be telemanipulated is four meters from the user. The amount of weight (in kg) that can be held and telemanipulated is equal to one-tenth the user's Logic score, rounded down. The maximum duration of this discipline is five turns. The success rate is modified by a -2 Column Shift when trying to telemanipulate an item that the user cannot see. In all other aspects, this discipline is the equivalent of the user having a third, invisible, mentally controlled hand. The hand can do no damage by itself and cannot be damaged.

Telepathy: Aliens

Success Rate: Discipline Level

This discipline allows a character to enter an intelligent alien's mind only for the purpose of conversation. For this discipline, an alien is defined as a creature of at least human intelligence that is not one of the player character races. If the alien is not receptive, the success rate is modified by a -2 Column Shift.

Once contacted, the alien is not forced to be pleasant, but he cannot shut out the user's attempts at conversation. An alien who has undergone telepathic linking numerous times can mentally converse quite well, otherwise the character must keep his conversation short and basic. If the alien is extremely evil, or has a mind that could be incomprehensible to the character attempting to reach it, the referee might decide that a Logic check is in order before any communication is attempted. If the user fails the check, he may be disoriented, stunned, at the alien's mercy, or even mortally wounded, depending on the alien and the referee's discretion.

Telepathy: Animals *

Success Rate: Level +X

This discipline is similar to Telepathy: Characters, except that the telepathic link can only be attempted with creatures of animal intelligence. The user tries to enter a creature's mind and converse with it through only the most basic concepts. Unless provoked, the creature does not usually attack a character during the telepathic conversation. If the creature is a monster, the referee might decide that a Logic check is necessary before any communication is attempted. If the user fails the check, he may be disoriented, stunned, at the creature's mercy, or even mortally wounded, depending on the creature and the referee's discretion.

Telepathy: Characters *

Success Rate: Level +X or Discipline Level

This discipline allows a character to enter another intelligent being's mind only for the purpose of conversation. The success rate is Level +X if the recipient is receptive. If the character is not receptive, the success rate is the user's discipline level. Once contacted, the character is not forced to be pleasant, but he cannot shut out the user's attempts at conversation. A character who has undergone telepathic linking numerous times can mentally converse quite well, otherwise the character must keep his replies short and basic. This discipline only allows for telepathic contact with intelligent player and nonplayer characters (including cyborgs).

Teleport: Limited

Success Rate: Discipline level +1 CS

This discipline gives the character a chance to teleport himself up to 10 meters away. The area he wishes to teleport to must be clearly seen by the user. To teleport requires three full turns of concentration before the player can roll the discipline check. If unsuccessful, the teleportation simply does not work, unless the unsuccessful roll was a 98-00. The automatic miss roll means that the character is stunned by the failed attempt for 1d10x10 turns and cannot attempt this discipline again for a week.

Teleport: Unlimited

Success Rate: Discipline Level

Limit: Two successful users per week

Pr: Teleportation: Limited Level 2

This unusually strong discipline allows a character to teleport anywhere he can clearly see (including those areas seen with optical enhancement devices) or is familiar with (has spent one entire week in the location, studying it) within five km of himself. A rolled automatic miss, however, is much deadlier with this discipline. If a 98-00 is rolled for the discipline check, the player must roll again on the following table.

Unlimited Misteleport Table

Roll	Effect
01-35	The teleport did not work.
36-60	As above, but character is stunned for 1d100 turns.
61-80	Character teleported to location but not safely. He has misjudged the elevation and appeared in midair. Maximum damage is 40 points, roll on Level 0 for actual damage (treat White and Yellow as Green).
81-95	Character has suffered as 61-80 plus completely misteleported and is 1d10 kilometers away from desired destination.
96-99	As 81-95 but missed mark by 1d100 kilometers.
00	Character permanently lost in another dimension

Timeread *

Success Rate: Level +X

Limit: One successful use per level per three days

When a character uses this discipline successfully, remains immobile, and concentrates on a space he is occupying (5-meter radius), he can look back in time at what took place there. He

cannot be seen by those shades of the past and he can hear no sound. He is, in fact, completely helpless during this discipline. After the discipline check is made, another percentile roll is required to determine how far back through time he can see. The maximum time traveled back is three months for every point of Logic the user has.

For example, a character with an 83 Logic can go back 20 years, nine months. The user starts at the far end of the time span and comes forward toward the present. He can return through time as fast as he wishes, but once he passed a date, he cannot go back again without a new discipline use. He cannot interfere in any way in the space he concentrated on. The referee must use his discretion with this discipline and may have to ad lib a great deal, as a lot of information may be required. This is a good chance for storytelling, however, and a perfect opportunity to lay the groundwork for an upcoming adventure. This discipline is usually used for gaining clues and evidence in crimes.

Trance I *

Success Rate: Discipline Level

With this discipline a character can go into a trance and slow his metabolism almost to the point of death. This slowed metabolism has many benefits. It prevents poison from spreading rapidly throughout the user's system (though it eventually will cause damage). The character can almost hibernate, thus lasting longer on fewer supplies in harsh climates. The character can feign death and has a chance (discipline check) to fool even the best doctors (though not med-bots). Once the character has started the trance, he cannot move or do any action except concentrate. He can come out of the trance whenever he desires, but it takes three turns for his body to wake up after he has announced the end of the trance. While the user's body metabolism is slowed down, healing is also slowed.

Trance II *

Success Rate: Discipline Level

A character using this discipline can go into a trance and increase his metabolism. This accelerated metabolism has many benefits. It speeds up medicinal drugs injected into the user's system,• thus accelerating their healing effect on him. The character's natural healing time is cut in half when his metabolism is accelerated. The character can feign a fever, heart attack, and other maladies.

The heat impression given off is more like that of a machine than a bioform and this sometimes leads characters or machines using IR optical-enhancement devices or scanners to ignore the user, considering him a piece of machinery or heating duct. Once the character has started the trance, he cannot move or do any action except concentrate. He can come out of the trance whenever he desires, but it takes three turns for his body to cool down after he has announced the end of the trance. While the user's body metabolism is accelerated, he can perform no other discipline.

Trap

Success Rate: Level +X

Pr: Beam Level 2

This discipline is set by a Mentalist who expects to be attacked mentally. Once set, the trap lasts for 20 turns or until the character is successfully struck by a mental attack or other form of mental probe. When this happens, the user's stored mental energy lashes out as a retributive mental beam. If the check is made, it strikes the character who has probed or attacked like a Beam discipline. See the Beam discipline for the statistics of the damage.

Truesight

Success Rate: Discipline Level

Limit: Can only be used when normal sight will not work

A character uses this discipline when his normal sight is impaired because of temporary or permanent blindness caused by a sealed prisoner's helmet, flash grenade, completely dark night, or being underwater. If the check is made, the character has the equivalent of perfect sight for combat, avoiding obstacles, or finding directions. The user cannot identify someone he does not know, operate a machine or computer, or perform other detailed visual work. Truesight is only checked at the beginning of the impairment and lasts as long as the character's normal sight is impaired.

THE FRONTIER

NEW TERMINOLOGY

Rim Coalition refers to those recently contacted star systems outside of the United Planetary Federation and generally located on the other side of the Xagygy Dust Nebula and the Lesser Morass. The Rim is a loose collection of system governments, much less organized than the UPF, drawn together by the constant threat of Sathar invasion. It is on peaceful terms with the UPF and they were allies in the Second Sathar War (SWII). Further Rim information can be found throughout this book, in the sections dealing with the new PC races, the timeline, and the planetary catalogue.

The Council of Worlds refers to the diplomatic organization that the UPF worlds have created. It is a forum for discussion and debate where the grievances and desires of the UPF Frontier worlds are expressed. In more recent times, it is the Council of Worlds (or simply, the Council) that represents the Frontier worlds' wishes to the actual UPF bureaucracy. Sometimes tensions and personal ambitions between members of these two authoritative bodies clash.

Nebulae (plural of nebula) are vast clouds of gas and dust found in interstellar space. Most of the nebulae found throughout the Frontier are "dark nebulae" that absorb the light of stars. Other types of nebulae that might be encountered are "emission nebulae" (bright clouds of gas found around young, hot stars), "reflection nebulae" (clouds of gas and dust that reflect the light of the young, cool stars they surround), and "planetary nebulae" (expanding spheres of gas that have been expelled from the surface of old, dying stars).

THE FRONTIER MAP

The map shows the Frontier, including both the United Planetary Federation and the Rim Coalition, plus all of the known stellar features of Frontier space. The map shows the location of all settled systems, unexplored systems, known neutron and binary stars, and dust and gas clouds.

The solid lines connecting the planetary systems are established travel routes. These are well-established routes, safe from both natural hazards (space debris, etc.) and unnatural hazards (pirates). The distance in light-years along each route is printed along each solid line. Starships can travel one light-year per day, so this number is also the number of days it takes to cross the route. Stars without star routes connecting them to rest of the Frontier have secret routes that are known only to Star Law or a mega-corp.

Most civilized planets and systems still have not been completely explored and settled. Many new planets, moons, and star systems have been discovered and await further development. In addition, because of a devastating plague in years past, there are some forbidden planets that have not been contacted in the last few centuries.

PLANETARY CATALOGUE

Each major inhabited planet is listed here. Eight characteristics are given for each planet; these characteristics are detailed below.

Prevalent Race (PR) gives the most common race on the planet (usually the race that controls the government). Some of these races were the original colonizing race, others have gained control through years of immigration.

Abbreviations are used to indicate which race colonized planet: D = Dralasites, H = Humans, V = Vrusk, Y = Yazirians, If = Ifshnits, Hu = Humma, O = Osakar, Me = Mechanons, * = a mixture of races, and Co = a mega-corp that is colonizing and developing the planet, usually with a mixture of races. If two races share dominance and control of a planet, they are both listed, as H/V (Human & Vrusk), for example.

Population (Pop.) indicates how many intelligent beings live on the planet and how many cities there are. This information is given in a two- to three-letter code that describes the population size.

Hvy -- Heavy population: The planet has numerous large cities and hundreds of smaller cities. Individual cities may be considered "maxi-cities" that cover thousands of square kilometers.

Mod -- Moderate population: The planet has several large cities and numerous small cities.

Lt -- Light population: The planet has only a few small cities.

Out - Outpost: The planet contains only a small outpost or colony. At most, it has only one small city and possibly some small settlements located nearby.

Trade (Tr.) indicates the planet's major trade(s). Each major trade is listed with a one letter code. Some planets have more than one major trade item. The trade item(s) listed are the most important. The abbreviations follow.

I -- Industry: Most of the planet's economy is based on manufacturing. Cities are built around factories, processing planets, or roboplants, and most of the inhabitants work there. Raw materials may either be mined on the planet or shipped in from another planet.

R -- Resource Mining: The planet is rich in natural resources like metals, fossil fuels, gems, crystals, or radioactive materials. Most of these raw materials are shipped to industrial planets for processing.

A -- Agriculture: The planet's economy is based on farming, whether natural or synthetic. This includes grain farming, fruit or vegetable farming, livestock, fish, lumber, textiles, and other such businesses.

M -- Military: The planet is an ideal location for a huge military complex. This requires some industry and resource mining to be conducted on the planet and the planet is under the tightest security. Military planets are usually developed by a mega-corp that needs room for development, growth, and testing (like WarTech's Solar Major) or by a large planetary system that needs to heavily fortify a sector in space (like the Frontier's development of Moonworld in the Lynchpin system).

E -- Education: The planet's chief industry is educational or scientific study. The only planet that

is entirely educational is Anker in the Zebulon system where the University of Zebulon is located.

B -- Business: The planet's chief product is mercantile operations. Such a planet usually has offices on it for middle-sized companies and mega-corps along with massive showrooms and demonstration areas. Also in abundance are thousands of bazaars where one can find almost everything imaginable. Some planets, such as Minotaur, are tourist centers that make a large amount of their planetary income on vacation sites and amusement parks.

T -- High-Tech Industry: The planet excels in either research and development of, manufacturing of, or advanced use of highly advanced technology. Tachton Industries and Interplanetary Industries are both good examples of these types of high-tech centers.

Gravity (Grav.) is the strength of gravity on the planet. It is measured in relation to 1 g, Earth-normal gravity. The full effects of gravity are explained in the original Star Frontiers Alpha Dawn game rules.

Length of Day (Day) is the number of Earth hours the planet takes to complete one rotation on its axis (24 hours for the Earth).

Artificial Satellites (Sat.) lists the various types of large manned stations that may orbit the planet. The first three are explained in the Star Frontiers Knight Hawks game: SF = UPF Space Fortress, FSS = Fortified Space Station, and ASS = Armed Space Station. There are several new types of satellites.

TS -- Trading Stations: These "malls in space" are usually found in very secure space sectors. They are restricted by UPF law to sell only those items not produced on the planet they orbit. Trading stations also have facilities for restocking spaceships.

RRS -- Rest and Relaxation Station: These space stations specialize in entertainment facilities such as holo-shows, live theatre, casinos, lounges, and sporting events. They also cover recreation facilities such as zoos, adventure theme parks, and, on some of the planets with more hostile environments, "outdoor" parks that offer hiking, biking, climbing, boating, etc. Usually there is a wide range of packages for the onboard hotel facilities so it is possible for people to vacation there over extended periods of time.

DS -- Docking Station: These spaCe stations provide facilities for the repair, refurbishment, and complete overhaul of spaceships. Some are also shipyards where new spaceships are built. Every type of space station can handle light repairs on space ships, but only a docking station can handle seriously damaged ships.

On the Frontier each non-military space station has a Star Law Officer on board with a contingent of deputies. While the station's General Manager is responsible for all the normal functions on board the space station, Star Law is the law. Non-military space stations are considered part of the planet they orbit and not under Spacefleet's jurisdiction, though the ships that shuttle between the space stations and the planets fall within Spacefleet's jurisdiction.

Moons and their Uses (Moons) lists the major natural satellites orbiting the planet in ascending order, i.e., the first moon listed is the closest to the planet, the second moon listed is farther away, etc. Uses indicate the primary operations, if any, occurring on that moon. These operations can range from four-man scientific expeditions to full-scale mining operations. The

actual nature and extend of the operations are left to the referee. The abbreviations for moon uses are identical to those used for planet trade listings: A = Agriculture, I = Industry, etc. A new listing of C (Colonization) is added for moons.

STARS

Each planet is listed after the star it orbits. Normal stars, called Main Sequence (MS) stars, fall into seven categories, called spectral classes. The spectral class of a star indicates the star's surface temperature and depends on the mass of the star. The spectral classes of the stars of the Frontier are given in parentheses after the name of the stars in the planetary list (on the following pages). The table below gives some characteristics of the seven spectral classes of MS stars, as well as those of three non-MS stars.

MAIN SEQUENCE STAR TABLE

Class	Color	Temp	Lifetime	Radius	Maximum # of Planets
O	Blue	30,000	10	15	none
B	Blue	15,000	80	5	none
A	Blue	10,000	1,000	2	5
F	White	7,000	3,000	1.5	10 +
G	Yellow	5,500	10,000	1	15 +
K	Orange	4,000	80,000	0.5	15 +
M	Red	2,500	125,000	0.2	10
Non-MS Stars:					
RG	Red	3,000	0.5	15	5
SG	Blue	10,000	0.1	500	none
WD	White	15,000	-	0.01	none

+ indicates possibility of life-bearing planets

RG = Red Giant

SG = Supergiant

WD = White dwarf

Notes on Star Table

Radius is in terms of our sun's radius (700,000 kilometers).

Temp is surface temperature in degrees Kelvin.

Lifetime is star's stable lifetime, in millions of years.

The numbers given in the MS Star Table are only approximate and the referee has some leeway in assigning star's characteristics.

Each spectral class (O, B, A, etc.) is further split into 10 subclassed numbered 0 to 9, with 0 being the hottest and 9 being the coolest. Thus an A0 star is the hottest type A star while an A9 star is the coolest type of A star. The spectral classes and subclasses form a continuous sequence from the hottest MS star down to the coolest (an A9 star is just slightly hotter than an F0 star, for example).

Main Sequence stars range from O5 (the hottest MS stars found thus far) to M9 (the coolest MS stars). Our sun is a G2 star.

THE FRONTIER WORLDS

The following list is a catalogue of known habitable planets on the Frontier. There are hundreds of other planets, either unexplored or uninhabitable, that are not shown in this catalogue.

PLANETS OF THE FRONTIER

Star (Sp. Cl)

Planet	PR	Pop	TR	Grav	Day	Sat	Moons	Uses
--------	----	-----	----	------	-----	-----	-------	------

UPF WORLDS

Araks (G4)

Hentz	Y	Hvy	I	0.7	25	FSS,DS,TS	None	
-------	---	-----	---	-----	----	-----------	------	--

Athor (K2)

Yast	Y	Mod	A	1.0	15	None	Exib	A
------	---	-----	---	-----	----	------	------	---

Ime None

Cassidine (G8)

Rupert's Hole H Mod IA 0.9 20 ASS,TS None

Triad * Hvy IT 1.1 30 ASS,DS Evergleem C

Devco (F9)

Cass Co Lt R 1.6 12 None None

Dixon's Star (G0)

Laco H Mod I 1.4 60 None Saucer None

Dramune (K1)

Inner Reach D Mod AI 0.8 20 ASS,TS Pell A

Outer Reach * Mod IR 1.0 35 ASS,RRS Kard R

Tars R

Etric None

Tolk None

Fromeltar (G5)

Groth D Lt A 1.2 45 ASS None

Terledrom D/V Hvy I 1.0 60 ASS Wikk C

Leen I

Masg None

Gruna Garu (G8)

Hargut Y Hvy BR 1.1 20 ASS Trefrom C

K'aken-Kar (K8)

Ken'zah-Kit V Mod A 0.9 25 FSS None

Kizk'-Kar (G2)

Zik-Kit V Mod IR 1.0 65 ASS,TS None

K'tsa-Kar (K0)

Kawdl-Kit V Lt E 0.7 30 ASS,RRS None

Liberty (G1)

Snowball Spec Lt E 0.9 32 Spec Akhala C

Lynchpin (K2)

Moonworld H Hvy M 1.3 25 SF,DS Pen C

Ringold R

Dillon B

Hachiman M

Ares M

Huan-Ti M

Huitz M

Nuada M

Enlil M

Madderly's Star (G3)

Kdikit H Mod IA 1.0 30 SF,DS,TS Shang-Ti I

Tsukiy None

Zeus None

Jupiter B

Odin None

Mechan (K7)

Mechano Me Hvy IT 2.0 30 None(?) None

New Streeel (G2)

Corpco Co Lt AT 1.0 35 None None

Pan-Gal (G8)

Exodus Co Mod IT 1.3 20 None None

Genesis Co Out E 0.8 25 None Asperon M

Belv E

Prenglar (F9)

Gran Quivera * Hvy BI 1.0 15 FSS None

Morgaine's H Mod BIA 1.5 40 SF,DS Grey R

World RRS,TS Gold None

White M

Black None

Rhianna (G6)

Alcazzar Co Lt R 0.8 V None A1-7 ?

Scree Fron (K7)

Hakosoar Y Mod AI 0.9 50 None Inti E

Infi R

Histran Y Out E 0.6 25 None A-G None

Solar Major (F3)

Ringar V Mod B 1.5 40 None None

Solar Minor (F8)

Circe H/V Lt A 1.0 20 RRS,ASS Ulysseus M

Kir'-Kut H/V Lt I 1.2 18 TS None

Sundown (K9)

Starmist * Out E 1.0 25 None None

Theseus (G1)

Minotaur H Hvy BI 1.2 15 FSS None

Timeon (G5)

Lossend H Lt AI 0.7 70 ASS None

Tristkar (K0)

Kraatar V/H Lt AIT 0.6 18 None Tivalla None

Setarz None

Truane's Star (G7)

New Pale H Lt A 1.4 20 ASS None

Pale * Hvy IR 0.9 55 SF,DS,TS Dan C

Joe M

Sven None

Waller Nexus (G0)

Mahg Mar * Out E 0.9 24 None None

White Light (F7)

Golloywog H Hvy R 1.0 50 SF,DS None

(Clarion)

Zebulon (G2)

Anker * Mod E 0.9 20 RRS Plato None

Volturnus * Lt BI 1.0 24 ASS Leo None

Lulu None

RIM PLANETS

Capella (G6)

Faire If Mod B 0.7 45 DS Astra A

Flaund None

Homeworld If Mod A 1.5 15 TS Bigoo I

Haasan None

Kleevor M

Ifshna If Mod BT 0.6 22 RRS None

Cryxia (K5)

Pi'Ka'Nair * Hvy A 0.5 12 None Bu'd None

T'zaan * Mod A 1.0 20 TS None

Fochrik (F9)

Forge Hu Hvy I 0.8 40 None Anvil M

Hum Hu Hvy R 0.9 30 TS Kran C

Glak M

Clud None

Larg Hu Mod RI 1.1 35 None None

Kazak (G1)

Stenmar * Mod RA 1.0 25 DS,RRS Brount M

Bernt M

Bilf None

Brunt M

Klaeok (G8)

Point Go * Lt R 1.6 90 DS,TS None

Osak (G4)

Fhloid O Out M 0.8 20 None None

Osaka O Hvy I 1.1 25 FSS,DS Obladee C

Ontair R

Octon B

Onmar None

Piscatien O/lf Out E 1.0 35 None None

Reanee * Mod B 1.0 20 None None

Wonma * Lt AT 1.2 30 ASS Weskin E

Weot None

PLANETARY FOOTNOTES

(alphabetical by star system)

This section includes major footnotes on some planets that may be helpful to the referee. Not every planet is noted here, and ther referee may wish to add more planets of his own.

Hentz (Araks) is ruled by a religious clan, the Family of One. The city of Onehome is also the headquarters for GOD-Co., the terraforming mega-corp. Everyone who lives one Hentz or workds for GOD-Co. wears a uniform denoting his job and social position.

Venturi (Belnafaer) is a gas giant in the uninhabited system (See map). It is one of the major sources of very complex, unstable biochemicals that are highly valued as catalysts for industrial processes. One of the many moons, Snobol, is a large, lumpy block of water ice and carbon dioxide ice to which is tethered the starship Moneyspider. The there is a microdistillation column that helps to collect the valuable biochemicals. The system is being developed by ByChem, a subsidiary of A.I.P.S.

Triad (Cassidine) is a major industrial planet where high-technology items are manufactured and sold. Cassidine Development Corporation has its headquarters in the planet's capital, New Hope. Interplanetary Industries has its huge, fortress-like headquarters based in Lake Vast, the

major seaport. Nesmith Enterprises of Triad occupies most of the Malicon Valley's developmental sites as its headquarters.

Cass (Devco) is a mega-corp planet founded by the Cassidine Development Corporation as a refuge for the multitudes that were left homeless by the Blue Plague.

Laco (Dixon's Star) was originally founded by Humans. During the First Sathar War tens of thousands fled to Laco from Pale and New Pale after Sathar attacks. As Laco was a prime industrial planet with no agricultural production, the survivors soon began to starve to death. If not for the intervention of the Capellan Free Merchants, the entire population might have been totally eliminated. Without any effective government and with a reduced population, Laco looked to the mega-corps for assistance. Conflicting interests soon arose and led to Laco's War between PGC and the Strel Corp. Today Laco's primary industries are owned by PGC.

Inner Reach (Dramune) has an unusual planetary custom. The Dralasitas who live there dye their skin various colors to show them mood for the day. The dyes wash off easily. SynthCorp built its own city, Synthtown, on Inner Reach as its base of operations.

Outer Reach (Dramune) is a gathering place for criminals and outlaws of all types. People there do not ask strangers how they make their living.

Terledrom (Fromeltar) is ruled by a council of Vrusk companies and elected Dralasitas. Trans-Travel is a planetary corporation and the chief employer of Terledrom. Its headquarters are based in Sengsen, the major city.

Hargut (Gruna Garu) is the business headquarters for WarTech Inc., based in the major starport of Heston, and the Association of Intergalactic Power Suppliers, based in Klaktow, Hargut's largest city.

Zik-kit (Kizk'-Kar) has many rich mineral deposits. The raw ores are exported mainly to Terledrom for manufacturing.

Kawdl-Kit (K'tsa-Kar) is the UPF outpost charged with scanning for Sathar in the direction of the White Light Nebulae.

Snowball (liberty) is one of the newest inhabited planets. It has a Human-like native race (the Mhemne) that has split into three distinct societies, one of which inhabits its moon and artificial satellites. Snowball has a lot of trouble with Sathar that are believed to be the last surviving remnants of the Sathar Third Fleet that was driven into the Vast Expanse during the SWII. The safe star route to Liberty is unknown except to Star Lawmen.

Moonworld (Lynchpin) is a large planet with nine moons orbiting, all belonging to the UPF. Access to the system is almost impossible due to its military nature. Star Law has its Ranger Academy on Dillon, one of the moons. The capital of Moonworld is Stronghold. The UPF Space Fortress is named Defiant.

Kdikit (Madderly's Star) is the headquarters for MercCo. A huge MercCo training base is located about five kilometers north of the major city of Buckerton. The UPF Space Fortress is named Kdikit.

Mechano (Mechan) is not yet a member of the UPF. It was founded before SWII by Mechanons escaping persecution on Volturnus. Because of the Mechanon's non-organic nature, the UPF is proceeding slowly with the Mechanon request to join the UPF. No known bioform has ever set foot on Mechano and its atmosphere is reported to be deadly to organic life. (See Volturnus for more information on Mechanons.)

Corpco (New Steel) is a mega-corp planet, founded by the Steel Corporation in an attempt to enter the agriculture industry.

Exodus (Pan-Gal) is a mega-corp planet founded by PGC. Its use is not known to any save PGC.

Genesis (Pan-Gal) is a mega-corp planet founded by PGC for the purposes of establishing a secure base for their research labs.

Gran Quivera (Prenglar) is known as the Hub of the Frontier. Star Law, Pan-Galactic Corporation, Galactic Task Force Inc., and the United Planetary Federation all have headquarters at Port Loren, the major city.

Morgaine's World (Prenglar) is quickly developing into one of the finest planets on the frontier. It is the only planet to have a UPF Space Fortress, a docking space station, a rest and relaxation space station, and a trading space station all orbiting it. Spacefleet's Gollwin Academy also orbits it. The UPF Space Fortress is named Gollwin.

The steadily climbing population has yet to make use of more than 20% of the surface area of this large planet. The planetary government is well organized and has created some of the Frontier's most progressive laws for racial equality, religious rights, the concerns of the public vs. the government, and so forth. Many investors look to Morgaine's World to usurp Gran Quivera's position as the Hub of the Frontier in the next few decades. Brilliant auroras light up the night sky over most of the planet (except for the equatorial regions).

Alcazzar (Rhianna) is unusual in that its equator is tilted 90 degrees to the plane of its orbit about Rhianna. This causes severe seasonal temperature variations. The northern and southern hemispheres alternate season of unlivable cold and heat. Only about the equator is habitation possible. Tremendous wind storms sweep Alcazzar's surface at all times. Only WarTech Inc. navigators know the star route to Rhianna.

Hakosoar (Scree Fron) is headquarters for Universal Households, the apparel, household furnishings, and housing mega-corp. UniHo developed the city of Hyyay as its operations base.

Histran (Scree Fron) is the location of the UPF outpost that keeps an eye on the Mechan system, the Lesser Morass, and that sector of the Vast Expanse.

Ringar (Solar Major) is the mega-corp planet founded by WarTech Inc. for the purposes of expanding their production capabilities and establishing a secure and exclusive testing site. Ringar is very heavily guarded.

Circe (Solar Minor) is a mega-corp planet founded that was colonized, along with the planet Kir-Kut, by SynthCorp for the purposes of experimenting with foodstuffs required by Humans and Vrusk.

Starmist (Sundown) is a UPF scientific base for the study of alien flora and fauna. Only Starfleet has knowledge of the star route to Sundown.

Minotaur (Theseus) is the headquarters for Starplay Enterprises (StarEnt also maintains offices on all rest and relaxation space stations). Their base of operations is the planet's capital city, Maze, the largest vacation spot on the Frontier. Ninland (named after its founder, Siot Nin) is an amusement park beyond belief.

Lossend (Timeon) is the home of Tachton Instruments and also lays claim to the Frontier's highest mountain peak, Mt. Spire.

Pale (Truane's Star) is the starting point of the only known starship route through the Xagyg Dust Nebulae. Currently all travel to Rim planets must pass this way. The Stree Corporation is headquartered in the planet's capital, Point True. The UPF Space Fortress is named Pale.

Mahg Mar (Waller Nexus) was recently discovered and is not yet well explored. It has already gained notoriety, however, as the site of the first UPF spaceship mutiny (on the Eleanor Moraes). The star route to Mahg Mar is a guarded secret of the UPF's Planetary Survey Administration.

Gollywog (White Light) is a beautiful, pristine planet on the edge of the White Light Nebulae. Gollywog's major city, Moline, is the base of operations for Eversafe Enterprises. The UPF Space Fortress is named Redoubt.

Anker (Zebulon) is the site of the University of Zebulon, the Frontier's largest and most prestigious institution of learning. The entire planet has been set aside for the U of Z, as well as one of the Frontier's largest zoos.

Voltornus (Zebulon) is a multi-cultured planet full of adventure. The Eornic robots of old have evolved into today's Mechanons. The few Mechanons who remain on Voltornus are hostile toward organic life forms. Since it became a UPF system, the Mechanons have had many social upheavals, including the exodus that led to the founding of Mechanon.

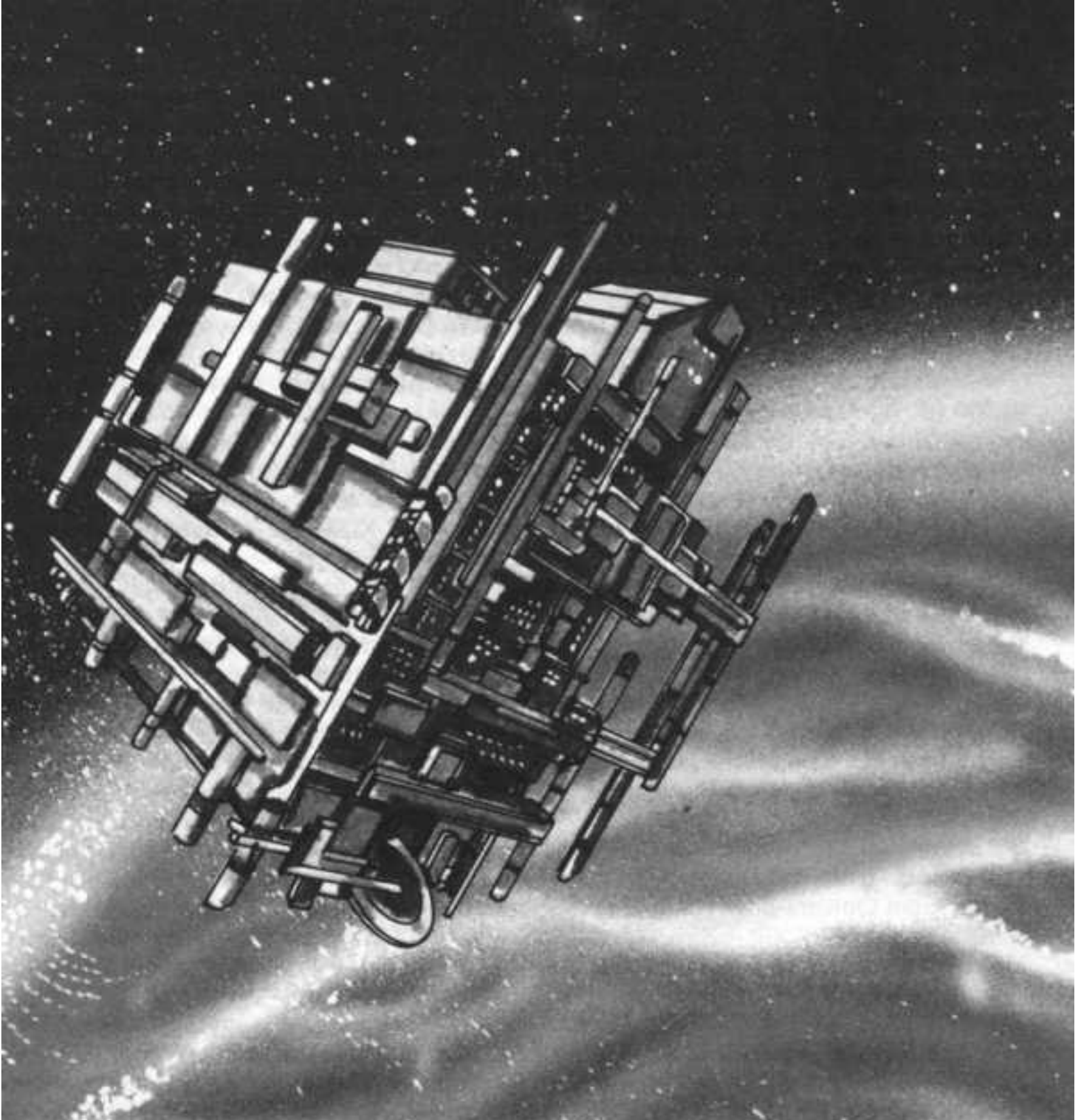
THE RIM

Little is known about the Rim planets (the statistics given for the Rim Worlds are compiled from various sources: long range probes, Capellan Free Merchants, etc.). The Rim is a loose confederation of planets with a small spacefleet called the FLIGHT. The government is known as the Coalition. The Rim, like the UPF, has been invaded by the Sathar in the past, leading the Capellan Free Merchants to search for allies. For this reason the Free Merchants ventured into Frontier space shortly after the end of the First Sathar War. The Coalition and the UPF signed multiple treaties and mutual protection pacts against alien invaders.

The native peoples of the Rim are the Ifshnit, the Osakar, and the Humma. Only in the last decade or so have Yazirians, Dralasites, Vrusk, and Humans entered the Rim in any great numbers. The UPF and Rim enjoy cordial relations and the two civilizations complement each other; the Frontier provides military experts, industrial savvy, and organizational workings while the Rim contributes vast planetary fleets of explorers and merchantmen, its venturesome races, and its vulnerable yet strategic location in the path of Sathar invasions.

It must be remembered that the Rim planets are not suburbs of the UPF and that the Capellan Free Merchants, while keeping a low profile, can be the most devious of mega-corps.

The only planet of the Rim that is well known to the UPF is Faire in the Capella system. It is a watery world with five large islands as its only land masses. Each of these islands has a large bazaar area and innumerable corporate showrooms. It is said that anything can be purchased on Faire... for a price.



STAR FRONTIERS® TIMELINE

The following section is a list of major events in the history of the Frontier.

10,500 pf. (Pre-Frontier) Last remnants of the mysterious Tetrach Societies die out.

950 pf. Heliopes left on starmist by Clikks after a Clikk military exploration vessel is forced to jettison unnecessary cargo.

800 pf. The evolution of the Mechanon race begins on Volturnus.

410 pf. First Vrusk/Dralasite contact.

350 pf. First Vrusk/Human contact

302 pf. Fromeltar system discovered by Dralasitas.

300 pf. Vrusk, Dralasitas, and Humans meet for the first time on the Frontier.

299 pf. Theseus system discovered by Humans.

270 pf. Yazirians enter the Frontier.

270-4 pf. The Frontier is founded.

260 pf. Gran Quivera discovered in the Prenglar system.

256-248 pf. Triad and Rupert's Hole found in the Cassidine system.

230 pf. Pan-Galactic Corporation started on Gran Quivera.

220 pf. Dixon's Star system discovered by Humans.

210 pf. Madderly's Star system discovered by Vrusk and Humans.

205 pf. Madderly's Star system becomes a human system after the freeworld rebellion on Kdikit.

200 pf. Pale and New Pale discovered in the Truane's Star system.

170 pf. Dramune system discovered by Dralasitas.

168 pf. Anthon system discovered by Yazirians.

161 pf. K'tsa-Kar system discovered by Vrusk.

156 pf. K'aken-Kar ssystem discovered by Vrusk.

155 pf. Gruna Garu system discovered by Yazirians.

152 pf. Timeon system discovered by Humans.

150 pf. The Pan-Galactic language accepted throughout the Frontier as a common trade tongue.

146 pf. Kizk'-Kar system discovered by Vrusk.

129 pf. Araks system discovered by Yazirians.

125-10 pf. The Age of Adventure. The discovery and exploration of new planets slows down for the next century while the major races concentrate on mapping the hazards and boundries of the Frontier. Hundreds of exploration vessels and brave spacers are lost during this time. Meanwhile, the discovered planets begin to develop. Thousands of fortunes are made and lost during the Age of Adventure.

124-78 pf. The Greater Morass is mapped.

94 pf. Scree Fron system discovered by Yazirians.

77-57 pf. The Xagygy Dust Nebulae is mapped from Zebulon to Fromeltar.

61 pf. The Zebulon system is discovered by Professor Alorne Zebulon, the Frontier's most noted scientist, explorer, and educator. The planet Volturnus is settled almost immediately. Anker is discovered but not settled until 57 pf.

60 pf. White Light system discovered by Humans.

57 pf. Anker (Zebulon system) is explored and settled. Professor Zebulon founds the University of Zebulon.

56-40 pf. The White Light Nebulae are mapped.

39-33 pf. The Yreva Nebula is mapped.

37 pf. Pan-Galactic becomes the first mega-corp in the Frontier.

32-26 pf. Thirty-two exploration vessels are lost trying to map the Lessere Morass. Only the area between Screen Fron and Zebulon is mapped.

25 pf. A small pirate fleet under Hatzck Naar raids the Cassidine and Prenglar systems. The first Common Muster is called.

22 pf. Hatzck Naar's pirate fleet is defeated off Timeon. Naar is ejected into space and slowly boils inside his spacesuit as he falls toward Timeon. The muster is dismissed.

21-10 pf. The Xagy Dust Nebulae is mapped from Fromeltar to K'aken-Kar.

19-8 pf. The area beyond the Greater Morass claims hundreds of exploration vessels. Though it is believed that most Frontier races came from beyond the Greater Moras, all information about their origins have been lost. Exploration of the area ceases and it is named the Vast Expanse.

10 pf. Representatives of the four major races request that all explorations cease while delegates meet to form a unified defense and mutual interest organization.

3-2 pf. The First Sathar War is fought.

3 pf. The Sathar first appear. They attack the Truane's Star system.

3 pf. Pale and New Pale fall. The Great Exodus to Dixon's Star Ssystem takes place.

2 pf. The four races muster a spaceship fleet. The second Common Muster is called and put under the command of Admiral Morgaine, who immediately moves the fleet to the Cassidine system.

2 pf. The Battle of Triad. Morgaine's fleet performs a surprise attack on the invading Sathar fleet intent on ravaging Traid. The Sathar lose a third of their fleet.

2 pf. Dixon's Star system is attacked by Sathar fleet. Completely unprotected it is soon ravaged. Meanwhile Morgaine moves his fleet to the Prenglar system.

2 pf. The Sathar attack Gran Quivera in the Prenglar system. The Battle of the Two Fleets is fought. The Sathar fleet is routed and destroyed. Morgaine's fleet is seriously depleted and Morgaine dies in battle. With this mutual devastation the First Sathar War comes to an end.

1 pf. Morgaine's World in the Prenglar system is named after the fallen Admiral.

1 pf. The "Grand Meeting" of leaders of the four races takes place on Morgaine's World.

1 f.y. (Federation Year) The United Planetary Federation, a mutual defense organization, is established. All worlds of the Frontier, expecting another Sathar invasion, immediately join. Under UPF authority, Spacefleet becomes a permanent defensive force.

2 f.y. The Streel Corporation is founded on Pale.

3 f.y. The Brotherhood of Spacers becomes the first cadre on the Frontier.

5 f.y. Star Law is established by the UPF.

5 f.y. The Capellan Free Merchants first appear on the Frontier bringing news of the Rim and their fight with the Sathar, and supplying desperately needed food to the survivors on Laco and

Gran Quivera.

6 f.y. The First Dramune War is fought.

8 f.y. Cassidine Development Corporation is founded on Triad. The creation and growth of mega-corps proceeds at an ever-accelerating pace.

11 f.y. The Lynchpin system is discovered by Vrusk. They turn the system over to the UPF for development as a military outpost to protect that sector of the Frontier. The Lynchpin system is a military secret until the middle of SWII.

12 f.y. Frontier ships enter Rim space for the first time.

14 f.y. The Sundown system is discovered.

17-27 f.y. The Blue Plague sweeps the Frontier. Scientists believe it was brought to the Sundown system by an alien vessel that crashed on Starmist. Because of Starmist's light population, the plague was not immediately detected and had a chance to mutate. It is believed that vermin from the planet became infested and somehow gained entry to a ship. The ship makes several stops on the Frontier and the plague spreads rapidly. It is called the Blue Plague because of its earliest symptoms -- large blue welts that appear about the face and extremities. These welts leave horrible black scars even if the victim survives the plague.

20 f.y. Four star systems become so infested with the Blue Plague that the Council of Worlds, the diplomatic organization of the UPF, requests all races to recognize a permanent quarantine of these four star systems. The systems are designated by Greek letters. A spaceship seen leaving one of these systems is to be destroyed by Spacefleet before it has a chance to spread the plague any further.

22 f.y. Hargut, Pale, and Gollywog suffer massive population losses due to the Blue Plague. All three planets are temporarily quarantined.

23 f.y. The Medical Services Organization is founded. Funding pours in from most of the Frontier worlds. Gretl Grohn is named as the MSO Chief Surgeon.

24 f.y. Vaccine for the Blue Plague is discovered at the MSO Center on Morgaine's World.

25 f.y. The Mechanon menace on Vulturnus first comes to the UPF's attention, but cannot be dealt with because of the Blue Plague.

27 f.y. The Blue Plague is eradicated from inhabited planets in the Frontier. In total, 17 million victims fell to the plague.

28 f.y. Very tough laws and penalties are laid down by both the UPF and the Council of Worlds concerning the intersystem transportation and handling of flora and fauna. Star Law is given jurisdiction over planetary imports and exports.

30 f.y. Pan-Gal system is discovered by the Pan-Galactic Corporation and becomes the first mega-corp star system.

31 f.y. New Streel system is discovered by the Streel Corporation.

32 f.y. Devco system is discovered by the Cassidine Development Corporation.

36 f.y. The Second Dramune War is fought.

46 f.y. Solar Major system discovered by WarTech Incorporated.

50-60 f.y. Laaco's War. PGC and Streel wage the first Corporate War on Laco. The UPF eventually steps in and empowers an inter-mega-corporate commission to resolve the differences. Other mega-corps study Laco's War as a possible legal precedent for solving disputes.

54 f.y. The Mechanon Revolt. Mechanons on Vulturnus revolt. Only through quick action on the part of Star Law is a full-scale war avoided.

57 f.y. The Waller Nexus system is discovered by the UPF survey ship Eleanor Moraes. The only habitable planet, Mahg Mar, is the site of the first UPF mutiny.

57 f.y. Liberty system discovered by the UPF. The planet Snowball is liberated from Sathar tyranny. Tacticians, politicians, and exobiologists are given a chance to study Sathar machinery and methods first hand because of the information gathered by the populace during their occupation. It is feared that many pockets of Sathar tyranny exist all around the Frontier and Rim.

60 f.y. Rhianna system is discovered by the Cassidine Development Corporation, but is kept secret.

61 f.y. The Third Dramune War is fought.

63 f.y. Streeel attacks CDC operations on Alcazzar. Star Law intervenes and averts a potential Corporate War.

66 f.y. Solar Minor system discovered by SynthCorp.

67 f.y. Regular trade established with the Rim planets.

70 f.y. The Mechanon civilization on Volturnus undergoes an upheaval. The majority of peaceful Mechanons migrate into the undeveloped space between Screen Fron and Dixon's Star.

77 f.y. Mechanon is discovered by migrating Mechanons. Its entry into the UPF is blocked until the legal status of the Mechanons can be established.

78 f.y. Tough new guidelines for legal ownership of a system or planet are laid down by the UPF and the Council of Worlds. The guidelines are designed to halt mega-corp expansion and to prevent occurrences such as the Mechanon problem.

80-90 f.y. The Second Sathar War.

80 f.y. The Sathar capture a non-UPF system between Solar Major and Solar Minor. They dub it Outpost #1 and enslave its inhabitants. Construction begins on a planet-wide military and industrial complex intended as a permanent base for incoming Sathar supply ships and troops.

80 f.y. Sathar swarm through the Xagygy Nebula and attack Volturnus. New planet-wide battle tactics are used by the Sathar (including the massive use of diversionary, seeded monsters and cybernetically controlled creatures). The attack is a feint to draw Spacefleet to Zebulon. Task Force Cassidine is dispatched to Zebulon.

80 f.y. By going through the White Light Nebulae, Sathar Fleet #1 enters the Frontier undetected.

81 f.y. Sathar Fleet #2 and 3 attack Solar Minor. So overpowering are they that no word of the attack reaches Spacefleet.

81 f.y. Sathar Fleet #1 attacks Madderly's Star. They encounter the new Spacefleet fortress on Kdikit. Its resistance is fierce and buys the needed time for reinforcements to arrive. Dramune sends three frigates and a destroyer from its militia while the UPF dispatches two destroyers and two light cruisers from its non-attached ships roster.

81 f.y. The UPF mines the sector between Cassidine and Madderly's Star. Sathar Fleet #1 is driven from Madderly's Star and pursued as it tries to make its way to Fromeltar. All militia ships in the sector, including half of Task Force Prenglar, are engaged in the pursuit.

81 f.y. Task Force Cassidine crushes the Sathar feint on Zebulon, but with heavy losses. The UPF now realizes how vulnerable it is to land attacks.

81 f.y. The Rim Coalition dispatches the Flight to the other side of Lkaeok in search of Sathar supply vessels. In return they ask the UPF to station Task Force Casidine half way between

Zebulon and Capelle to protect the Rim home worlds in case of a Sathar Sneak attack through the Muld Nebula.

81 f.y. Strike Force Nove arrives secretly at White Light. Admiral Niles believes more of the Sathar fleet may attack through the White Light Nebulae.

81 f.y. Sathar Fleet #2 emerges between Timeon and Prenglar, placing itself in front of the remains of Task Force Prenglar. The Battle of Prenglar begins two hours later and results in Sathar Fleet #2 scattering or destroying the reduced Task Force Prenglar.

Flush with victory, the Sathar proceed recklessly into the Frontier. Strike Force Nove soon engages Sathar Fleet #2. The remaining Task Force Prenglar ships return and join the battle. This running battle results in the eventual withdrawal of Sathar Fleet #2 into the White Light Nebulae.

81 f.y. Sathar Fleet #3 attempts to circumnavigate the Great Morass. Two weeks later it is engaged by long-range fighters from Moonworld. Without any knowledge of the existence of the Lynchpin system, the Sathar forge ahead expecting to find a lone spaceship. Instead, the Battle of Moonworld is joined.

82 f.y. The Coalition's Flight discovers the Sathar supply route around the Xagy Nebula. They station themselves in deep space and proceed to destroy all incoming Sathar ships.

82 f.y. The final dregs of Sathar Fleet #1, after slipping into the Xagy Nebula off Fromeltar, arrive back at Sathar Outpost #1 and prepare to defend to the death.

82 f.y. The Battle of Moonworld ends with three-quarters of Sathar Fleet #3 destroyed. The remaining Sathar vessels are forced to retreat into the Vast Expanse.

82 f.y. Task Force Prenglar regroups off K'aken-Kar.

82 f.y. The UPF establishes the United Planetary Federation Landfleet, the first interplanetary army raised on the Frontier. Thousands of Humma and Osakar arrive from the Rim and enlist, hoping to stop the Sathar menace before it invades their homeworlds. Many die for the Frontier, but still more stay and become citizens after the war.

82 f.y. Strike Force Nova secures the Frontier inward from Theseus.

83 f.y. A Coalition Flight long-distance probe discovers Sathar Outpost #1 and reports its location before it is destroyed.

83 f.y. The remains of Sathar Fleet #2 arrive at Outpost #1. Despite a desperate shortage of supplies caused by the Flight blockade and terrible losses from previous engagements, the Sathar have completed their construction. Outpost #1 is now a formidable fortress.

83 f.y. Three incidents occur that help the Sathar:

The Mist Stone, a sacred Capellan icon, is stolen by Sathar agents and smuggled into Outpost #1.

The original copy of "Reflections of a Humble Servant" is also stolen and smuggled into Outpost #1. This work is considered by Humans to be the definitive philosophy of Dralosite civilization.

Sathar war ships force the populations of Circe and Kir'Kut to evacuate their planets. They are transported to Outpost #1 and enslaved. All three incidents combine to assure that Outpost #1 is not taken by orbital bombardment.

83 f.y. Strike Force Nova retakes Solar Minor. The fighting is fierce and half of the Strike Force and all of the Sathar holding force is destroyed.

83 f.y. The Battle of the Blockade. A reinforcement fleet from Sathar Space is challenged by the Flight. Half of the Sathar Fleet, most of them fighting ships, escape but all troop ships are

destroyed. About one half of the Flight is eliminated.

84 f.y. The Flight is greatly increased by reinforcements from the Rim. Wing #1, the original Flight, rendezvous with Task Force Prenglar. Battered and weary, they still insist on joining the siege of Outpost #1 with the Frontier forces. This group of Rim spacers quickly gains notoriety in the Frontier and greatly enhances UPF-Rim relations. They are known as the Raging Rimmers.

Wing #2 takes up the blockade position. Wing #3 is charged with the defense of the home worlds. Task Force Cassidine sails for Solar Minor. The Sathar begin mining operations on the moons of Outpost #1.

84 f.y. Dralasitas and the Coalitions insist that a diplomatic mission be sent to Outpost #1. The Sathar agree to meet three months later to discuss a possible treaty. Non-Sathar agents represent Sathar interests at the meetings. Diplomatic talks are held for another 18 months with no results. During that time the Sathar strengthen their defenses and repair their ships. The UPF Landfleet is given time to become a formidable army.

86 f.y. Task Force Cassidine joins Strike Force Nova around Solar Minor. Four months later, Capellan Free Merchantmen transport the Landfleet to the Solar Major and Solar Minor Fleets. Many Ifshnits remain in the Frontier after the war and begin the Free Merchant trade system throughout the UPF planets. They will become so firmly entrenched in Frontier life that the mega-corps will not be able to force them out, and eventually accept them as another mega-corp.

87 f.y. The Battle of Five Fleets. In a pincer action, Task Force Prenglar, Coalition Wing #1, Task Force Cassidine, and the remnants of Strike Force Nova attack the Outpost #1 system. Outpost itself is a mammoth world with two planet-sized moons. The entire year is spent destroying the remnants of the Sathar Fleet, the minefields orbiting the planet, the small fighter squadrons the Sathar captured on the two conquered worlds, and the moon's mining and defensive operations. Lost in the action is the rest of Strike Force Nova, except for the battleship Quasar, half of Task Force Cassidine, and all but two destroyers from Coalition Wing #1.

88-90 f.y. The Siege of Outpost. Task Force Prenglar blockades Outpost #1 while Landfleet is shuttled in under intense fire. The land battles take two years to complete. At the end of hostilities, no Sathar survive and 40% of Landfleet is destroyed. Among the Landfleet dead, 30% are non-Frontier citizens. Most of the Ifshnit, Osakar, and Humma who have served the UPF during the war settle down on the UPF Frontier worlds.

91 f.y. The University of Zebulon receives Frontier. Its facilities on Anker increase over the next 20 years until they are larger than most Frontier cities.

92 f.y. Solar Minor is resettled.

93 f.y. The Frontier worlds decide that a permanent, but scaled down, UPF Landfleet force must be maintained at all times for the defense of the Frontier.

95 f.y. Outpost #1 is established as a UPF military base. The "Hoppin' Hundred and Eighth," a spearhead Humma division, is stationed there permanently.

96 f.y. Galactic Task Force and MercCo fight the first post-SWII Corporate War over settlement rights on a moon orbiting Alcazzar in the Rhianna system. Hostilities quickly spread to include all seven of Alcazzar's moons and over a half dozen mega-corps. The Corporate Wars begin in earnest.

97 f.y. The first Star Law graduating class containing Ifshnits, Humma, and Osakar finish their

training. The violent outbursts threatened by a few radical cults never appear.

98 f.y. The Rim and the UPF enter into multiple defense treaties and economic trade agreements, but the Coalition gives severe warnings to all mega-corps that their militancy will not be tolerated in the Rim. Tourism between the UPF and Rim is established and is immediately successful. The Frontier now officially includes the Rim Worlds.

99 f.y. Star Law is invited to the Rim to help the Coalition train their own planetary branches.

100 f.y. The Rim's Age of Adventure begins as hundreds of exploratory vessels are sent out to make the unknown regions surrounding the Rim.

102-106 f.y. The Rim side of the Lesser Morass is mapped.

103 f.y. The first Rim Star Law agents appear. The structure is identical to the UPF Star Law organization.

104-111 f.y. The Rim side of the Xagy Dust Nebula is mapped.

105 f.y. Star Law is given equal powers, rights, and jurisdiction in both the Rim and UPF systems for interplanetary and interstellar crimes. While it works mainly with the local law enforcement agencies, Star Law is recognized as the only law enforcement force with full authority throughout the entire Frontier.

105 f.y. An altered Mechanon assassinates the Governor of Zebulon. The UPF suspects that the Sathar may be establishing an extensive spy and terrorist network. The possible Sathar use of mechanical life forms, such as the Mechanonss, as agents becomes a prime investigative goal of Star Law.

106 f.y. The Mechanons are officially informed by the UPF that they are not considered a stable enough society, at this time, to be allowed equal status in the UPF. They are forthwith considered "wards of the Federation." Their protection and supervision are the responsibility of the Council of Worlds. While most Mechanons accept this as a necessary step toward independence, some rebel and go underground, swearing to avenge their race. Many of these are suspected of being Sathar agents.

106-111 f.y. Mapping of the Rim side of the Xagy Nebula is completely up to the Klæok system.

107 f.y. The A.I.P.S. is formed. Except for the Capellan Free Merchants, who were introduced into the UPF society under unusual circumstances, it is the first mega-corp voluntarily created by smaller companies in an effort to resist merger or take-over attempts by existing mega-corps.

108 f.y. In an effort to stem the growing numbers of Corporate Wars, the UPF and Coalition worlds grant Star Law the authority to recruit and use mercenaries and to establish the Star Law Psi-Corps, a special branch of Mentalist-disciplined officers.

109 f.y. Mega-corp recruitment doubles in non-enforcer professions. A trend of smaller and cheaper skirmishes or espionage missions to replace the larger, more expensive Corporate Wars begins to show. Over the next two years the term "Corporate War" comes to mean a war of intelligence gathering, tactical enforcement procedures, and industrial sabotage rather than full-scale military operations.

109 f.y. Long-range probe ships are sent into suspected Sathar space away from the Rim and UPF systems on the other side of the Xagy Dust Nebula. It is hoped these probes can answer the question of where the Sathar come from.

110 f.y. A human assassin fails in his attempt to shoot Queanee Kloonanu, chairman of the Council of Worlds. A small bioform is found attached to the human's back. Scientific studies

show it to be some kind of intelligent, parasitic organism with the same genetic make-up as Sathar specimens. Authorities believe it to be a new Sathar method of controlling agents. See-through apparel becomes fashionable almost immediately.

111 f.y. The University of Zebulon publishes the first volume of Zebulon's Guide to Frontier Space, a multi-volume collection of confirmed flora, fauna, cultures, devices, customs, and history of the known Frontier. It is considered the definitive work on the Frontier and is immensely popular.

111 f.y. Mapping of the Xagy Dust Nebula continues from Klæok and K'aken-Kar.

111 f.y. The Grand Celebration, commemorating 111 years of the UPF treaty is planned for the entire year. Gala social functions, parades, and celebrations are planned on every planet in the UPF and even some in the Rim.

MEGA-CORPORATIONS

STAR FRONTIERS® game characters will encounter a number of identifiable organizations throughout the course of their adventures (Star Law, the Sathar war machine, spy networks, etc.) but one organization stands out from all the rest: the Pan-Galactic Corporation.

The STAR FRONTIERS Alpha Dawn basic game rules list Pan-Galactic as "the oldest and largest interstellar company." The history section explains how Pan-Galactic was established.

In the STAR FRONTIERS Knight Hawks game, Pan-Galactic is mentioned as the largest of over half a dozen huge and multi-faceted corporations operating in the Frontier. How and when did Pan-Galactic's monopoly on the Frontier fail? Where did these other companies come from? The status of mega-corps are clarified in many of Zebulon's notes.

The establishment of the PGC as the major mega-corporation on the Frontier was designed into the basic rules as a starting point from which game referees could design their own corporate structures. The information given in the original Star Frontiers Alpha Dawn game was applicable during the time of the First Sathar War (SWI). The information given for the Knight Hawks game is specifically placed as the beginning of the Second Sathar War (SWII).

CORPORATE HISTORY

The first large interstellar company was the Pan-Galactic Corporation; it is no exaggeration to say that PGC ruled the Frontier in the early days. Like the great railroad century of late 19th- and early 20th-century Earth, the PGC was the only fast, safe way to travel through an unknown frontier for the millions of pioneers who yearned for land and their own fortunes. The PGC had its fingers in every pie, controlling financing, transportation, mining, industrial and agricultural organizations, and more one the worlds of the Frontier.

There is a lot to thank the GPC for in this early development period. It founded a common unit of currency (the credit), established the galactic board of trade, created and spread the Pan-Galactic language (usually called PanGal), financed innumerable scientific breakthroughs that led Frontiersmen further and further into space, and did much, much more.

But there were great problems inherent in the one-company system. Corporate corruption became rife on the less civilized worlds. Often whole planets and races were at the mercy of the PGC's concept of "morality," and too often aesthetic values lost out to financial ones. No competition meant stagnation in many industrial areas and complete control of the economic system by a single entity.

Possibly the worst problem, however, was the lack of independence enjoyed by planets, and sometimes whole systems, because of their overwhelming dependence on one source for all their needs. Because of this last factor, a type of economic blackmail, it was inevitable that others would try to break PGC's monopoly on the Frontier.

During the period the Sathar Wars, secret financial groups sprang up, investing in land and

various industrial operations and gaining power until their size could no longer be hidden from PGC. Many of these initial investments were made in cities, planetary governments, and militias.

By the time PGC discovered its potential rivals, it was too late; their footholds were established, and with them came planetary autonomy. Pan-Galactic's hold over the Frontier was broken at last. The new corporations decided to fight PGC on its own ground, making diverse investments and establishing their operations in the same areas as PGC's operations.

This last point is important, because without it the Sathar could not have presented a serious threat to the UPF during the Second Sathar War. Escalating competition between the larger companies, particularly PGC, Steel Corporation, and Cassidine Development Corporation, led to armed conflicts that required much of Star Law and spacefleets's time and energy to quell. Many galactic historians believe that without this debilitating distraction, the UPF forces would have been stronger and better prepared for another Sathar invasion.

After SWII, corporate focus and investments altered rapidly and radically. Many executives and design teams left the established mega-corps to found their own companies. These new companies were extremely specialized. Financing became available through planetary and galactic bonds created to increase local industry and jobs.

During this shift of talent, many of the established mega-corps began to feel that these were non-profitable directions and thus not worth their support in the face of any substantial competition. The logic behind this was based on the larger investment firms' belief that specialized companies could not grow to any significant size and would later fail and be merged back into existing mega-corps.

This was a terrible mistake by those few pre-war mega-corps and shows the tunnel vision and lack of foresight that permeated the top executive levels at that time. The specialized firms grew at unprecedented rates. They reinvested their income in their own specific areas, not in mergers and outside acquisitions. Because of this, within years the thought of dealing with anyone but a specialized company was absurd: people would only travel with Trans-Travel, only buy their weapons from WarTech Inc., etc. These companies were the best in their fields and competitive in their pricing. They represented reliability in many areas in which the established mega-corps could no longer hope to compete.

The single greatest factor preventing these embryonic firms from being swallowed up by their larger, richer cousins was the UPF Anti-Merger Laws, passed during SWII. Wishing to discourage centralized industry, which is an easier target for attack or covert takeover by the Sathar, the UPF enacted numerous laws to prevent mergers that would give a mega-corp a complete monopoly in an industry. So effective were these laws in curbing corporate tyranny that they remain in effect today.

The specialized companies grew at an amazing rate and soon became mega-corps themselves. The animosity some of the older mega-corps felt towards the UPF Governing Council's decision to keep these laws is still felt today through their lobbying efforts in planetary governments and through their increased "security" divisions that may someday rival those of the UPF forces.

THE CORPORATE WARS

The term "Corporate wars" was not coined until a decade after SWII. The first use of the term was by WarTech Inc., in a special weapons catalogue released to various industries. The new media quickly picked up on the term and used it for sensationalistic effect.

The true beginnings of the Corporate Wars are decades old. In fact, they started before SWII began. The first Corporate War began on Laco's World in the Dixon's Star system. It was the scene of a decade-long conflict between the Streeel Corporation on one side and the Pan-Galactic Corporation operating through the jGalactic Task Force on the other. Tens of thousands of casualties were suffered, and more than a dozen spaceships were destroyed in what is now called "Laco's War."

This war was started and settled before SWII. The outcome of the War was decided by PGC's immense military expenditures. PGC settled with the rights to the planet and Streeel Corporation, soundly defeated, made no more attempts to claim it. This set the pattern for future corporate conflicts of an "unnegotiable nature."

At this time, the UPF could not afford to go to war with every corporation that raised a private army or fleet. With the sudden reintervention of the Sathar, culminating in SWII, corporations ceased their hostilities to combine their efforts against the common foe. The end of the war quickly saw resumed tensions and private military escalations. This time, however, the UPF was ready for the hostilities.

New laws gave Star Law more power and authority to act in the interest of galactic peace. Spacefleet was rearmed and could easily intimidate smaller fleets. Landfleet, the standing UPF army created during SWII, had been maintained, though at a reduced size, and Corporate Wars offered perfect chances for it to practice maneuvers. For a while it looked like the UPF forces could prevent occurrences leading to further Laco's Wars.

Unfortunately, the government did not reckon with the mega-corps' greed and resources. A combination of swelled mega-corporate coffers from SWII, thousands of unemployed soldiers turning mercenary, and the emergence of specialized mega-corps that thrived on military conflict resulted in an escalation of corporate warfare to a previously unknown level.

In addition to covert Sathar, Mechanon, pirate, and terrorist activities, the UPF security forces now had to deal with full-scale invasions, sieges, and battles fought by more than a dozen mega-corps and conglomerates of smaller firms.

STAGES OF A CORPORATE WAR

To better understand the Corporate Wars, one must go to Star Law and their guideword for rookie Star Lawmen: ICEWARS. This acronym outlines the seven stages of escalation usually seen in a corporate War.

- Interest conflict -- A conflict of interest develops between two corporate entities over mineral rights, world development rights, etc.
- Corporate espionage -- Usually an increase in corporate spying takes place after the initial conflict of interest develops.

- If results indicate the opposing corporations' goals are not actually in conflict, then the entire matter is cleared up immediately.
- Economic sanctions -- If espionage does indicate a conflict, economic sanctions are imposed to pressure the other corporation out of the dispute. This is usually when corporate alliances are made, out of a need to find alternative sources of financing, food, weapons, etc. Sometimes these economic sanctions work, usually they do not.
- Withdrawal -- When economic sanctions do not pressure either side out of a conflict of interest, then a rapid withdrawal of corporate personnel and equipment from the planet, moon, or site in question begins. This pullout sometimes confuses the opponents into believing the economic sanctions worked. Generally, it is a prelude to war.
- Armed conflict -- Once a site is deemed vacated by a corporation or any potential hostage personnel or material, mercenaries are sent in to hold the site while negotiations proceed. These mercenaries are usually referred to as "advisors." This step is the tip-off to the opposing corporation that war is imminent.
- Reinforcements -- The inevitable hostilities are exchanged and reinforcements are sent in to protect the corporate interests. The actual war has now begun and negotiations, usually for public relations purposes, continue to be held while the war continues. The length of the war can vary. The shortest war on record was between two moonmining colonies around Outer Reach in the Dramune system. A stray missile with two high-explosive warheads hit a cache of TD-19 in a tin hut. The blast of shrapnel punctured every space suit worn in battle. Actual battle time: 3 minutes. Casualties: 135 dead. The longest war on record is Laco's War. Actual battle time: 10 years. Casualties: 235,000 dead, 367,000 wounded, 170 tril-credits in equipment destroyed.
- Stabilization -- When one corporation wishes to withdraw from the conflict, because of the drain on its resources or the inevitability of defeat, the negotiations suddenly become serious. The conflict is then resolved within a week (after all, time is money). Terms of surrender range from full reparations to the victorious corporation to the simple withdrawal of the losing corporation's forces.

It should be noted that these wars are no longer fought on the developed worlds within the frontier. All battles occur on newly discovered worlds, moons, and in space about them. If a Corporate War is seriously affecting the health and welfare of a planet on the Frontier, Landfleet may be sent in as a peace-keeping force or Spacefleet may step in and end the conflict in the swiftest, surest method available: space blockade, saturation bombardment, and so on. No corporation has ever won a battle with Spacefleet or Landfleet. Star Law usually acts in a covert manner to prevent, delay, or bring an end to these most harmful of wars. Sabotage, disruption of communications, and even the arrest of mega-corp executives on other charges have been used to end conflicts.

Other factors to keep in mind when dealing with mega-corps are their own internal problems. Power struggles between executives are commonplace. The cadres, far-removed descendants of labor unions, are must contend with their influence. Planetary governments also figure heavily in mega-corp decisions.

PROMINENT MEGA-CORPS

Following is a list of post-SWII mega-corps, their operations, headquarters, chief executives (if known), subsidiaries, and allies or enemies.

The first five mega-corps (PGC, Streel, CDC, Galactic Task Force, and MercCo) share control over their respective areas and are in constant conflict with each other.

The remaining mega-corps have significant control of their respective areas (60% to 70% control of their industry). Although they are involved in armed conflict with smaller companies and pirates, they seldom battle each other for possession of land, mineral resources, conflict or interest, etc. They have no set allies or enemies.



PAN-GALACTIC CORPORATION

Consensus has it that the PGC is the largest business entity in the Frontier, but no factual data has been released to support this belief. The PGC has offices on nearly every inhabited planet, but has now confined most of its operations to financial areas, industrial research, funding Frontier explorations, loans for business ventures, investments, the backing of new governments, and so forth.

Headquarters: Port Loren, Gran Quivera, Prenglar

Chief Executive: Chang Kim Lee (Human)

Subsidiaries: PGC owns innumerable small and medium-sized corporations, including Trojan Enterprises on Kraatar.

Allies: Galactic Task Force Inc.

Enemies: Streel Corporation, MercCo

Occasional Opposition: CDC, Capellan Free Merchants



STREEL CORPORATION

Streel has grown remarkably in the last few decades and is fast approaching PGC in size and financial power. Streel offices are now spread throughout the Frontier and Rim, the latter an area the PGC has neglected. Streel backs technological research, banking systems, savings and loan institutions, and financial backings for real estate and agricultural areas.

Headquarters: Point True, Pale, Truane's Star

Chief Executive: Hilo Headow (Yairian)

Subsidiaries: The largers are Greater Vrusk Mutual Prosperity Institution, First Dralosite Savings and Loan chain, and the Yazirian Financial Co-op. All of these were once major

competitors that Streeel acquried.

Allies: MercCo

Enemies: PGC, Galactic Task Force Inc.

Occasional Enemies: CDC



CASSADINE DEVELOPMENT CORPORATION

CDC has also grown over the last few decades, but no to the same extend as the Streeel Corporation. CDC has offices on all major worlds and is starting to expand into the Rim. CDC specializes in insurance companies and in operations of a risky nature, such as planetary and deep space mining operations, archaeological digs, and off-Frontier exploration ventures.

Headquarters: New Hope, Triad, Cassidine

Chief Executive: Members of the Board of Directors share equal power; most noted Director is Xoprothun (Dralasite)

Subsidiaries: CDC is fronted so well that subsidiaries are relatively unknown

Allies: CDC has had an allience, at one time or another, with alomst every mega-corp except PGC and Streeel

Enemies: None

Occasional Opposition: PGC, Galatic Task Force Inc., Streeel Corporation, Capellan Free Merchants, MercCo

GALACTIC TASK FORCE INCORPORATED

Galatic Task Force (usually known simply as Galatic or GTF has a monopoly on the business of providing nonmilitary or nonsecurity services for other companies. Almost every service imaginable can be obtained from them. They also provide military and security services, but they do not have a monopoly in those areas. Their slogal, "Secretaries to mercenaries, we've got a place for you!" in known throughout the Frontier.

Headquarters: Port Loren, Gran Quivera, Prenglar

Chief Executive: Vlad Lopex (Human)

Subsidiaries: Rent-A-Drudge, 24-Hour Escorts Inc., All-Day Medical Services, Security Forces Ltd.

Allies: PGC

Enemies: MercCo, Streeel Corporation

Occasional Oppostion: Various small services and security organizations, local militia, pirates



MERCCO

MercCo was created shortly after SWII by enterprising individuals who specialized in warfare. They received financial backing from the Streel Corporation, and in ten years have developed into a mega-corp. MercCo Specializes in mercenaries for hire in temporary or permanent security, military, or high-risk positions.

Headquarters: Buckerton, Kdikit, Madderly's Star

Chief Executive: Ebser Henshaw (Yazirian)

Subsidiaries: ForceCo (military personnel), SecurCo (security personnel), RiskCo (high risk operations of any type)

Allies: Streel Corporation

Enemies: Galactic Task Force Inc., PGC

Occasional Opposition: Various small security organizations, militia, pirates

TRANS-TRAVEL

Trans-Travel is a planetary corporation composed of many different companies all financed by and headquartered on the same planet, Terledrom. The government of Terledrom formed this corporation at the outbreak of SWII. It was the first of the new mega-corps. All of these companies specialize in some form of transportation or the manufacturing of transport vehicles or machines.

Trans-Travel itself controls 80% of nonmilitary space travel. This includes transportation of raw materials, processed goods, passengers, etc. Trans-Travel's slogan, "Your safest route is with Trans-Travel," is as much a warning to other mega-corps as an advertisement. T-T considers smuggling a serious crime and will punish it by death, if given a chance.

Headquarters: Sengsen, Terledrom, Fromeltar

Chief Executive: Ruled by a council of Yazirians whose identities are not common knowledge

Subsidiaries: Frontier Spaceship Manufacturing Corporation, Interstellar Vehicles Co., Hickman Hovercraft, Niles Vehicles, Grubber Aircraft Industries, Stewint Land Transport Company, Curtis Cycle Corporation, Dobson Security Vehicles, Ltd., Moore Labs

SYNTHETICS CORPORATION

SynthCorp provides the vast amount of natural and synthetic food, beverages, and over-the-counter pharmaceutical needs to the Frontier. It owns many agricultural co-ops, vast manufacturing facilities, and dozens of laboratories. Almost all independent agricultural and dairy operations deal with SynthCorp. Amazingly, they are all on very good terms and SynthCorp has the best reputation for fairness and quality of any mega-corp.

Headquarters: Synthtown, Inner Reach, Dramune

Chief Executive: Krondot (Dralasite)

Subsidiaries: ByChem, thousands of small and middle-sized companies

INTERPLANETARY INDUSTRIES

I.I. specializes in high-tech devices of a noncomputer or noncommunications nature that are too expensive for other mega-corps to produce. More galactic patents are held by I.I. than any other mega-corp, and its research labs are the finest on the Frontier. Industrial spying is a way of life with most mega-corps and I.I. is no exception. Its private security force is reputed to be the best in the Frontier.

Headquarters: Lake Vast, Triad, Cassidine

Chief Executive: Harlon Thow (Human)

Subsidiaries: None

NESMITH ENTERPRISES OF TRIAD

The NET holds the patents on most computer and communications equipment. Competition between the NET and I.I. is strong, but it has not yet erupted into a Corporate War. Both mega-corps would like to expand into their counterpart's market. This is a volatile situation that Star Law is trying to contain. Because of the NET's patents on programming units (progrits) and body computers (bodycomps), plus the circuitry for most communication and radiophones, most other mega-corps have never even considered competing with the NET.

Headquarters: Malicon Valley, Triad, Cassidine

Chief Executive: Unknown

Subsidiaries: Hundreds, all closely identified with NET (e.g., NET-Progit Industries, NET-Communicator Industries, etc.).

UNIVERSAL HOUSEHOLDS

UniHo specializes in three distinct areas: textiles and clothing, household furnishings, and buildings. Their synthetic apparel resists grime and wear and is inexpensive. Therefore UniHo made sure it controls the fashion industry; though made to last longer, their apparel goes out of style yearly. UniHo furnishings are usually made of plastic or plasteel and are modular in design. Any piece of valuable furniture, such as real wood pieces, are usually made by a sub-contractor. UniHo buildings are pre-fab dwellings, offices, industrial and professional facilities, and so forth. Specialty buildings are expansive and are designed and constructed by architectural engineers.

Headquarters: Hyyay, Hakosoar, Scree Fron

Chief Executive: K'an Ku (Vrusk)

Subsidiaries: Two massive ones: Planetary Structures Inc., and Kotiz Fashions Inc.



STARPLAY ENTERPRISES

Leisure time activities are the concern of Starplay Enterprises, and most legal intoxicants, confectionaries, exotic cuisine, sporting goods, sports events, gambling, recreational equipment and facilities, and general entertainment are provided by them. Under UPF laws, no single corporation can hold a complete monopoly in the But Starplay comes as close as it legally can to doing just that. It offers dozens of orbiting boardcast stations for subscriber channels and publishes thousands of periodicals in all known languages. Many financial experts believe Starplay will be the next number one mega-corp.

Headquarters: Maxe, Minotaur, Theseus

Chief Executive: Zsa-Nin (Yazarian)

Subsidiaries: Most major sports leagues and facilities, Price Publishing, the Stellar Entertainment Network

ASSOCIATION OF INTERGALACTIC POWER SUPPLIERS

The A.I.P.S. is the newest mega-corp and was created in a most unusual way. Power suppliers throughout the galaxy have traditionally been independents. But a private investigation team gained evidence that PGC was planning a massive buyout of most energy producers, including companies in the solar, nuclear, petro mining, and thermal collective industries. They sold this information to a small organization of energy producers who quickly called the major power companies together and decided to merge into a mega-corp. If the thousands of independent energy producers still at large joined the A.I.P.S. it would be one of the big three mega-corps.

Headquarters: Klaktow, Hargut, Gruna Garu

Chief Executive: Petrov Noptolova (Human)

Subsidiaries: Hundreds of thousands of companies of all sizes. The best kown include Machon Mining, Nova Nuclear Incorporated, and Consolidated Nebula (Con-Neb).



TACHTON INSTRUMENTS

T.I. controls most of the Frontier's industrial engineering businesses and, more importantly, almost all of the robotics industries. T.I. holds the patents on the Freeswing Gyroscope, necessary for the operation of cost-effective bipedal robots, and on the Marilyn Cybernetics

Cortex, without which cybernetics would still be a theory. T.I. also produces bionic body parts.

Headquarters: Tachton, Lossend, Timeon

Chief Executive: Margaret Bouvia (Human)

Subsidiaries: Raupp Robotics, Elmore Electronics, Arky Positronics, Parkinson Cybernetic Industries, Easley Androids Ltd., Egalt Robotics, LaForce Industrial Engineering Corporation, Dawck Factories

GALACTIC OVERALL DEVELOPMENT COMPANY

This mega-corp is referred to as GODCo by the less reverent. It is located on Hentz, which is ruled by a religious clan, the Family of One. Although not an overly fanatic or expansionistic religion, it does dictate that everyone who lives on Hentz or works for GODCo must wear a uniform denoting his job and social position.

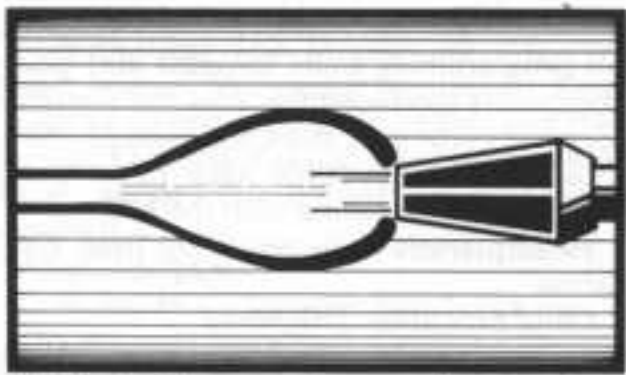
GODCo's specialty is architectural engineering and terraforming. While architectural engineering is a lucrative business, it is the planet-altering terraforming that has really propelled the company to mega-corp status. Since the Cassidine Development Corporation funded them and the Capellan Free Merchants underwrote the loan, GODCo is particularly indebted to them.

The science of terraforming may change the structure of the entire Frontier over the coming centuries, as whole worlds may be made inhabitable. Only planets that have no intelligent life form can be terraformed. However, hundreds of thousands of species of flora and fauna are destroyed each time a planet is reformed and some new cults have arisen to try and block further planetwide destruction of life.

Headquarters: Onehome, Hetz, Araks

Chief Executive: Rev. Yeppir (Yazirian)

Subsidiaries: None



WARTECH
I N C O R P O R A T E D

WARTECH INCORPORATED

The WarTech Inc. military and industrial complex control about 80% of all weaponry sold, and can influence planetary and system-wide military conflicts. Corporate warfare and miscellaneous battles on the Frontier are usually conducted by members of Galactic, MercCo,

planetary militia, or Landfleet, who all buy their supplies from WarTech (or rent them from the Capellan Free Merchants). It is even reported that private dealers buy weapons for pirate or terrorist organizations from WarTech. It is also rumored that certain "Doomsday" devices were created by WarTech, but were deemed to be too dangerous for public consumption.

Headquarters: Heston, Hargut, Gruna Garu

Chief Executive: Lance "Gunner" Todd (Human)

Subsidiaries: Interstar Weaponry, Nova Explosives Unlimited, Newar Laboratories, Zik-kit Ordinance Industries

Referee note: Unknown to the rest of the mega-corps, WarTech actually has the largest annual income

EVERSAFE ENTERPRISES

The motto of Eversafe, "Live eversafe and eversecure!" gives some indication of the hardware available from this mega-corp. Eversafe produces most of the Frontier's defensive suits, power screens, vehicle plating and defensive attachments, and security systems. From time to time Eversafe field tests new defenses through Star Law or MercCo.

Headquarters: Moline, Gollywog, White Light

Chief Executive: E. LeRoy Lange (Human)

Subsidiaries: Wokeekoo Scanner Manufacturing Corporation, Armorall Unlimited, Guardall Inc., Mikooc Cardlock Manufacturing Firm

CAPELLAN FREE MERCHANTS

This unusual conglomerate of retail outlets, distributors, manufacturers, and trading ships is much larger than most Frontiersmen realize. The Capellan Free Merchants is a union of small companies that protects its members from mega-corps. It specializes in the sale of exotic items, which can usually be found nowhere else but in a CFM shop, and in rentals. This renting or leasing of equipment to its members (at a flat rate) and up to nonmembers (at the going rate plus 20% per month) is extremely lucrative and has been a thorn in other mega-corps' paws for years. Free Merchants also repair and maintain equipment, giving them added income on other mega-corps' products.

The most recognizable members of this conglomerate (although there are members of every known race in the CFM) are the Ifshnits from the Capella system of the Rim Confederation. These tiny merchants organize hundreds of planet-hopping trading ships that ply the spaceways with their wares. The Free Merchants have a clear understanding with Trans-Travel and will only transport their own materials and personnel on their ships. The Capellan Free Merchants usually do not open a shop under that name, but prefer the anonymity of a front organization. Because of their long domination of Rim society they do not necessarily feel constrained by the niceties of law.

Any being can belong to the Free Merchants, but he must pass a five-year apprenticeship program first. Entry into this program requires sponsorship by an already established Free Merchant. The Capellan Free Merchants have been known to venture beyond known space in

search of new and exotic items.

Headquarters: Red Islan, Faire, Capella

Chief Executives: The Council of Twelve, a revolving membership rawn from Capellan elders who have been Free Merchants.

Subsidiaries: None

Referee Note: The Capellan Free Merchants seem to be an exception to many rules goerning mega-corps, such as not really being an exculsive manufacturer of materals and being able to avoid the Trans-Travel lobby. This is because the CFM were granted a UPF charter to do so, the only one of its kind, in gratitude for their help during the rough days following SWI.

CADRES AND CULTS

The mega-corporations are not the only "power-brokers" in Frontier society. Two others are the various cadres and cults that have gained substantial followings. They are by no means all public, and some are almost impossible to encounter, but they exist and pursue their beliefs nonetheless.

Cadres are planetary organizations of people who are all members of the same profession (except the Spacers who can be found throughout the Frontier). There are cadres of teachers, miners, public transportation operators, and so forth. These cadres are constantly battling the mega-corps for more credits, more benefits, and more control over their occupations. Sometimes a cadre is honest, sometimes not, but lately many of them have been studying the renewed militancy with which the mega-corps pursue their goals. Some of the more powerful cadres, such as the Synthfood Workers or the Brotherhood of Spacers, may resort to their own brand of militancy to resolve differences in the future. Star Law is monitoring cadres carefully at the present time.

Cults spring up everywhere but usually fade within the year. Some are religious, some are social, others comprise outright fanatics who like to express themselves in bizarre ways. Of the hundreds of known cults throughout the Frontier, a few have emerged over the last two years that present a very real danger.



The **Silver Death Cult** is an underground terrorist organization that exists to eradicate all intelligent artificial lifeforms from the Frontier. The organization actually started when the Mechanons began their famous exodus from Zebulon and settled on Mechan. Over the years, the SDC has gathered more militants into its ranks. Its pose is that of a patriotic organization that

wishes to keep the Sathar out of the Frontier by preventing their mechanical agents from infiltrating society.

The **Free Frontiersmen Foundation** (FFF) once was a legitimate political faction within the UPF. Over the years it lost members and political pull, and eventually a right-wing group took control of the organization. While it is still public, many FFF agents and operations are covert and terrorist oriented. The purpose is to overthrow the UPF and supplant it with a fascist, galaxy-spanning government. The FFF will stop at nothing to achieve its goals.



Anti-Satharian League

The **Anti-Satharian League** is one of the youngest cults. It has only existed for a few years, but its numbers have swelled remarkable. It is an ultra-conservative group that constantly pushes the UPF for massive military build-ups to face the "inevitable Sathar third attack." They sometimes ally themselves with the Silver Death Cult in their attempts to root out Sathar agents, but they suspect machines and people alike.

The League is an extremely public organization, but recently Star Law has received information suggesting that it has infiltrated many levels of government and is actually behind many covert operations that have been blamed on other cults. The League is led by J. Harrington Farnsworth, a Human billi-creditaire.

The **Frontier Peace Organization** believes that too many credits are being spent on Star Law, Landfleet, and Spacefleet. Lately, they have even suggested that one of the reasons for the Sathar attacks is the Sathar fear of a UPF and Rim military threat to their existence. The FPO promotes isolationism for the UPF and extreme cutbacks in military units on all planets and in the UPF in general. This organization is an arch-enemy of the Anti-Satharian League.

The **Kraatar Liberation Corps** is a secret militant organization that originally started on Kraatar in an effort to end Vrusk domination of that once predominately Human planet. Over the last few years it has evolved into a Frontier-wide terrorist organization dedicated to freeing Humans from the "cultural pollution" of the existence of other races. The KLC believes that once Humans have taken control of all planetary and system-wide governments, the UPF, and all mega-corps, then the Frontier is assured of peace. The KLC is a prime target for Star Law

investigations.

The **Investors** is an ultra-covert organization of a few billi-creditaires who wish to be the behind-the-scenes controllers of the UPF. While the UPF is presently an organization that comprises all of the Frontier's planetary system government, the Investors believes it could develop the UPF into a body that would override all local governments. While its aims and methods are similar to that of the FFF, the Investors is a much smarter and more hidden group. The Investors tries to gain control by financial wars, not by actual military ventures, as the FFF would.

NEW EQUIPMENT

INTRODUCTION

A brief word on how to introduce the new items found in the first volume of *Zebulon's Guide to Frontier Space* into a campaign may be in order. Unless you have dealt with a great influx of new technology into your game in the past we suggest that you gradually and logically bring these items forth. The reasons are quite simple.

- This gives both the referee and players a chance to get used to the new statistics, abilities, etc. of the equipment.
- It gives the referee a chance to keep his game in balance despite new forces.
- It stretches the excitement of fresh abilities and new ideas out over many weeks instead of one frenzied session.
- A gradual introduction of new material is more realistic than suddenly dropping an arsenal of equipment and weapons into the players' laps.

EQUIPMENT SOURCES

When a referee introduces a new weapon, defensive suit, or whatever, into a game, the situation in which it is introduced then sets the tone for its use. The impression that powerful weapons or items are easily obtainable should never be given. Conservation of supplies (such as powerclips) is one of the key elements in any good role playing game.

Logical sources are needed for the introduction of new equipment found in this booklet. A good place to start is by looking at the forces controlling the Frontier.

- Mega-corps have their hands in any number of developmental pies and it is logical that new products being tested might be supplied, in small quantities, to individuals who are in their employ or doing them a service. The item might be on loan from the mega-corp and possibly available for a short length of time.
- Independent inventors and firms are always trying to create better equipment for their customers. They often need to field test new devices.
- Cadres and cults often produce new equipment no one has even heard of before. These might be purchased or obtained in exchange for a service to the cadre or cult.
- New items can be found or retrieved from enemy agents, terrorists, or pirates as the campaign continues. Others may have been locked up for centuries in a dead ship floating in space or stored in a service robot by a fleeing criminal.

Whatever the source, you will find that items logically obtained by the players are more likely to be logically used.

ITEM COSTS AND THE BLACK MARKET

The costs listed in the Equipment Tables are suggested retail prices for items purchased in a stall, store, etc. Actual costs are determined by the referee but the variance should be less than 10% of the listed price, unless the item is not purchased in the normal manner.

Some items, because of availability or illegality, cannot be found in a retail setting. However, they may be found on the black market. Even Star Law has resorted to this outlet when searching for hard-to-find items. The black market deals in items sold privately with no receipt, no return, no questions asked, and usually no taxes paid.

On some planets there are no laws against the black market. On other planets the price for selling or buying black market goods can include imprisonment and massive fines. Prices for minor items purchased on the black market are no more than 15% higher than normal, but prices for rare or illegal items can be as high as triple the standard price. Star Lawmen who deal with black marketeers on their own planets are often exposing themselves to blackmail and extortion unless HQ is kept informed.

HOW MANY ACTIONS PER TURN?

Many new items in this section are easily activated (like jaw-tension mechanisms) and, if combined, could give a character an unreasonable number of actions in a turn. Referees should keep several factors in mind when dealing with these items.

A turn is only six seconds long. If a character tries to move, fire a weapon, activate a helmet weapon, and survey all the action around him, something is going to suffer. Remind players that combat, surprise, fear, and so forth confuses players. It is not a simple case of listing all you want to do in six seconds. Use your best judgement in these cases while remembering that a half dozen actions per turn is just too much for anybody.

AMMUNITION & ENERGY

Remember that all weapons and devices that are not fuel-powered use electromagnetic convertible energy stored in selenium containers. As the energy may be used in varying amount, a standard unit of energy evolved, the Standard Energy Unit (SEU). Varying amounts of SEU may be stored in different-sized containers.

In the early years of the Frontier, 1 SEU was the original standard medium of exchange, equal to about 5 Cr. Since everyone needed energy, and the varying forms of energy were relatively convertible, it was a logical currency. While the Frontier has progressed far beyond that basic level of exchange, some undeveloped worlds might still have a few primitive settlements that only deal in SEU currency.

NEW METHODS OF ENERGY STORAGE

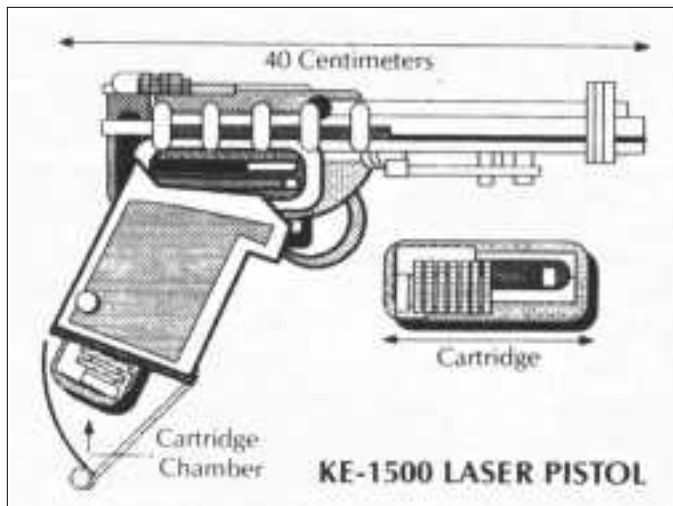
SEU Microdisc: This variable SEU disc is a tiny version of the standard powerclip. It is the size of a quarter and is usually used in microcircuited items. The SEU use of items varies greatly and is listed in the items' descriptions.

Minipowerclip: A smaller version of the powerclip, this 10 SEU unit is about the size of a pack of gum. It is normally not used in items that take standard 20 SEU powerclips. The most common usage for the minipowerclip is in rafflur weapons. Like all powerclips, the mini's cannot be recharged.

Power Helmetpacks: Identical to power belt packs but designed to be attached to the helmet, power helmet packs are primarily used for optical devices, communications devices, and weapons attached to the helmet itself.

WEAPONS

BEAM WEAPONS



Laser Weapons: The Ke series represents the latest generation of lasers. Their beams are a bright orange. The Ke-1000 is a small pistol version, the Ke-1500 is a 40-cm-long pistol, the Ke-2000 is a standard rifle, and the Ke-5000, which has recently been released, is a larger version that is powered by a 100 SEU pack or parabattery and is usually mounted on a vehicle, defensive position, or field mount (though a character with a Strength of 75 can use it like a rifle to defend himself in times of dire need.). Albedo suits and screens still defend against laser weapons as described on page 44 of the STAR FRONTIERS® Alpha Dawn game book. Also see Defensive Suits, Gridsuit in this book.

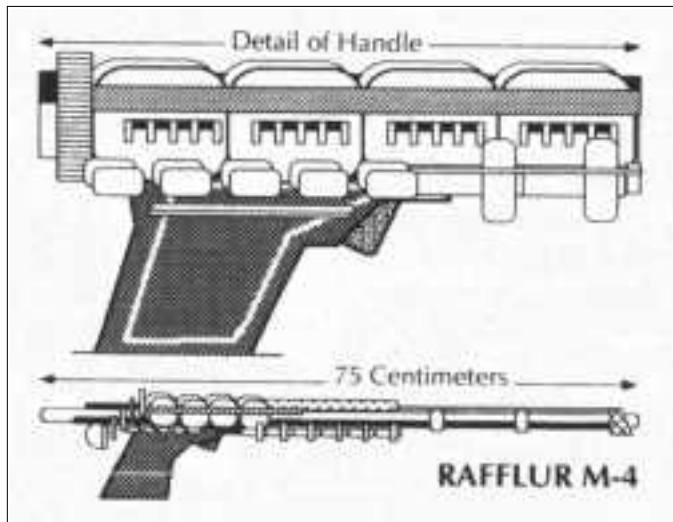
Proton Weapons: Proton weapons are usually referred to as "rafflurs" (RAPidly FLUctuating Radiation). All proton beams are bright white and emit a powerful blast of protons toward the target. Rafflurs are unusual in that most take only minipowerclips and cannot be attached to powerpacks (they have a nasty habit of backcharging and blowing up any power source heavier than a minipowerclip). Proton beams can be deflected or bent away from their target by powerful magnetic fields.

See the Power Screen section, and DefensiveSuits section in this booklet for the defenses against rafflurs.

Rafflur M-1: This personal defense device is the size of a cigar and contains an SEU microdisk. It only fires once at an extremely limited range. After it is fired, the microdisc must be ejected and a fresh one inserted before it can fire again.

Rafflur M-2: The proton pistol is a handgun that is slightly larger than a Ke-1000 laser pistol. Each shot uses 2 SEUs.

Rafflur M-3: This extremely limited production model was specifically designed for Star Law Forces. It is a 45-cm-long pistol that provides more room for attachments. It has design modifications such as a folding stock and energy modulator that increases its range and accuracy (+1 Column Shift modifier). Anyone other than a Star Lawman would have a great deal of difficulty locating a M-3.



Rafflur M-4: The official weapon of the "Hoppin' Hundred and Eighth" Humma Elite Forces, the main advantage of these 75-cm-long rifles is that they release all 10 SEUs at once in an area effect. Their range, however, is extremely limited (as that of a pistol). Their beam is cone shaped with the point at the gun's muzzle. The beam width increases by 1 meter for every 2 meters from the muzzle (5 meters wide at 10 meters from the muzzle, 13 meters wide at 26 meters, etc.). Any target in the blast path receives a maximum of 40 points of damage (is a Cobalt result is obtained on the attack roll). If the first target is within 2 meters of the muzzle, it totally blocks the beam and nothing behind the first target can be damaged. Otherwise the M-4 can damage any target in the beam. The weapon's circuits superheat when fired, requiring the weapon to cool three turns before reloading with a new minipowerclip.

Rafflur M-6: This proton rifle is slightly larger than the Ke-2000 laser rifle.

Rafflur M-8: This long-barreled, long-range beauty comes equipped with a built-in telescopic sight. It cannot be aimed accurately at anything closer than 15 meters. An expensive break-down version is often used by hunters.

Rafflur M-10: The M-10 is the proton counterpart of the Ke-5000&127; laser. It comes equipped with a folding quadpod mount that safely holds the 100-SEU pack or parabattery used in its operation. Unlike the rest of the rafflur M series, this weapon has a special capacitor baffle fitted to prevent feedback when using a power source more powerful than a minipowerclip. Two human-sized or one large bioform are needed to transport it. Optional swivel mounting equipment for vehicles, fortifications, etc., can also be purchased.

Electrostunner: This electrostunner is very similar to that in the Alpha Dawn rules, except the amount of damage caused is a maximum of 40 points, not 4d10. The gauss screen (on page 44 of the Alpha Dawn rule book) and the gridsuit (in the Defensive Suits section of this book) both reduce the damage from an electrostunner attack.

Sonic Weapons: Sonic weapons fire concentrated blasts of sound that do terrible damage to living organisms. They are treated, for the most part, as they were in the Alpha Dawn rules. The sonic stunner and sonic screen are identical to those presented in the Alpha Dawn rule book.

Sonic Disruptor: A sonic disruptor is an exotic-looking weapon the size of a rifle that does a maximum damage of 30 points to most materials, but double that amount to living tissue.

Sonic Devastator: A sonic devastator is a medium-ordnance piece that is much larger than a rafflur M-10. It does a maximum damage of 40 points to most materials, but double that to organic life forms. A sonic devastator must be mounted on a fixed mount before operating: it is too large to drag into battle, set up for a few shots, then move again.

Maser Weapons: Masers are amplified microwave emitters. Though the microwaves are emitted over a wide area, the major concentration is a tight invisible beam. The maser beam cannot be seen unless a character is wearing a pair of IR high-resolution goggles (not to be confused with normal IR goggles). Anyone wearing IR high-res goggles may be temporarily or permanently blinded if looking at the maser when it is fired at them. Maser fire only does damage to living organisms, but it can heat up liquids. Maser fire penetrates any type of defensive suit or screen except maser mesh or a gridsuit (see the Defensive Suit section of this booklet).

Maser Penetrator: The maser penetrator is a handgun that is slightly larger than a rafflur M-2 pistol. It uses minipowerclips.

Maser Penetrator II: The MP II is the size of a small rifle and also uses minipowerclips.

Bolt Weapons: Bolt weapons resemble 50-cm-long tubes with a black handgrip at one end and a firing button mounted on top. Their butt ends unscrew and their power source is either a minipowerclip or a normal powerclip, depending on the type. The bolt is an invisible beam of heavy ions that creates a thunderclap that can be heard for hundreds of meters. Bolt weapons cannot be attached to powerpacks. Only a gridsuit, found in this book's Defensive Suits section, protects against bolt weapons.

WarTech Alpha-Bolt: This weapon has an adjustable dial that allows the character to select how many SEUs are used each time it is fired. The maximum damage is 12 points per SEU used. The alpha-bolt uses a minipowerclip.

WarTech Omega-Bolt: WarTech developed this as a sporting weapon, but it was never popular. Each shot from the weapon uses 5 SEUs and does between 1 and 100 points of maximum damage (roll 1d100 to determine the maximum damage).

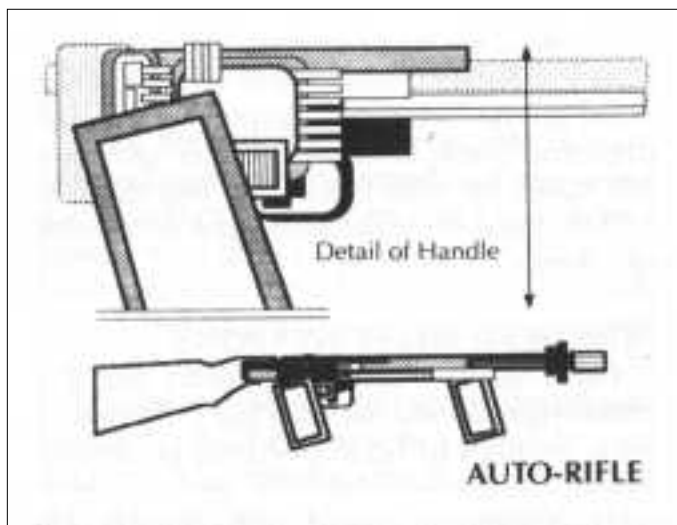
PROJECTILE/GYROJET/SPRAYER WEAPONS

P.G.S. Weapons: P.G.S. weapons still exist on the Frontier because they are much cheaper and easier to repair and maintain than energy weapons. P.G.S. weapons are easier to construct on a planet with little or no access to high-tech equipment. WarTech does not control the P.G.S. market as it does the energy weapon market. Therefore it is easier for illegal or covert groups to acquire P.G.S. weapons.

But there are also many drawbacks to P.G.S. weapons. Energy weapons almost never jam, but a projectile or gyrojet weapon can jam if not properly maintained or if used in a hostile climate (like a desert). No P.G.S. weapon is allowed in space, neither on ships nor space stations. Security measures are extensive and anyone trying to smuggle one on board faces a fine or life imprisonment. (Space ship and space station walls are treated to deflect or absorb energy fire, but a fast-moving solid object will puncture most walls in space.)

Inertia screens and skeinsuits (page 44 of Alpha Dawn rule book) reduce the damage from projectile and gyrojet weapons. Maser mesh reduces the damage done by these weapons by one-quarter.

Needler Weapons: These are identical in description to those found in the STAR FRONTIERS® Alpha Dawn game, complete with sleep or barbed option for the needles. A new version, the Needler II, is a short rifle that is easily concealed.

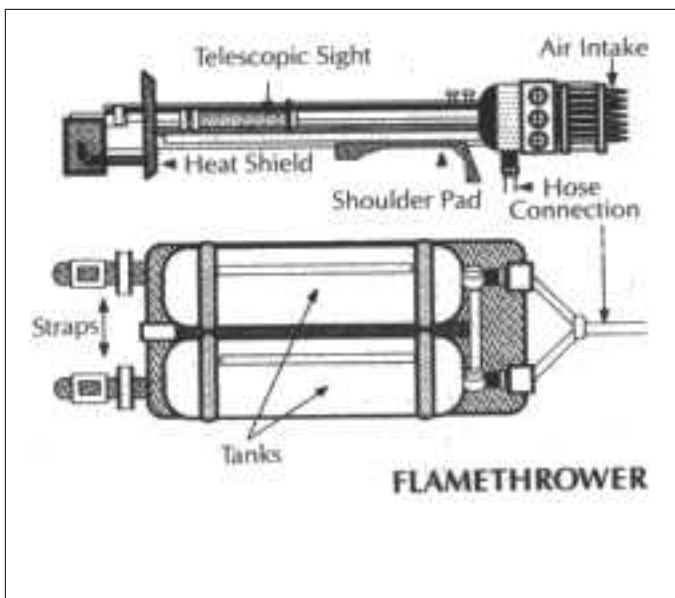


Auto-Weapons: The latest versions of auto-weapons are the 5.56 caliber auto-pistol and the 5.56 caliber auto-rifle. The auto-pistol is rather larger (larger than all other pistols listed) and feeds its normal 20-round clip up through its long handle. The auto-rifle is a "bull-pup" design, that is, it holds its 30 round clip in the stock, behind its firing mechanism. This gives it a shorter overall length while maintaining the barrel length. It is the shortest rifle listed.

Gyrojets: Gyrojets are identical to those listed in the STAR FRONTIERS Alpha Dawn game. Gyrojet weapons are not effective at short range, because the rocket is still accelerating. Therefore, treat both the short and medium ranges as a -1 Column Shift.

Grenade Rifle and Mortar: Grenade rifles and mortars are identical to those introduced in the STAR FRONTIERS Alpha Dawn game.

Acid Sprayer: An acid sprayer is actually an agricultural and construction tool that is used as a weapon. It is very small (the size of a medium pistol) and has a screw-in tank in its handle that holds 10 squirts of acid. The maximum damage possible depends on the strength of the acid. Acid is rated from level 1 to 20; each level does a maximum of 4 points of damage. Salgel (in Miscellaneous Items section) protects against acid.



Flamethrower: A flamethrower is an agricultural tool (used to clear undergrowth) that can be used as a weapon. It fires a stream of liquid fire and can be fired against only one target at a time.

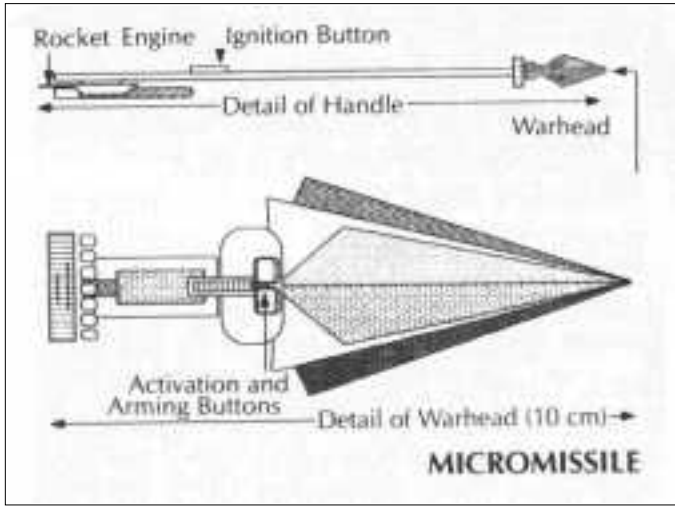
A blast from a flamethrower does a maximum of 44 points of damage, if heat or fire can damage the target. A flamethrower attack will immediately set on fire any flammable clothing, fur, etc. This fire does an additional 5 points of damage per round until it either burns out or is put out.

The flamethrower barrel is the size and shape of a rifle with a tube connecting to a chemical tank worn on the user's back. The 20-shot tank is unwieldy but not very heavy.

The flamethrower tank is liable to explode if hit and damaged. Damage to the wearer is up to the referee and depends on how many flamethrower shots are left in the tank.

The only defenses against a flamethrower attack are asbestos material or exploding an extinguishing-foam grenade in the area around the target, denying the flame sufficient oxygen to burn.

MISSILE WEAPONS



Micromissile: The micromissile is a hand-held missile but can be launched in a variety of ways. The most common method is to hold the 10-cm-long missile by its detachable tailrod and press the rod's ignition button. Micromissiles do not have warheads, but do impact damage up to a maximum of 56 points. If hand firing a micromissile, only one per turn can be launched. Poppers can some types of MLTCs (detailed below) are designed to hold and fire micromissiles.

Missiles: Missiles are self-propelled rockets with attached warheads. There are three types of missiles: Level I, II, and III. For each successive level, missiles can add another warhead, doubling its payload capability, and increasing its range. For example, a type I missile has "F" range and holds one warhead, a type II missile has double the "F" range and carries two warheads, and a type III missile has triple the "F" range and carries three warheads. The missile warheads are described in their own section, and come in different sizes for each missile type and are not interchangeable. Missiles can never be hand held and fired; they are launched from either a missilier or an MLTC (see below).

MISSILE LAUNCHERS

Missilier: (formerly Rocket Launcher) The missilier closely resembles a grenade rifle in appearance. It is designed to fire one type I or type II missile per turn. The weapon's range depends on the missile type. The weapon ignites the missile's propulsion unit with a small electrical charge (costing 1 SEU). The missilier can use normal powerclips, minipowerclips, or be connected to a powerpack.

Popper: The popper is a hand-held or swivel mounted Multi-Launch Tube Cluster (MLTC) weapon. Its firing mechanism acts as a missilier, but with six launch tubes instead of one. It holds six micromissiles and can fire two per turn in the order loaded. Once loaded and locked in place, the popper cannot be opened until all of its micromissiles have been fired. Reloading can occur at any time after the micros have been used, but takes one turn for every two micromissiles reloaded unless a fastrack is used.

Fastrack Missile Loader: A fastrack is a plastic set of rings with a collapsible inner tube. It is designed to carry six micromissiles for easy loading into a popper. Loading in this fashion takes one turn for the entire rack. Carrying a set-up fastrack is no more dangerous than carrying the micromissiles on their own, it just takes up a lot more room. When loading, the inner tube collapses and the plastic rings snap off as the micromissiles are inserted into the weapon. Once loaded, the remains of the fastrack are discarded.

MLTCs: As a general rule Multi-Launch Tube Clusters can be any number of missile launcher tubes in any formation. The popper, described above, is one of the simplest versions of an MLTC. The greater the number of tubes, the greater the complexity of the computer fire control system and the more expensive the unit. Most MLTCs are designed for only one type of missile (including micromissiles) and are not adjustable to another type.

The MLTC concept was designed for use during WWII and they can still be found in Landfleet's armored cavalry and modern warbots. General configurations include a triangular bank of three or six tubes for type III missiles, banks of three to eight tubes for type II missiles (usually with an ordinance energy weapon mounted in the middle), and linear or square banks of four to ten

tubes for type I missiles. Micromissile MLTCs have no standard shape or number of tubes.

ADVANCED MELEE WEAPONS

Force Axe: A force axe looks like a 1-meter-long ebony bar. The bar's diameter is wide enough to hold a normal powerclip. When activated, the bar emits a high-pitched whining sound, indicating that its 65-cm-wide, disc-shaped force field is activated. The field is located on the end of the bar opposite the switch and can only be seen by the use of UV (ultraviolet) optics.

The force axe is an extremely dangerous item because the damaging field cannot be seen without UV optics. There is a 10-cm-long light bar on one side of the haft that lights up when the field is activated. Anyone familiar with the force axe knows the light indicates that the field is on (of course, the high whine also gives it away). Some characters who have used the weapon for years disconnect the light so as not to grant their opponents any warning.

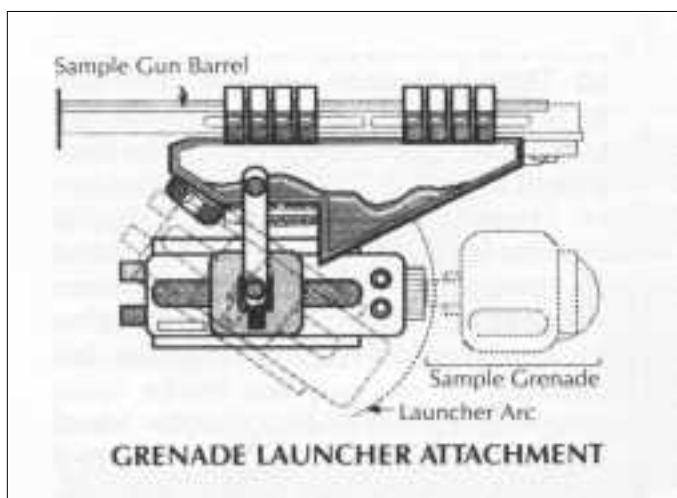
WEAPON ATTACHMENTS

The following items can be added as options to weapons. The installation fee is included in the price of the item.

Attachable Stock: Attachable stocks are made for all known pistols. They are one of two types: screw-on or folding. The advantage of a stock on a pistol is that it reduces the Movement Combat Modifier by a +1 Column Shift. This a character using a pistol with a stock would suffer no column shift penalty for a slow-moving target and only a -1 Column Shift for a fast-moving target. A pistol with a stock attached cannot be kept in its holster. It takes two turns to attach a stock.

Bandolier Sling: All rifles are fitted with rings so a sling can be attached for easy carrying. The bandolier sling has patch pockets that hold up to ten ammo clips or powerclips.

Flash Muzzle: For use with auto-weapons and gyrojet weapon only. A flash muzzle eliminates the flare from auto-weapons or gyrojet weapons fire, thus making it harder to see the weapon firing. (Normal auto-weapons and gyrojet weapons fire is highly visible.)



Grenade Launcher Attachment: This device can be attached to any type of normal rifle. It is

attached under the rifle's barrel. Special grenade bullets are used to fire the grenade from the launcher, just like a grenade rifle. Any type of grenade can be used, except sonic grenades (because of their unusual sizes and shapes). It can fire one grenade, and then must be reloaded, which takes one turn. A rifle cannot be used for anything else during the turn its grenade launcher is used. Once installed, the grenade launcher cannot be easily removed. The installation of a power light or a knife mount prevents the installation of a grenade launcher.

Holster, Spring: This holster is powered by a minipowerclip and accommodates all pistol sizes. Its function is two-fold: to secure the pistol in place and assure it cannot be taken out of the holster by anyone but the wearer, and to eject the pistol upward with the user wishes. These functions are assisted by nerve sensors attached to key points on the wearer's body. Unless he reaches for the pistol himself the locking mechanisms do not release. The effect of the eject function is to add +1 to the user's IM, but only if he is drawing and firing during his combat phase. The minipowerclip powers the holster for 100 draws.

Knife Mount: The knife mount fits on a rifle barrel behind the muzzle. To this mount a character can attach a large knife, sonic knife, or vibroknife. If the knife is powered, the SEU clip is inserted as normal but the mount has a remote control switch that is activated near the trigger. Once attached, the knife serves as a bayonet and no grenade launcher can be attached to the rifle. The damage of the attached weapon remains the same but a +1 Column Shift combat modifier is added for melee combat using the attached weapon. The installation of a power light or grenade launcher prevents the installation of a knife mount.

Maxiclips: Any pistol using a maxiclip cannot be fitted into a normal holster or spring holster because of the maxiclip's size.

Maxibulletclip: This drum clip is for use with auto-pistols only. It holds 30 bullets.

Maxiclip: This drum clip is for use with gyrojet sidearms only. It holds 15 gyrojets.

Maxineedleclip: This drum clip is for use with the Needler I only. It holds 15 clusters of needles.

Muzzle Extender: Muzzle extenders are available for all known rifles. A muzzle extender eliminates the Medium Range combat modifier and reduces the Long Range combat modifier from a -2 Column Shift to a -1 Column Shift.

Power Light: This is identical to the power light found in the Optical Devices section of this manual except it is mounted on the bottom of the rifle's barrel instead of being hand held. Another variation on the power light is the infralight, which can also be mounted on a rifle. These are favorites of guards using IR goggles. The installation of a knife mount or a grenade launcher prevents the installation of a power light.

Recognition Grip: This custom-made pistol grip is for use with beam pistols. It cleverly reroutes the circuitry in the pistol through the grip, which is inlaid with thousands of recognition circuits. These circuits are encoded to recognize only the owner's hand print. If anyone else tries to fire the gun it will not operate. Dralasites have to pay double the price because their entire bodyprint has to be encoded in order for the pistol grips to recognize them.

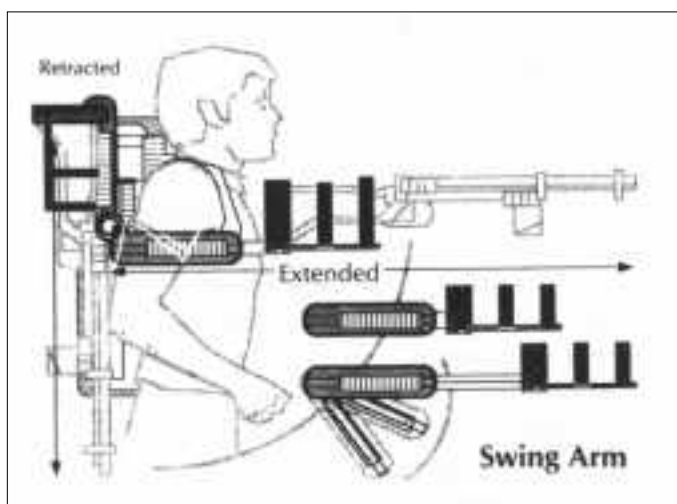
Scopes: A scope mounted on any weapon improves the weapon to the next range group. For

example, a scope attached to a type B (pistol) ranged weapon raises it to a type C (long pistol, short rifle). This adjustment of range includes the new Column Shift modifiers that come with the better range group.

Many of the special optical enhancements found in the Optical Devices section of this booklet (IR, Starlight, UV, EM, etc.) also come in scope form. The cost for a scope is 100 Cr times Range Type, plus any enhancement feature added on. For example, a scope for a pistol (range type B or 2) would be 200 credits. If it had UV capability, add another 250 Cr (see the Equipment Tables at the end of this booklet).

Silencer: For use with auto-weapons only. The silencer reduces the normally loud auto-weapon gunfire to the sound of a needler weapon's "cough." The silencer is good for only 10 single shots or three bursts. Pistol and rifle silencers cannot be interchanged. Silencers are illegal on all known planets.

Slide Mount: The slide mount is a thin plasteel rig that is mounted on the inside of a character's lower arm and holds a small pistol (Ke-1000 Laser pistol, Rafflur M1, Sonic Stunner, or a Needler I) out of sight. When the character jerks his arm straight forward, as if aiming at something, the mechanism releases and slides the weapon forward, into the character's hand, in a split second. The mechanism is spring loaded and requires no energy consumption. It can also be used to hold other small items: a knife, a grenade, a detonator, etc.



Swing Arm: This small robotic arm holds a rifle until it is needed and then quickly swings it into position. The swing arm is mounted on the character's back, off to one side (the side that corresponds to the character's handedness).

The rifle must be attached to the end of the arm in advance and it is then carried upright on the back like a normal rifle. A microswitch cable is attached to the unit and ends at the user's wrist. When activated, the robot arm swings the rifle under the character's arm and thrusts it forward. The user must keep his arm at a sixty-five degree angle while this happens or it might be taken off by the mechanism's action. The rifle butt ends up against the user's shoulder and if the user grasps the rifle and tugs firmly the arm immediately releases the rifle and returns to its place. The end result is a character's ability to draw, aim, and fire his rifle in the same turn with no penalty. The unit is powered by a powerclip that lasts for 100 uses.

EXPLOSIVES

Tornadium D-20: TD-20 is a modified version of TD-19 and is used in the construction of shaped charges. TD-20's maximum damage is 30 points for a 50-gram charge, and an additional 15 points maximum damage for every 50 grams additional weight. (TD-20 does twice this damage to structures.) Characters with the Weapons: Demolition skill purchase TD-20 in set shapes and weights and cannot reshape it. Once the thin plastic disc is peeled away from the base, the sticky base can be attached to almost anything.

TD-20 is a shaped charge and explodes in only one direction. Thus the user can remain one meter away from the explosion and suffer no damage whatsoever. A cone of TD-20 is perfect to attach to walls, floors, doors, etc. and blow an entry into another room.

If anyone is foolish enough to try to throw a charge of TD-20 as a weapon, use the Area Effect Weapon Miss Diagram to determine the direction of the blast. A thrown TD-20 charge inflicts only half its normal damage to bioforms and structures. The blast range is identical to that of TD-19. TD-19 and TD-20 use the same detonation devices.

Plastid: Stabilized plastic acid is illegal on most planets. Only highly placed Star Lawmen and powerful crooks have access to it. It usually comes in a plastic or ceramic alloy wrap and is shaped like thick spaghetti. One hundred grams of plastid applied to a lock and ignited will melt the lock in one turn (five turns for heavy duty locks).

Plastid must be applied directly to the material it is to melt; it cannot be thrown.

Plastid only affects plastics and metals. Special detonators that use acidic chemical reactions are required to activate a plastid charge. Plastics or metals that have been laminated with glass or ceramics are not affected by plastid. Determinations of quantities needed for large-scale melting are left to the discretion of the referee.

EXPLOSIVES, DETONATORS

Acid Detonator Cap: Acid detonator caps are used by characters with Weapons: Demolition skill to detonate plastid. They can be fitted into detonation devices in place of normal blasting caps.

Chemical Detonator: Chemical detonators are used when a character with Weapons: Demolition skill wishes the explosion to coincide with an influx of unusual quantities of liquids or gas. For instance, a chemical detonator can be set to explode if it gets wet, if too much oxygen gets into the air or a room, etc.

Counter Detonator Attachment: This tiny counter is inserted between the explosive and its detonator. It is preset to cause detonation once it is triggered a set number of times.

For example, a counter attachment is set between 50 g. of TD-19 and its pressure-sensitive whip wire detonator. The bomb is placed behind a door in such a fashion that each time the door opens, the whip wire is triggered. The counter is set at 10. The first nine times the door opens, the whip wire is triggered and the counter records it. The tenth time the door opens, the bomb explodes.

Light Detonator: Light detonators are larger than other types, about the size of a small human fist. These detonators are sensitive to light intensity and they can be set to detonate an explosive when a light is turned on in a room, when sunrise or dusk occurs, when a flash grenade explodes, etc.

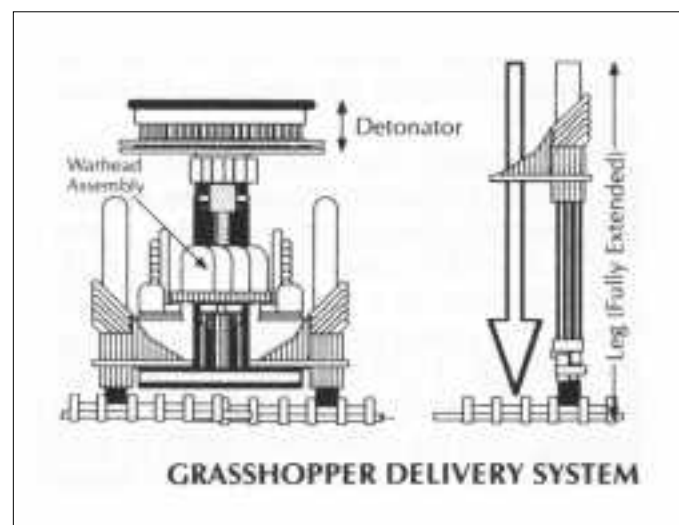
Pressure Detonator: Pressure detonators contain either a small plate, a button, or a whip wire that is set to key an explosion when a certain pressure is either exerted or released. For example, a pressure detonator whip wire affixed next to a door will detonate its charge when the door is opened, pressure detonators placed under a dead Sathar body will explode when the body is moved, etc.

Radio Beam Detonator: Radio beam detonators have a maximum range of 100 meters. When a radio beam detonator is used, modify the detonation roll by -1 Column Shift. The radio beam signaling device comes with the detonator when purchased.

Variable Timer Detonator: Variable timers can be set to any time delay from one second to 60 hours.

MINES

A mine is a hidden, stationary bomb that is triggered by any one of a variety of detonators (as outlined in the previous section) or small scanners (heat sensitive, motion detection, etc.). The available types of bombs are similar to grenades or some warheads: electrical discharge, field crusher, gas, high explosive, sonic, standard explosive, and tangler warheads all designed for use with type I missiles. There is no secondary blast area to consider when using a buried mined. There is a secondary blast area when using one of the two following mine-delivery systems.



Grasshopper Delivery System: A grasshopper mine flings itself straight up into the air and then explodes. This can get it closer to its target, especially if the target is flying. A grasshopper mine is preset to jump up to three meters then detonate. If it hits an obstacle on the way up, it deflects two meters in a random direction then detonates. Use the Area Effect Weapon Miss Diagram for random direction.

Leap Frog Delivery System: Rather than jumping straight up into the air, this mine delivery

system tries to leap toward its target. Use the Area Effect Weapon Miss Diagram to determine where it lands. The trigger system is usually a scanner, as it must know which direction to leap toward the target. See the Scanner section of this book to determine how they work.

GRENADES

Dusk Grenade: The dusk grenade releases a dark, odorless gas that immediately spreads out to a five-meter radius, dimming out the entire area. Only Yazirians or the characters using some form of IR or starlight optics or scanners can see normally. Otherwise, they suffer a -1 Column Shift combat modifier. Artificial light sources only work to one-third their normal range.

Flash Grenade: When a flash grenade goes off there is a brilliant flash and a loud boom. Though no damage results, everyone in the area is momentarily disoriented by the flash and noise. Characters wearing sonic headphones are not affected by a flash grenade unless they are looking in the direction of the flash. Anyone outside of the area of effect has automatic surprise during the turn of the blast on anyone affected. Flash grenades are used by Star Lawmen to get the jump on terrorists or criminals.

Foam Grenades: Foam grenades release chemicals that instantly swell in normal oxygen atmosphere and standard gravity. The swelling creates a thick, opaque, foamlike substance that expands in one turn to completely fill an area within a three-meter radius of the blast point. The dense foam cannot be visually penetrated without the help of scanners or radar. It will dissipate after one minute (10 turns).

For every tenth the gravity is lighter than 1.0 the foam dissipates one turn later (foam in 0.8 gravity lasts 12 turns). For every two-tenths the gravity is heavier than 1.0, the foam dissipates one turn earlier (foam in 1.4 gravity lasts eight turns). There are eight different types of foam grenades.

Acid: A chemical acid causes maximum damage of 16 points per turn to everything in the foam area. A thin covering of salgel negates the acidic effects on objects and cuts damage to bioforms in half. Damage is halved if a Stamina check is made. This is checked every turn the character is in the foam.

Chemical Defoliant: A chemical defoliant foam breaks down any vegetable matter in the foamed area within one minute, leaving a slimy, green residue. It has no effect on non-floral organisms.

Dye: This foam dyes anything it contacts. The dye dissipates after 20 hours. It can be any color the player desires. This is often used to mark escaping fugitives or vehicles.

Extinguish: Smothers any flame in the blast area in one turn.

Irritant: This foam causes 8 points maximum damage for every turn it touches exposed flesh or hair. If the character's flesh is entirely protected no damage is taken. Damage is halved if a Stamina check is made. This is checked every turn the character is in the foam.

Slick: Coats all surfaces in the blast area with a super-slippery substance. Walking movement is cut to one-quarter normal. No one can run without falling and receiving 3 points of damage. This is especially effective against vehicles and robots.

Solid: Solidifies completely after one minute, trapping anything and anyone inside as if encased in porous rock. Air can filter through the solidified foam, so the trapped character can breathe, but not move, speak, or see. This type of foam grenade is extremely rare and expensive.

Rad-Blast: An extremely powerful mixture of chemical agents acts to temporarily negate the penetration of radioactivity into the foamed area. When the minute duration is over, the radiation level immediately climbs back to its previous level.

Infra-Grenade: The infra-grenade does no damage at all upon explosion, except to heat sensors. The blast is a quick burst of heat that activates and burns out any heat sensors within 10 meters of the blast. The purpose of such a grenade is to heat up everything in the area so its shows up clearly in the IR spectrum.

The heating lasts for one minute and anyone wearing IR or IR high-res optical devices can see everything in the room during that period, even if the room is dark and empty or filled with smoke. This effect does not work against a foam grenade.

Nightfall Grenade: The nightfall grenade releases a gas that immediately causes darkness within five meters. Only by using a method of IR vision, scanners, or radar can one "see" in this darkness. The blackout lasts two minutes. Artificial light sources only work to one-tenth their normal range in the area of effect.

Sonic Grenade: This class of grenades does its damage through blasts of high frequency sonics. There are three types of sonic grenades.

Marble: So named because of its 2.5-cm size, this sonic grenade causes a maximum of 16 points of damage in a one-meter blast radius. Up to three can be thrown per turn and they are sometimes formed and painted as camouflaged jewelry or decorations. Sonic screens or sonic headphones provide full defense against this type of grenade. However, if three or more marble grenades are detonated at the same time, the third marble, and all others following it which detonate in the same turn, are treated as polyhedron sonic grenades for defense purposes.

Polyhedron: This many-sided grenade blasts all in a three-meter radius and causes maximum damage of 56 points. Damage is halved if sonic screens or sonic headphones are used.

Boomer: A boomer grenade causes a five-meter-radius blast that inflicts a maximum damage of 80 points. Rare and expensive, they are too large to use in grenade rifles or mortars, but are favorites for mines. Damage is reduced by one-quarter if the victims are wearing sonic screens.

WARHEADS

Anti-Missile: This warhead is only used on type II or III missiles. Its purpose is to destroy an incoming missile in flight. A successful roll on the Resolution Table (against the user's Weapons: Missiles skill) indicates an automatic hit on the incoming missile.

Electrical Discharge: This warhead causes damage by releasing a high charge of electrical energy when it strikes. This electrical discharge short-circuits every device in the blast radius and can stop a vehicle, warbot, etc. dead in its tracks. The ED warhead acts as an

electrostunner set to damage for every bioform in the blast area. If the target is specially insulated, the damage is negated.

Field Crusher: This warhead only damages force fields and causes a maximum damage of 60 points times the missile type (I, II, or III).

Foam: This warhead behaves as a foam grenade of the same type, but its blast radius is five meters times the missile type.

Gas: This warhead behaves exactly like a gas grenade of the same type, but its blast radius is eight meters times the missile type.

High Explosive: This warhead causes a maximum damage of 72 points times the missile type to anything within the blast radius of eight meters times the missile type.

Scanning: This is a non-damaging warhead that is only used with type II or III missiles. It uses a scanner to lock onto a specific type of target: heat producing, certain shape, emitting strong UV radiation, and so forth. See the Scanner section in this book for a complete list of scanner types. If the scanner locks onto a target, the firer receives a +3 Column Shift combat modifier.

Sonic: This affects all within a radius of six meters times the missile type. Anyone failing his Stamina check is stunned for 1d100 turns.

Standard Explosive: This warhead acts like a fragmentation grenade, except that it causes a maximum of 68 points per missile type; to anyone within a radius of five meters times the missile type.

Tangler: This warhead acts like a tangler grenade except that the tentacles cover a five-meter radius.

POWER SCREENS

The following power screens conform to all of the basic details (shape, size, etc.) described in the Defense, Power Screens section in the Alpha Dawn rules.

Simp Screen: A simp screen is similar to an albedo screen and even has the same silvery aura about it, but it protects against rafflur fire instead of laser damage. For every 6 points (or fraction of 6 points) absorbed, 1 SEU is drained from the power source. For example, absorbing 21 points of damage drains 4 SEU. Any weapon can be fired out of a simp screen. As long as the power holds out, the wearer receives no damage from a rafflur weapon.

Light Shift Screen: A light shift screen (LSS) sets up a light-bending shell around the individual or unit using it. The effects of the shell differ for each type of screen, but energy consumption and penetration are the same for all LSSs. LSSs use SEUs at different rates in different types of lighting. The following is a guideline for the referee on SEU usage in different light intensities.

Light Intensity	SEU/10 turns
Artificial Darkness	1/4
Natural Darkness	1/2
Dusk, smoke, thick gas, etc.	1
Average room light, cloudy day, minor smoke, etc.	1.5
Bright room light, partly sunny day, etc.	2
Intense artificial light, floodlight, sunny day	3
High intensity concentrated light, powerlight, close proximity flare, etc.	4

One SEU is drained each time the screen absorbs a point of damage from a laser.

Visible penetration of the shell is impossible while the LSS is on, but detection is possible in one of two ways. Infrared optics always show the proper heat image and location of an individual using a LSS. Ultraviolet optics show operating LSSs as areas of solid purple light.

Light shift screens are rare and expensive. Most civilized worlds forbid their use as they are preferred devices of criminals, Sathar agents, etc.

There are three types of LSSs.

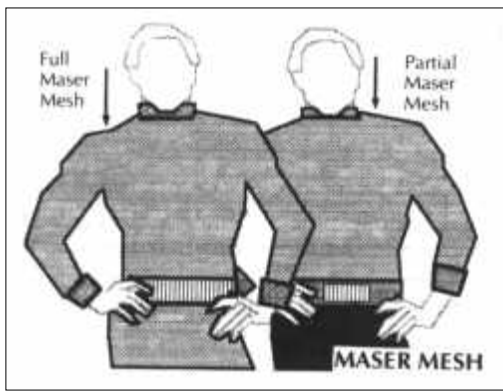
Type I: A Type I LSS bends all light away from the shell, thus creating a totally black area. This LSS type is usually used at night or by a character masking his identity.

Type II: The Type II LSS shifts the wearer's image away from his actual location to a distance of one to three meters in a fixed direction. The direction must be specified when the character purchases the device. Type II LSS devices that are found or taken from fallen foes can have their direction determined by using the Area Effect Weapon Miss Diagram. The shifted image that appears is an exact duplicate of the character using the LSS. This version of the LSS is often used by Star Lawmen and Landfleet officers to draw enemy fire away from themselves.

Type III: The Type III unit is a variation on the type II but instead of shifting a single image of the wearer it creates up to five images (at the wearer's option), all exactly the same. Type III LSSs always create the images in a side-by-side line, with up to three meters between each image. These LSSs are often used by Landfleet soldiers to draw fire away from themselves and to swell their ranks, thus confusing the enemy.

DEFENSIVE SUITS

Synthvelope: A synthvelope suit is a synthetic one-piece envelope that absorbs the damage from proton beam weapons (rafflurs). For each point of damage absorbed, the suit receives one point of damage. When it has accumulated at least 100 points of damage, the suit becomes useless. The suit must be stepped into from the back and zipped up, completely encasing the wearer's body except for the head. It is flexible enough even for a Dralasite to use.



Maser Mesh: Maser mesh is used to protect against maser attacks. It resembles chainmail and can be purchased in different sizes.

Full maser mesh, which almost touches the ground, is heavy and a bit cumbersome. While it completely nullifies the effect of maser fire, it is also easily picked up by scanners and radar.

Partial maser mesh, similar in size to a long shirt, is lighter and harder to trace than full mesh, but only absorbs half the damage from masers.

A character wearing maser mesh is vulnerable to electrical attacks and receives an additional 50% damage from them. Maser mesh does not adapt well to unusual Dralasites shapes.

Dead Suit: A dead suit is a black one-piece synthetic garment that resembles a wet suit. It masks the heat emissions of the character wearing it, thus preventing any IR devices or heat scanners from detecting the wearer.

Gridsuit: The gridsuit is probably the most unusual, sought after, and expensive of defensive suits. Like skeinsuits, it comes in both military and civilian styles. The military style is a camouflaged uniform that has convenient patch pockets. The civilian style can be any fashion desired, though this may increase the cost.

Much more important than the style is the inner lining of the suit, a nullifying absorption field circuit that absorbs and dissipates large amounts of energy. The suit can absorb up to 30 points of energy damage per turn from lasers, rafflurs, masers, bolt weapons, and electrical attacks before it allows damage to pass through to the wearer.

If attacks cause more than 30 points of damage in a turn, the excess damage is inflicted upon the wearer. The suit absorbs damage in this fashion every turn. It is destroyed after 100 points of damage are received from projectile or gyrojet weapons. It also comes in elasticized styles for Dralasites.

HELMETS

Helmets come in many shapes and sizes to fit all races. Most are made with modular sections that can be removed to add microphones, goggles, etc. The items in this section can be added to helmets.

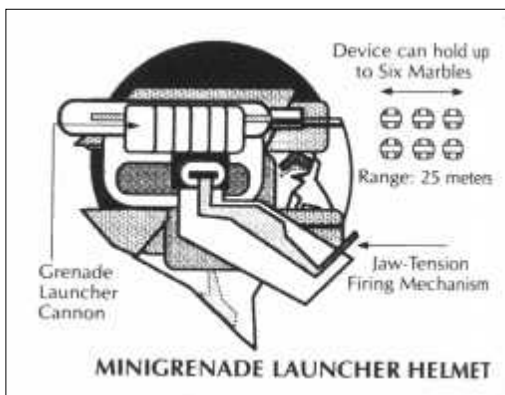
There are eight ports on a helmet; only one item can be attached to a port. The cost for a helmet attachment is slightly more than for the normal item (add 20%). Items marked "(a)" are found in the Alpha Dawn rule book, other items are described in this book.

- Power helmetpack
- Gas mask (a)
- Infrared (IR) goggles or visor (a)
- Magnigoggles or visor (a)
- Poly-vox (a)
- Radiophone (a)
- Sun goggles or visor (a)
- Electromagnetic goggles or visor
- Infralight
- IR high resolution goggles or visor
- Powerlight
- Solar goggles or visor
- Starlight goggles or visor
- Ultraviolet (UV) goggles or visor
- Sonic headphones
- Minigrenade launcher
- Helmet rafflurs

Computer link (see Computer section in this book for helmet additions)

Visors can have up to three functions, such as electromagnetic, infrared, and ultraviolet capabilities. These combination visors are more expensive than normal ones (the cost of all three types is +20% of the total cost).

Sonic Headphones: These headphones are only found in a helmet and are useless if removed. They provide a natural, non-powered sonic baffle that protects the ears and head from sonic damage. Any character wearing a helmet with sonic headphones only receives half damage from sonic attacks, unless otherwise stated. Extremely strong sonic attacks, such as boomer grenades or sonic warheads, affect the entire body and sonic headphone have no effect on those.



Minigrenade Launcher: This device can hold six sonic marble grenades and has a range of 25 meters (no range combat modifiers apply). Up to three grenades can be launched per turn. This grenade launcher is activated by a jaw-tension mechanism and is an action that can be performed in addition to their actions that round. (Referees should note that if the player is firing a hand-held weapon that round the grenades must be launched in the same direction as the player is looking.)

A minigrenade launcher cannot be affixed to a helmet that is already equipped with helmet rafflurs. The minigrenade launcher can launch a total of 60 grenades per microdisc.

Helmet Rafflurs: These double projections (one on each side) on the helmet are actually two rafflur M-1s that are activated by a jaw-tension mechanism. The range is 12 meters maximum (no range combat modifiers apply) and a single attack roll is made for both rafflurs.

Each rafflur has its own microdisc power source. Helmet rafflurs cannot be affixed to a helmet that already has a minigrenade launcher attached.



OPTICAL DEVICES

Electromagnetic Optics: EM optics are used to spot the tell-tale pale blue or purple sheen surrounding all force screens and fields, whether caused by a device or a Mentalist discipline. Pressor beams, used for lifting and moving cargo, can also be seen by EM optics.

Floodlight: This extremely powerful light comes in many shapes and sizes, but is usually cylindrical, 60 cm long with a 60 cm diameter. It is most often mounted on vehicles, larger robots, and installations.

A floodlight must be powered by either powerpacks or parabatteries. One SEU is required every ten minutes of operation. A floodlight can cast a beam of light up to 600 meters. If it is directed at a character's eyes (requiring a Resolution Table roll on the Level 1 column each turn), the character cannot see clearly and suffers a -2 Column Shift combat modifier to all attacks made that turn.

Holo-Projector: The holoprojector operates in similar fashion to a holo-screen (see Defenses in Alpha Dawn), but can send the image on a high intensity laser beam up to a distance of 20 meters. The projector is the size of a 30-cm cube.

Infralight: This form of powerlight emits an infrared beam that can only be seen by those using IR optics. All other statistics are the same as a powerlight. It is generally used as an invisible signal or search light.

Infrared High-Resolution Optics: IRHR optics allow a character all the advantages of normal IR optics plus the ability to see maser fire. Unfortunately, it also adds the penalty for microwave blindness. A character wearing an IRHR optical device is blinded for 1d10 minutes if struck from the front by a maser blast. If the result is a 10, roll 1d10 again. If the second roll is also a 10, the character is permanently blinded (though he may have bionic optics replace his eyes).

Omnoculars: This optical device resembles a large binoculars and combines the abilities of magnigoggles with an automatic range and vector readout that gives the exact location of any object in view. The maximum omnocular range is three kilometers.

Various features can be added to omnoculars: IR, IRHR, UV, EM, and starlight capabilities can all be added as lens attachments (at the feature's normal cost plus a 20% installation fee).

A spotter using omnoculars adds a +1 Column Shift to the attack of a long-range weapon, such as a grenade mortar. This is a delicate piece of equipment with a built-in computer and should be treated carefully. Omnoculars are microdisc powered for 100 hours of use.

Powerlight: The powerlight is a cylinder 60 cm long by 20 cm in diameter. Its beam has a range of up to 300 meters and it operates for 400 hours on two microdiscs.

Solar Optics: Solar optics look like goggles, but have a thin layer of polarized material between the glass that instantly darkens when brilliant light appears. Though the reaction is too slow to prevent the wearer from suffering the effects of a flash grenade, solar optics do help a character looking into floodlights and powerlights. This type of optics is used extensively by starship personnel.

Starlight Optics: Starlight optics are a product of pre-Frontier technology. When using starlight optics, night scenes are viewed as clearly as if it were daytime. This is because starlight optics greatly amplify even very low levels of lighting to almost daytime intensities. Therefore the character suffers no penalties for darkness. The only time starlight optics do not work is when the sky is heavily overcast and no artificial light is present.

Ultraviolet Optics: UV optics are useful in detecting anything printed or written in UV ink, paint, or dye (commonly used by Star Law to mark valuable objects), a LSS in use, or any object that emits UV waves.

COMPUTER DEVICES

The computer and computer programming information given in the STAR FRONTIERS Alpha Dawn Game were introductory concepts for dealing with computers. In *Zebulon's Guide to Frontier Space*, many more uses and needs for computers are explained. Computers are now categorized into three distinct types: Mainframe Computers (includes personal computers), Specialized Computers, and Personalized Body Computers (Bodycomps). The greatest advances in the Frontier civilization were accomplished through the use of computers. Microcomputerization changed the lives of virtually all members of the Frontier. Bodycomps and progits are readily available and have made vast arrays of knowledge accessible to Frontiersmen of all walks of life.

MAINFRAME COMPUTERS

The mainframe computer is the workhorse of the Frontier. Personal computers and the computers that run starships, space stations, and cities are a vital part of everyday life on the Frontier. All but the largest types run on parabatiers, are portable, and are completely immune to local power failures or surges.

Mainframe Hardware: Mainframe computers come in six different sizes, ranging from Level 1 (home computers) to Level 6 (computers that run space stations and other large installations). Larger computers can run more complex programs and can perform more simultaneous operations than smaller computers. It is not possible to add on to a computer to raise it to a higher level. To increase computer capacity, a high-level computer or several computers of the same level must be purchased.

The mainframe computer, unlike the body computer, comes with its own processor unit. Certain hardware is provided with mainframe computers: monitor, access stations, printer, etc. Additional components can be purchased at increased cost (referee sets the price).

MAINFRAME PROGRAMS (MAXIPROGS)

Once the hardware has been acquired, the programs that the computer needs to perform its special functions must be purchased separately. Programs are contained in a maximum programming unit, commonly called a maxiprogram. A maxiprogram is a 25-cm square by 10 cm thick Johnson Energy Field surrounded by an extremely durable plastic shell. This field holds gigabyte upon gigabyte of information. It is the most stable field known to the techexes of the Frontier and only an anti-matter field can disrupt the information contained therein.

Four blunt plugs are located on one of the large sides of the maxiprogram. These are plugged into a mainframe and the maxiprogram immediately interfaces with the hardware and other maxiprograms that are part of the computer.

Maxiprogs are classified from Level 1 to Level 6, the complexity of the programming increasing with the level. The following brief guideline gives the referee some idea of the complexity levels of axiprogs. This is important, as the referee's decision usually determines what level of maxiprogram a character or organization needs.

MAXIPROG COMPLEXITY LEVEL

Level	Maximum Extent of Control
-------	---------------------------

- | | |
|---|--|
| 1 | The needs of a single character or small household. |
| 2 | The needs of a large household or small business. |
| 3 | The needs of a medium business or small bureaucracy. |
| 4 | The needs of a large business, a medium bureaucracy, or a small town. |
| 5 | The needs of a mega-corp (in one field), a large bureaucracy, or a medium-sized city. |
| 6 | The needs of a space-station, space ship, or specific field (such as traffic control) in a large city. |

MAXIPROG FUNCTION DESCRIPTIONS

Maxiprogs are available for six different functional areas. A brief description of each area is listed below.

Analysis/Information: This type of maxiprogram will perform one of the following functions: information storage, information access, cross referencing, analysis of statistics and facts, language capabilities, coordination of scanners and interpretation of scanner data, etc. Libraries, government information services, and universities use these maxiprograms extensively.

Creative: This type of maxiprogram will perform one of the following functions: abstract representation of data, architectural tools and displays, engineering tools and displays, flight and combat holographic simulation control, data on research and development, data on inventions, and general think tank uses. Military organizations, mega-corp research and development divisions, governmental patent offices, think tanks, and the like use these maxiprograms extensively.

Job: This type of maxiprogram will perform one of the following functions: communications operations, robotics management, traffic control and transportation, medical operations, industrial uses such as manufacturing, assembling, packing, etc., and any other specific job function not covered in the other maxiprogram areas. Industrial facilities, hospitals, starports and airports, installations, city governments, and the like use these maxiprograms extensively.

Maintenance: This type of maxiprogram will perform one of the following functions: life support systems, automatic repair and maintenance on machinery or robots, monitoring a facility for general maintenance, power feed controls (both outgoing and incoming), waste management, and other general maintenance and repair functions. Almost every installation and large facility uses these maxiprograms, as to spaceships and space stations.

Security: This type of maxiprogram will perform one of the following functions: defensive systems (internal, external, perimeter, vehicular, etc.), offensive weapon systems, coordination of offensive weapons and defense systems, computer security, etc. Military organizations, law enforcement facilities, large computer systems, space ships and stations, and the like use these maxiprograms extensively.

Combining Hardware and Maxiprograms: When a character or firm wants a mainframe computer to help with work, security, or whatever, they must first decide what maxiprogram functions are needed. Then the levels of those maxiprogram functions are determined, depending on the amount of work the maxiprogram must do (see Maxiprogram Complexity Table). After the maxiprogram functions and levels are determined, a sufficiently complex mainframe computer is purchased or rented.

Maxiprograms of different functional areas can be integrated into the same mainframe computer. Only in the larger mainframes do you find an entire computer given over to just one function.

The total number of program levels that a mainframe computer can run is the square of the computer level.

Computer Level	Total Maxiprogram Levels It Can Run
1	1
2	4
3	9
4	16
5	25
6	36

Therefore, a Level 2 Mainframe Computer, which handles up to four maxiprogram levels, can either run four Level 1 maxiprograms, two Level 2 maxiprograms, or one Level 2 and two Level 1 maxiprograms. The number of maxiprogram outlets that can be plugged into a mainframe computer equals the total maxiprogram levels it has (so a Level 6 mainframe has 36 ports). No mainframe computer can run a maxiprogram of greater level than its level.

Structure Points: A computer's weight is also its number of structural points. Mainframe weights are listed in the Equipment Tables at the end of this book. Add the weight of each maxiprogram attached to the mainframe to find the total structural points of the computer.

Power Sources: Mainframe computers of Levels 1 to 4 are powered by parabatteries of the same level. Level 5 and 6 mainframes use power generators type 1 and 2, respectively. Mainframe computers operate for at least one year before their batteries must be recharged. Power sources do not come as standard equipment with computers and must be purchased separately.

Mainframe Computer Controlled Attacks: Any defensive or offensive weapon or robot controlled by a computer starts on the Level +1 column to resolve its actions. The final attack column is arrived at by adding a +1 Column Shift for every level or Security maxiprograms the computer has, plus any normal combat modifiers. Therefore, a mainframe with a Level 3 Security (Defensive Weapons) maxiprogram would attack on the Level +4 column (subject to any

normal combat modifiers).

Computer Skill Levels: A mainframe computer does not possess an individual skill unless that skill falls into one of the functional areas of the maxiprogram. Much of this is left to the referee's interpretation of the maxiprogram's function and level. A good example of this would be a Level 3 Job (Medical) maxiprogram. The computer has some knowledge and skills in the medical field, but would it necessarily contain the Medical Treatment: Radiation skill? A lot would depend on the location of the mainframe and whether the radiation poisoning was a rare or common occurrence there.

As a general guideline, the skills and skill levels are identical to those of the maxiprogram's function and level. A Level 4 Job (Communications) maxiprogram would have the skill equivalence of Communication Devices: Operate skill Level 4 (though not Communication Devices: Repair; that would require one of the Maintenance maxiprograms).

For more information on mainframe computer security and the use of character skills on a mainframe computer, consult the Skill section of this book.

MAINFRAME EXTRA EQUIPMENT

Strongbox: The strongbox is a plasteel shell that can completely encase a mainframe computer. For each layer encasing the computer, the computer gains 50 structural points. Up to five layers can be added. Though openings are provided for operations and cables, the maxiprogram is locked around the mainframe with a lock of Level 5 or greater.

SPECIALIZED COMPUTERS

Specialized computers are custom-made for specific tasks. All specialized computers are powered by a sealed power cell built right in. The sealed power cell can be recharged at most energizing retail outlets at a cost of 100 Credits. The maximum capacity of a sealed power cell is 100 hours. There are four common types of specialized computers: file computers, CACs, lock compicks, and CASs.

FILE COMPUTER

The file computer records information. It is programmed for one language. A poly-vox or some other translation device is necessary if the character does not understand the programmed language. The unit is a 15-cm square that is 5 cm thick. It has a voice grid, random location indicator, and back of buttons on one side. It can store a remarkable amount of information in its memory, but all of it must be verbally entered through the voice grid.

All Star Lawmen involved in criminal investigations must carry a file computer to record testimonies and statements. They are required to enter their files into Star Law's mainframe computers on a regular basis. Thus, Star Law is assured of a complete and up-to-date computer file of all cases being handled.

Most large computers have audio-transfer grids so that information can be easily exchanged with file computers.

Referees may wish to spice up their game by having a file computer found among the ruins of

an old civilization or ship wreckage. The information on the ocomputer could be garbled or in a strange language. This should encourage players to seek out language experts or an alien race for assistance in translating.

COMPUTER ACCESS COMPUTER (CAC)

This extremely important computer is the size of a 20th-century Earth computer keyboard. It comes with various connecting cables, speech synthesizer, and a universal adaptor that can adjust itself to nearly all known computer jacks. This is a standard unit used by nearly all computer technicians for entry into computers that have no fixed access keyboard or voice grid.

The CAC, once connected, adjusts itself to the computer language used by the host computer so the user can interface with it. This is how the computer skills for accessing and operating, bypassing and defeating security, interfacing, displaying information, and manipulating or writing programs are attempted when there is no obvious, easy access. Only those characters with the appropriate computer skills can operate a CAC for these purposes.

The CAC can also be equipped with up to four booster programs that assist the user. No more than two of any one type may be used at the same time. Each booster program adds a +1 Column Shift to the character's success rate when using the skill. The available programs are:

- Computers: Access & Operate
- Computers: Bypass Security
- Computers: Defeat Security
- Computers: Display Information
- Computers: Interface
- Computers: Program Manipulation
- Computers: Program Writing
- Computers: Program Bodycomp

A special CAC for characters with robot skills also exists. Booster programs, with the +1 Column Shift modifier, for these CAC RV (robotics version) include:

- Robotics: Alter Functions
- Robotics: Alter Mission
- Robotics: List Functions

LOCK COMPICK

A lock compick resembles a file computer, but comes with five credit card-sized remote broadcast circuit cards. This device is illegal and its possession can bring 5-10 years on a penal asteroid; it is only at the disposal of Star Lawmen on rare occasions. In the hands of a character with the Security Systems: Open Locks skill it can potentially open any card lock.

The broadcast circuit is inserted into the card lock like a normal passcard. Once switched on it emits a changing electromagnetic pattern that will eventually open the card lock. Some machines have a timer security system built within their cardlocks. After 10 or 15 minutes, these machines will retain any nonfunctioning card, securing it for later inspection. This is why five cards come with the copmputer. Extra cards can be purchased, but they cost 1000 Cr each

and require a week to attune to the lock computer. The time required to open the lock depends on the color of the passcard.

See the Security items section for further explanation of card locks and passcard.

Card Color	Time Required
Grey	1d10 minutes
Blue	1d10 + 15 minutes
Green	1d10 + 30 minutes
White	1d10 + 45 minutes
Silver	1d10 + 60 minutes
Red	1d10 minutes + 2 hours
Black	1d10 hours
Not Marked	1d20 hours

The referee should secretly roll to see how long the lock compick will take to open the card lock.

COMPUTERIZED ANALYSIS SCANNER (CAS)

The computerized analysis scanner is a highly specialized and sophisticated piece of equipment. It can scan for information, compile the information and analyze it, and then present that information to a character familiar with its functions in a concise readout. Each CAS is covered with microswitches and small gauges and lights, along with a voice grid that is used for vocal commands and audio replies from the computer.

Limitations on CAS use are detailed in the individual skills that apply to them. For each CAS listed below the referee and players can assume the following:

- The CAS must be within one meter of the object or bioform being scanned (unless otherwise stated).
- Analysis must be prompted vocally by the user with specific queries (such as "What is the damage to the computer's circuits?", "Is the injury treatable using a standard medkit?", etc.).
- The CAS can only be interpreted by someone with skills in the area of the CAS's function (robotics skills for Robo-CAS, botanist skill for Flora-CAS, and so forth).
- The skill bonuses for the different CAS are only applicable when the devices are being used and do not teach the character new skill levels.

Atmospheric-CAS: (Formerly vaporscanner) An atmospheric-CAS indicates what levels of radiation, gas, and spores are in the atmosphere surrounding the CAS, what effects they would have on different life forms, and the most likely causes of these atmospheric conditions. This CAS has no skill bonuses.

Chemical-CAS: A chemical-CAS scans an object (up to a metric ton in weight) and indicates what natural and synthetic chemicals and compounds compose it. This CAS adds a +2 Column Shift to the Chemistry skill when used on chemical samples.

Demolitions-CAS: A demolitions-CAS can scan explosives, bombs, or mines within two

meters, through all materials except federanium, and indicate what type of explosive it is, what detonation devices are attached, and give suggestions on how to defuse it. This CAS adds a +2 Column Shift to the Weapons: Demolitions skill when defusing.

Electro-CAS: An electro-CAS is used to scan electrical circuitry and power sources. It displays how a machine is wired, indicates any breaks in the wiring, and gives suggestions on how to repair it. This CAS adds a +2 Column Shift for the Security Systems: Open Lock skill, if the lock is electrical.

Fauna-CAS: (Formerly bioscanner) A fauna-CAS is used to scan bioforms. It indicates if the bioform is alive, what type of organism it is, whether it is edible, and extensive information concerning its physiology. This CAS adds a +2 Column Shift to the Zoology skill when used on zoological samples.

Flora-CAS: A flora-CAS is used to scan plant life. It indicates if the plant is alive, it can be a threat to any of the PC races, if it is edible, and how it interacts with its immediate surroundings. This CAS adds a +2 Column Shift to the Botany skill when used on botanical samples.

Geological-CAS: (Formerly geoscanner) A geological-CAS can scan up to a metric ton of geological samples. It indicates what minerals the samples contain, whether there are likely to be valuable minerals, gas, or oil deposits nearby, and suggests possible geological and mineralogical difficulties associated with these combinations of minerals. This CAS adds a +2 Column Shift to the Geology skill when used on geological samples.

Magnetic-CAS: A magnetic-CAS can scan up to a metric ton of metallic structure. It indicates what metal and metal alloys are present in the structure, the structure's weak points, strong points, how it reacts to certain stress, etc. It can also indicate whether any sources of electromagnetic radiation are within 10 meters of the CAS, their strength, direction, and likely source. This CAS adds a +2 Column Shift to seismic disturbance analysis when using the Geophysics skill. A +2 Column Shift is added to the following skills when building a device: Engineer: Hydraulic; Engineer: Mechanical; Physics.

Mechanical-CAS: A mechanical-CAS can scan a mechanism up to a metric ton in mass. It can show the internal working parts, cracks or breaks, and give suggestions on maintenance. This CAS adds a +2 Column Shift to the Machinery: Repair and Vehicles: Repair skills. A +2 Column Shift is added to the Security Systems: Open Locks skill if the lock is mechanical.

Medic-CAS: A medic-CAS is used to scan a patient or victim. It indicates the patient's physical condition, diagnoses ailments, estimates time of survival under present conditions, etc. This CAS adds a +2 Column Shift to the Medical Diagnosis skill.

Robo-CAS: The robo-CAS is a unique combination of several different scanners. It indicates a robot's physical condition including suggestions for maintenance, estimated time for repairs, etc. This CAS adds a +2 Column Shift for the Robotics Repair and Robotics: Modifications skills.

Duo-CAS: These units are slightly thicker than normal CAS and can handle two of the functions listed above in one unit, usually in a logical combination such as Electro/Mechanical-CAS. In some instances the referee may wish to modify the bonuses when

functions are combined. The cost for a duo-CAS is the combined costs of both CASs plus 20%.

BODYCOMPS

Bodycomps are by far the most popular and widely used computer type. The development of the modular system of computer snap-on program units (progrits) and hardware that is completely compatible with all bodycomp models brought the personal computer out of the home and onto the waist.

The best way to picture what a bodycomp looks like is to imagine a wide belt made of extremely durable plastic bonded over solid state computer circuitry. On the belt are two wallet-sized white plastic units: one is the power source, the other is the processor. At intervals along the belt there are twelve 5-cm square plastic plugs. These plugs can be removed to reveal an open circuit ready for a progit to be plugged in. The bodycomp comes in different styles for different races but they all have identical access ports and use identical power packs, processors, and progrits.

Most people on the Frontier wear a bodycomp for such diverse needs as astronavigation, communications, business matters, etc. The maximum number of progrits on a bodycomp belt at any one time is twelve. This is in addition to the required power pack and processor pack. However, the number of progrits that can be used at any one time depends on the types of power and processor packs.

Both the progit and the hardware required for its use are listed under the progit descriptions. The costs for progrits are separate from any hardware costs, and both are listed on the Equipment Tables. The cost of connector cords, adaptors, etc. is included in the progit cost.

Vehicular computers (VCs) control various functions of Frontier vehicles and have many similarities to bodycomps. VCs are discussed in the Vehicles section later in this book.

BODYCOMP POWER PACK

A bodycomp requires a power pack, which is similar to a high-power, long-life battery, to power all of its functions. The differences in the following power packs are in their duration and amount of progrits they can handle at any one time. A computer power pack's duration is listed below. It can be recharged for the cost shown below. It can never be used to power anything else.

Sixpack: The least powerful and cheapest computer power pack. It can provide power for any of the following: a) one processor pack Type A or B and six progrits, or b) one processor Type C and four progrits. The sixpack lasts for one month and costs 50 Cr to recharge.

Tenpack: The most commonly used computer power pack. It can provide power for any of the following: a) one processor pack Type A or B and ten progrits, b) one processor pack Type C and eight progrits, or c) one processor pack Type D and four progrits. The tenpack lasts for three months and costs 125 Cr to recharge.

Fullpack: The computer power pack most popular with spacers, scispecs, and techexes. It can provide power for any of the following: a) one processor pack Type A or B and twelve progit, b) one processor pack Type C and then progit, or c) one processor pack Type D and six progit. The fullpack lasts for six months and costs 275 Cr to recharge.

Kingpack: The top-of-the-line computer power pack used by the very rich, very important, or very busy. It can provide power for one processor pack of any type and twelve progit. The kingpack lasts for one year and costs 450 Cr to recharge.

BODYCOMP PROCESSOR PACKS

The bodycomp's processor pack is the organizer, brain, and interpreter for the entire system. There are four types of processor packs• (all the same size).

Processor Pack Type A: Handles Type A progit only.

Processor Pack Type B: Handles Type A and B progit.

Processor Pack Type C: Handles Type A, B, and C progit.

Processor Pack Type D: Handles all progit.

BODYCOMP PROGRAM UNITS (PROGITS)

A progit is a 10-cm square that is 5 cm thick. Its shell is made of extremely durable plastic. It has a blunt plug on one side that plugs into the belt and raised letters on the other side to identify it. Some progit have lights, switches, or indicator windows built in to them. The shell surrounds a Johnson Energy Field that holds gigabytes of information. This field is the most stable known to the technicians of the Frontier and only an antimatter• field can disrupt the information contained therein.

Progit are classified from A to D, the latter being the most complex and energy consuming. When purchasing progit, player characters must consider their bodycomp's power and processing packs so that the whole system is compatible (i.e., a sixpack and a processor pack type C cannot handle type D progit).

While the common Type A progit can be found in a number of retail outlets, the Type B progit are a bit more difficult to find, Type C progit are rarer still, and Type D progit are seldom found outside of specialty shops. This should give the referee greater control over their acquisition to prevent improper escalation of computer power within the game. Progit resale values are usually only 40 to 50% of their original costs because of the inability to determine their age. Most progit last for three to five years of constant use.

PROGITS--TYPE A

Audio-Act: This progit controls a microphone that is used to voice activate the bodycomp. The wearer simply speaks into his throat mike and starts whatever progit he desires. This is used as an alternative to the normal method of pushing buttons on a bodycomp belt to activate progit.

Calc-All: This progit has many tiny buttons on its face. It can be operated manually but is fastest when operated with an Audio-Act progit. It functions as a highspeed calculator. Even though it is only a Type A progit, Mini-Calc fulfills the computational needs for all but the most

complex of problems (for those problems a Type D progit, Calc-Boost, is needed). No character who deals with any complex computers, robots, or machinery would be without it.

CAS-Interface: (Must be used with a CAS computer and the Comp-Talk progit. May also use with Audio-Act.) This progit acts as an interface between CASs and the bodycomp. With this the CAS pipes its information right to the user's ear through the bodycomp.

With an Audio-Act progit the user can keep his CAS hanging at his side and occasionally ask it to turn on and scan. This is important if the character's hands are full at the time. (Notice the male Human on the cover of the Star Frontiers Alpha Dawn game. He is wearing a bodycomp with attached CAS.)

Chrono-Calc: This progit has a continuing time tracking field for all of the Frontier's systems, planets, and major cities. Therefore the character can know what time and date it is anywhere in the Frontier. It also has two stopwatch capabilities so a character can time two different occurrences simultaneously. It has four alarm settings for each day. Readouts are either through a Comp-Talk progit or through the small display screen on top of the Chrono-Calc progit.

Comp-Talk: This progit allows the body-comp to verbally answer when it needs to reply, as with Map-Cal readouts, Chrono-Calc readouts, and so forth. The progit comes with a tiny device that is safely inserted in the ear of the character or affixed inside his helmet. It can even be surgically implanted into the user's head. Thus, Comp-Talk conversations are kept confidential between the character and his bodycomp. Comp-Talk can be programmed in any known languages.

Dis-Vis: This progit activates a tiny, harmless laser inside a special helmet visor that can display computer readouts, diagrams, etc. from a progit. Special helmets even have omnocular capabilities built-in and that information can also be displayed inside a helmet by a Dis-Viz progit. The latter helmet is extremely expensive. Through the use of a Dis-Viz progit, a character can have full visual readouts from his bodycomp without having to open his helmet; maps, file copies, holographic images, and so forth can be displayed for the user's eyes only.

For those who wish to have an open helm, half-visors that just cover the eyes are available. Other Dis-Viz display options:

Progit -- On the progit itself, though detail would be hard to see.

Wrist Screen -- A 10-cm long arm bracelet that contains a screen. The arm would have to be raised to the face to read the display.

Helm-Link: This progit allows a bodycomp to be lined directly to the helmet. This enables several additions to the bodycomp that can be used through the helmet:

- Audio-Act
- Brain-Scan
- Comp-Talk
- Death-Wish
- Dis-Viz

These progit are actually attached to the helmet. The number of helmet progit that can be attached depends on the helmet type, but is usually limited to three. While the progit attached to the helmet are hooked to the bodycomp belt through the Helm-Link progit (thus occupying only one progit space on the bodycomp belt) they still count as three normal progit for the purposes of maximum amount supported by a power pack.

Help-Beam: This progit must be subprogrammed when purchased. Its function is to send out an emergency beam on a specific wavelength (specified by the wearer) when a condition is met. This condition can either be a direct-effect command, such as "If the bodycomp starts deteriorating due to excessive physical damage, transmit beam," or a coordinated-effect program, such as "When the Brain-Scan progit indicates that I am dead, transmit beam." The subprogram is stated at the time of purchase by the player, with the assistance of the referee, and should be written on the player character sheet. The Help-Beam progit can also be manually activated.

Help-Call: This progit activates in the same manner as the Help-Beam, but emits a loud wailing sound rather than an invisible beam. A Help-Call linked to a Body-Scan and programmed to go off when the wearer is unconscious is a favorite system used by security chiefs. A guard so equipped would immediately start blaring a warning if he fell asleep or was knocked unconscious.

Map-Calc: (Must be used with Audio-Act.) This progit plots and maps according to the character's verbal instructions. In this manner a character or party can map as it moves. Maximum map memory is 20 maps. Map information can be retrieved by use of either a Dis-Viz progit, a Comp-Talk progit, or a readout screen that can be attached to a jack in the Map-Calc progit.

Since the information being fed into Map-Calc is verbally provided by the character, a player should actually map the land or structure his character is passing through, but the referee should check for inaccuracies and correct them.

Trans-Comp I: (Must be used with Comp-Talk.) This progit translates verbal communications in five languages. The languages are specified when purchased or can be entered later by a poly-vox. The outside of the progit has a voice-receiving grid. When the progit is activated the user can understand anyone within hearing distance who is speaking any one of the five programmed languages. The progit does not translate replies from the user (that is the function of a Type B Trans-Comp II progit).

PROGITS--TYPE B

Bio-Center: This progit is only for use with bionic parts that have been attached to a character. Bionic legs, arms, hands, etc. work smoother than most people might expect, but they are still not completely natural in their actions or in the user's control. This progit receives transmission from a surgically implanted transmitter in the user's brain and instantly relays the transmission to the bionic part. With a little practice and this progit, no one can tell if a limb, eye, or other bionic part is real or not. Each Bio-Center progit can control similar bionic parts: one for legs, one for arms, one for senses, one for up to four internal artificial organs, etc.

Body-Scan: This progit is a small bioscanner that is attuned upon purchase to the user's normal body functions (excluding that of the brain). It has a small readout window that automatically lists pulse, respiration, blood pressure, etc. It can also list any physical damage the body has taken, if infection is present, etc. Anyone with the Medical Diagnosis skill can look at this readout and instantly diagnose the medical condition of the wearer. This progit can also be linked up to other progit like Help-Beam or Med-Inject in the same manner as a Brain-Scan.

Brain-Scan: (Must be attached to a helmet and be used wityh Helm-Link.) This progit is a small bio-scanner that monitors the character's brain functions. This is an absolute necessity when using some progit (such as Death-Wish).

Brain-Scan progit have a small window that shows the brain waves and can easily be read by a charater with the Medical Diagnosis skill to tell if the user is unconscious, comatose, brain-damaged, or dead. Brain-Scan and Body-Scan progit can be used to trigger another progit by defining a condition. For example, a Help-Beam progit is set to broadcast when a character is rendered unconscious. A Brain-Scan progit picks up the user's Delta Waves, which it has been programmed to recognize as a deep sleep. Thus, it tells the Help-Beam progit that the unconscious condition has been met.

Comm-Link: (Must be used with Audio-Act and Comp-Talk.) This progit allows Audio-Act and Comp-Talk progit to be linked to communications devices such as chronocoms, subspace radios, and radiophones. Every Comm-Link has a separate frequency and those frequencies are like phone number (except the numbers are much longer). The Comm-Link has three separate functions:

a) Helm-to-helm communications. This can be accomplished if the other Comm-Link number is known. A character can then speak quietly with another character in a private conversation. The range is 10 kilometers.

b) Helm-to-chronocom communications. The Comm-Link progit can also be set to broadcast to any chronocom in a 5-kilometer range (if the frequency is known) or to all chronocoms in that same range on a general frequency broadcast. A character with this can communicate with a group of characters, broadcast a warning, etc.

c) Helm-to-radiophone link-up. This progit can also patch a character through to a radiophone whose frequency numbers are known. The range from helm to radiophone cannot exceed two kilometers; the range for a call from the radiophone is the normal 1000 km. In addition, the Comm-Link also has a jack and cable for direct hookup with subspace radios. Thus, a character carrying a subspace radio on his back can be directly linked to it through his helmet. This is a must for character exploring planets with unbreathable atmosphere.

Med-Inject: This is an interpreter progit. It interprets information provided by a Brain-Scan or Body-Scan. If the information is a prerequisite for na injection, it broadcasts a short range signal (a few meters at most) to a small injection unit that is inserted under the user's skin. The injection unit holds one hypo dose of any drug the player has selected and placed in the inject unit. Thus the Med-Inject progit can immediately treat the wearer.

The Med-Inject progit can also be manually triggered by switching a microswitch on the progit itself, thus avoiding searching for a hypo dose. This action is so fast that a character thus equipped can inject himself in a turn and still perform any normal action. The injection unit itself can be removed, sterilized, and reused again with a new dose after its use. Only one injection unit responds to each Med-Inject progit but up to twelve Med-Injects can be attached to a bodycomp.

Prog-Lock: This progit comes equipped with four Security Level 2 locks of any type the player desires; door locks, vehicle locks, drawer locks, gun locks, etc. These four locks, after they have been installed, will resist opening unless they receive a beam emitted by the progit. This beam is a sonic code of great complexity. The probability of any other Prog-Lock or sonic sender matching the code is 1 in 1,000,000,000. The maximum activation range from the Prog-Lock to these locks is 10 meters.

Prog-Switch: This progit comes equipped with 10 switches of any type the player desires: trigger switches, light switches, microswitches, push buttons, etc. All are a little thicker than their normal counterparts because they are all capable of being activated not only manually but by the Prog-Switch as well. They are activated by a beam transmission from the progit. This is especially effective when combined with an Audio-Act progit. A player can then turn one of these switches by identifying it through his bodycomp.

For example, Star Lawman Ward has been expecting trouble from fleem dealers ever since he smashed their local operations. Therefore he affixed special Prog-Switch to key areas in his office.

One night, after getting a strange call from an informant to meet at his office, he strolls into a room full of highly confident hitmen. Anticipating this he has turned on his bodycomp, Audio-Act, and Prog-Switch progit in advance.

Before anyone can move he speaks into his throat microphone, "One, four, five, nine!" This immediately activates those switches in the order they were spoken. Switch one turns off the lights, switch four activates the flash grenade hung above the door, switch five sets off his office alarm for the local constabulary, and switch nine activates the doze grenade taped to the bottom of his desk.

As the stunned hitmen pass out in the darkened room, he smiles to himself and is glad he did not have to say "Ten!" which would have set off the detonator attached to the TD-19 in the bottom drawer. Maximum activation range from the Prog-Switch to the switches is 30 meters.

Robo-Link: (Must be used with Audio-Act.) This progit is somewhat like a Comm-Link progit but instead of a two-way control function it is a one-way control function through which the user verbally controls a robot. The robot must be equipped with a device that can receive transmissions from only one Robo-Link and can override the robot's normal missions and functions as long as contact is maintained. Only a character who successfully performs all of the following skills can attach this device to a robot:

Robotics: Activate/Deactivate
Robotics: Alter Functions

Robotics: Alter Mission
Robotics: List Functions
Robotics: Remove Security Locks

This will only work on the lower forms of robots such as service, maintenance, or heavy-duty robots. Robots equipped with these devices can be verbally controlled by Robo-Linked characters for other functions outside of their normal programming.

Trans-Comp II: (Must be used with Comp-Talk, Trans-Comp I, and Audio-Act.) This progit allows for outgoing translation capabilities in five languages. The languages are specified when purchased or can be entered later by a poly-vox. Its appearance is identical to the Trans-Comp I progit. Unlike the Trans-Comp I progit, however, Trans-Comp II translates from the wearer's language into one of the five languages programmed. Thus, with both Trans-Comp progit, a two-way dialogue can occur, though the user cannot really speak the language. The advantages this has over the poly-vox is that there is a smaller chance of bad translation.

PROGITS--TYPE C

Ani-Link: (Must be used with two Brain-Links.) This progit connects to two Brain-Links by a tight transmission beam. One Brain-Link is in the user, the other is in a bioform mount or pet belonging to the user. The Ani-Link allows a basic communication between the two and gives the higher intelligence life form, usually the user, control over the lesser intelligence life form, if he desires. The use of an Ani-Link between two members of an intelligent race is strictly forbidden and illegal on all Frontier planets. Some cases of spies using them have been recorded, and the UPF is almost certain the Sathar uses them.

Brain-Link: This progit comes with a miniature cortex coordinator that must be surgically implanted in the brain. Once implanted, it can transmit and receive simple messages straight from the brain. This progit, when linked to certain other progit, can perform acts at incredible speeds (i.e., using a Prog-Switch progit and mentally switching devices on and off). A maximum of four progit can be linked through a Brain-Link progit.

Comp-Sight I: This popular progit comes with a floating gyroscopic system that is attached to any ranged weapon that is long pistol size or larger (excluding medium- or heavy-ordnance weapons). This gyroscope contains complex transmission and receiving circuitry plus an autogyro for stabilizing.

The progit and hardware stabilize the attached weapon for the user. The result of this is that a character using this progit weapon never suffers a Combat Modifier for range. The range maximums for weapons are not altered by this device.

Comp-Sight II: (Must be used with Helm-Link.) This progit is similar to Comp-Sight I, and has the same weapon size requirements, but this autogyro package is more movement oriented than range oriented. It moves the weapon in the direction the character's helmet moves and eliminates any movement Combat Modifiers for the character using the progit weapon.

Comp-Sight III: (Must be used with both Comp-Sight I and Comp-Sight II.) This progit is a coordinator and booster for the first two Comp-Sight progit. It comes with a thick disc that fits over the top of the weapon. No scope can be used with a weapon that has Comp-Sight III

attached. It reduces any kick or weave the weapon may normally produce when firing. When all three Comp-Sights are in place, the user is not affected by movement, range, or smaller than man-size target Combat Modifiers.

It is said that one of the most frightening sights for a criminal is to look down the barrel of a Star Lawman's weapon and see it weave back and forth in front like a living creature. **Death-Wish:** (Must be used with Brain-Scan.) This progit is very similar to the Prog-Switch progit. It comes equipped with three switches of any type. These switches are designed to activate immediately upon the death of the character wearing the Death-Wish progit on his bodycomp.

In this manner a player who dies (defined, for the purposes of this progit, as when the character's Stamina drops below -10 for more than three minutes of game time) may activate a Med-Inject unit, freeze field, pack of Kaboomite, or whatever he has programmed.

Since this is such an important progit, it cannot easily be removed from the bodycomp. To do so takes at least 10 minutes. The activation signal for these devices has a maximum range of 10 meters.

Enviro-Comp: (Must be used with Body-Scan.) This progit is essential for coordinating the various life support systems found in power armor or deep space suits. It monitors, evaluates, regulates, and updates all equipment controlling the respiratory, heating, cooling, waste disposal, and nutritional systems. Without this progit the character would be constantly checking and adjusting his life support systems. This progit can also be linked to a small craft's life support systems for the same functions. Because of the importance of this progit, removal time is 10 minutes.

Fast-Scan: (Must be used with Brain-Scan.) The Fast-Scan progit comes equipped with a 30-cm square scan board that is connected, by cable, to the progit. The user then places any printed material, including pictures and maps, on the board, face down, and it is instantly recorded.

This is the ultimate in speed reading and photographic memory. Time required for inserting information into the user's memory is roughly five seconds perpage of material. The amount of material that can be retained by a Fast-Scan process is no more than 100 pages, maps, or pictures.

Hear-All: When activated this progit scans all known transmission frequencies. It will pick up an unprotected transmission and give its type (Radiophone, Help-Beam, etc.), its direction from the user, the range of the transmission source from the user (up to two kilometers), and the frequency being used. A jack in the progit allows it to be hooked up to an earplug (or headphones if the character is so equipped) so the wearer can listen to the transmission.

Natur-Act: (Must be used with Brain-Link.) This progit contains the culture and customs of a single race or tribe. There are thousands of these available for most of the cultures existing on the frontier. But Natur-Act does not just inform the character about the customs, it has him perform these customs at the proper time.

A character using this progit can pass as a native if his appearance also matches that of the culture. This progit is extensively used by Star Law both for maintaining harmony with the

various peoples they protect and for undercover work.

Prog-Motors: This progit is primarily an enhanced-response progit. It comes equipped with three micromotors that can be activated either manually or through the Prog-Motors progit. See Prog-Locks for the details on the tight beam and sonic coding used to activate these motors.

The motors must be mounted and fitted by a techex to whatever device the character wants to control. The most common uses for these motors are in the hinge mountings of a helmet's visor and gas mask. If a character suspects dangerous gases in the atmosphere, he touches the buttons on the progit that snap down his visor while swinging his gas mask in place.

An Audio-Act progit gives even faster control. "Down visor, up mask" is all it would take to seal himself from breathing the gas. Maximum activation range from the Prog-Motors progit to the micromotors is 10 meters.

Stop-Hear: This progit protects all transmissions used through the bodycomp by ultrafocusing them then tight beams. It is a scrambler that uses an erratic pattern and frequency that the Hear-All progit cannot pick up.

The receiving end of this scrambled transmission must have an identical Stop-Hear progit or computerized communications program to unscramble it. While a Hear-All cannot discern what is being transmitted or what its exact direction is, it can show that something is being transmitted at a certain range from the wearer.

Truth-Tell: (Only works on Humans, Yazirians, Ifshnits, and Humma.) This progit must be located in the front of the bodycomp belt. It sends out a directional sonic echo in a very tight cone. This echo can monitor the physical functions of the nearest intelligent bioform and, if the bioform is one of the susceptible races listed above, indicate whether it is giving false replies to queries.

The range of the cone is four meters and it cannot pass through any sonic defenses. The process is 90% accurate (referee rolls for whether NPCs give accurate or misleading answers). It is not known whether this process will work on SAthar, but it definitely does not work on Mechanons. There is an indicator light on the progit that blinks when a falsehood is told, unless it is bypassed by using a Comp-Tell progit that sounds a beep in the user's ear instead.

PROGITS--TYPE D

Beam-Boost: This progit provides a focusing circuit for all beams used by other progit on the user's bodycomp belt. All beams emitted by the user's progit have triple their normal range.

Calc-Boost: (Must be used with Calc-All.) This booster progit greatly improves the bodycomp's ability to work out mathematical probabilities. Using Calc-Boost gives a character a +1 Column Shift to the following skills' success rates:

- Acoustics
- Bionics
- Chemistry
- Cryptography
- Cybernetics

Engineering: Alternative Energy
Engineering: Nuclear
Finance
Optics
Physics
Robotics: Modifications

A character using the Calc-All, Calc-Boost and Master-Comp progit together, and with the proper type and amount of data, can work out the probabilities of many events.

For example, given the approximate composition of a wall of hull, an approximate thickness, etc., the character could calculate the best place to strike the wall and how much damage would have to be inflicted to it before it would go down, with a 90% accuracy.

The extent of the probability calculations in the game and their accuracy is, of course, up to the referee but it can be fun to have a character who is logical and heavily dependent upon scientific data and complex calculations for his actions.

Comp-Link: (Must be used with Brain-Link.) This progit allows the user to attempt direct brain-to-computer communications with any computer he can plug his comp-Link progit cable into. Thereafter, the character can attempt any computer skill he possesses directly on the computer with a +1 Column Shift added to his chance of success.

The user has only one chance at initiating contact through this progit. If he misses it the computer identifies him as a "bug" in the system and ignores him. If the character establishes contact with the computer in the normal method and then plugs into it, he may continue trying his other computer skills at leisure. Any character who has no computer skills and attempts this will automatically fail.

Comp-Sight IV: (Must be used with Comp-Sight I, II, and III.) This progit comes with two cables, an expensive goggle apparatus, and a thick forearm bracelet.

The goggles fit tightly against the user's head and contain tiny lasers that can be used to scan the eyes. The movement and focusing of the eyes is tied into the first three Comp-Sight components that have been attached to the pistol or rifle.

The bracelet, attached to the forearm of the limb that is not primarily used, is connected by the cables to the goggles and to the other three attachments. This fine tuning allows the character to ignore the Combat Modifier for using the wrong hand (as well as the benefits for the other three Comp-Sights).

The referee should be careful not to allow too many completely Comp-Sighted weapons in his campaign at any one time, as it has a tremendous influence on the balance of the game.

Master-Comp: (Must be used with Audio-Act and Comp-Talk or Brain-Link.) This progit is a necessity for any character who is serious about bodycomps. It is the grand master of progit and ties all of them together into a unified whole. The biggest advantage is its ability to receive conditional orders from all other progit. A player can make a list of up to and including 20 conditions and functions he wishes his bodycomp to follow for standard operating procedure,

such as:

- a) Scan with the Atmospheric-CAS every twenty minutes and inform me of any unusual conditions.
- b) Let me sleep for six hours unless a bioform approaches within 20 meters.
- c) Three minutes after you wake me, patch me into planet HQ for the morning report.
- d) Set the Death-Wish progit to activate the Help-Beam progit, the Med-Inject progit with the staydose, and detonate the Doze Grenade by my side.

The preceding examines all assume the character has the necessary progits to perform the indicated actions.

The Master-Comp progit is so complete that you can instruct it in simple terms and if it has nay questions it will ask you. The drawbacks to this wonderful progit are that a) only 20 commands can be programmed in at any one time, b) it takes the place of two progits on the bodycomp, and c) if over 15 commands are programmed in, it uses an enormous amount of energy. A kingpack could conceivably be drained in one month (at the referee's discretion) if the bodycomp is constantly on and performing numerous functions. This is why environmental suits, deep space suits, and powered assault armor are so expensive to operate.

Mind-Drive: (Must be used with Brain-Link.) This progit is used with vehicles that the character has the skill to use. It comes with a set of cables that are permanently attached to it and that can be plugged into the guidance control of various vehicles. Once plugged into the vehicle the character can drive it with his mind, thus his reactions are much, much faster and the chance of avoiding accidents are much better.

While the character still uses his normal skill level for oeprating a vehicle, he adds a +15 to his Reaction Speed Check for keeping the vehicle under control during Emergency Stopping, Skid Turn, Bumping, and Stunt Maneuvers. See the Vehivle Computer section for more progits used in vehicles.

Mind-Mount: (Must be used with Brain-Link.) This progit is an advanced form of Prog-Motor. It comes with one minimotor specially designed for an ordinance weapons mount (laser Ke-5000, rafflur M-10, sonic devastator, or mounted MLTC). When physically aiming this weapon, with which the charater must already have a skill, the normal modifiers for range, movement, and size are ignored; only the character's skill level is used.

Mind-Teach: (Must be used with Brain-Link.) This progit comes in a variety of types: languages, skills, histories, and so forth. When this one-shot progit is inserted and activated, the character can do nothing for two days but stare as if in a trance. If anyone turns off the user's bodycomp at this time the lesson has not been learned and the progit is useless as it erases itself as it teaches.

There are two different kinds of Mind-Teach progits. The most common type conveys temporary knowledge that might be forgotten in weeks, days, or even hours. The duration is left to the referee, as is the content. This progit is most useful in emergency situations where the character must have a member who can perform a task, pass as another character, etc.

The second kind of Mind-Teach progit is much rarer. Its knowledge is gained by the character permanently. The only time a referee would want to introduce this into a campaign is as a major reward for accomplishing a goal.

It is impossible to tell these two Mind-Teach progits apart.

FINAL COMMENTS CONCERNING BODYCOMPS

The personalize computer can vastly expand a character's identity and abilities, if used properly. Avoid bogging the game down the overuse or over-concentration of technical items, but allow the players to experience some of these new items. A wise referee will introduce only the lesser versions of the bodycomps at first: sixpacks, Type A or B progits, and Type A or B type processor packs.

Break the players in slowly to this new concept so that, by the time the campaign is ready for the more powerful progits, the players' use of the basics is second nature. This will save both the referee and the players a lot of time continually referring to the equipment section for even the simplest progit explanations.

PROGIT ACCESSORIES

Progit Reprogrammer: This device allows a character with the Computers: Bodycomp Programs skill to alter or purge a progit. See this skill description for further explanations.

Battle Bodycomp Belt: This synthsteel overly completely surrounds the bodycomp and attached progits, making them relatively invulnerable to everything except nuclear or anti-matter attacks. Referees should let common sense prevail here. If a character wishes to remove a dead NPC's bodycomp that is encased in a battle bodycomp belt, he can either try to unlock it (Security Lock Level 6) or blast it open.

Fake Progits: These progits look like the real thing but are actually empty and weighted to feel normal. They can be used for securing small items or information, fitted with explosives as a booby trap for anyone trying to steal the belt or progits, or just occupy space on the bodycomp, giving the impression of a powerful individual.

SECURITY DEVICES

LOCKS

There are three different types of mass-manufactured locks that are used for all security needs: mechanical locks, card locks, and baton locks. There are also personalized locks that are tailor-made to the customer and extremely expensive. The Security Systems: Open Locks skill is used to try to open any of the first three kinds of locks, but it is modified by the level of the lock. For every level of the lock, there is a -1 Column Shift to the skill check. The personalized locks require a lot more than knowledge of the lock.

Mechanical Locks: Mechanical locks run the gamut from simple desk drawer locks to bank vaults. Most vehicle ignitions are mechanical locks. The lock levels, for purposes of the SS:OL skill, run from Level 0 to Level 5. Most mechanical locks are jammed or removed easily by weapons fire or explosives.

Card Locks: Card locks are second-generation locking mechanisms. A card lock is a 15-cm square plaque mounted on a wall or door about 1.5 meters above floor level. The card lock operates by scanning an inserted passcard that contains a tiny electromagnetic ribbon. When a match is confirmed, the lock opens. Card locks are usually used for doors or equipment, like security computers. There are eight levels of card and matching passcards.

Card Color Level Usual Uses

Grey 1 Closets

Blue 2 Living Quarters

Green 3 Offices, File Rooms

White 4 Medical or Scientific Facilities

Silver 5 Supervisory or Robotic Facilities

Red 6 Star Law or Security Facilities

Black 7 Governmental or Penal Facilities

Gold 8 Extremely expensive, personalized lock

When a card lock is purchased it comes equipped with two or three passcards. Usually the card lock and passcards are color coded on the outside. Card locks are built to last and can withstand 120 points of damage. When a card lock is completely destroyed there is only a 20% chance that the lock will open the door, drawer, etc., otherwise it is jammed closed or off.

Baton Locks: Baton locks are third-generation locks but operate similarly to card locks. A baton, 20 cm long with a 2-cm diameter, has an intricate electromagnetic circuit inside. When inserted into the baton lock, a 10-cm-square plaque with a shuttered hole in the center, that circuit is scanned. If confirmed as being the proper baton, the lock opens and the baton is ejected. If the scan does not confirm that the baton is the proper one, it is locked into place and an alarm goes off at the local Star Law office, constabulary, or security robot computer.

The circuitry in a baton is far more complex than the emission bands on a passcard and therefore a more secure locking mechanism. Baton locks are used on super-security projects, higher level robots (for some, in fact, it is the only way to turn them off), and by the very rich. Baton locks are Levels 5 to 10. They are masterpieces of solid-state construction, requiring 200 points of damage before they are destroyed. Even when destroyed they will be jammed closed or off 90% of the time.

Personalized Locks: For those wealthy individuals or institutions who want the most secure locks possible, there are locks that only recognize personalized codes. The proper lock level is recorded after the title. A character cannot attempt to use his Security Systems: Open Locks skill without some form of artificial replacement for the needed code. If any exists, it is listed after the type below.

Voice Recognition: Level 5 or 6. The lock only responds to a character's voice pattern. Replacement: A quality recording of the voice giving the proper code words.

Hand Prints: Level 6. The lock has a plate that scans the entire hand or manipulative appendage print. Replacement: A synthetic casting of the hand or appendage, or the hand or appendage itself.

Retina Scan: Level 7 or 8. The lock is equipped with a viewing apparatus that the character must look into before the lock will open. Inside the viewer the retinal pattern of the character's eye is scanned by lasers. Replacement: An intricate and expensive operation whereby a character of the same race has his retinal pattern altered to match the lock owner's pattern. The lock owner's retinal pattern must first be possessed, but there are laser cameras that can photo

it quickly.

Brain Scan: Level 9. The lock is linked to an intricate scanner that scans the character's brain structure and brain waves. This takes a few minutes to confirm and requires a Level 5 Job (Medical) maxiprogram attached to at least a Level 5 mainframe computer. Replacement: None known (possibly use of a clone).

Full Body Scan: Level 10. The lock is linked to a room-sized scanner that must be entered before the door is approached. It scans the entire body and brain, matching metabolic rate, brain waves, physical recognition patterns, etc. This takes at least 10 minutes and requires the scanner to be linked to a Level 6 Job (Medical) maxiprogram in a Level 6 mainframe computer. Replacement: None known (possibly the use of a recently created clone).

Scanners

Scanners are devices that sweep an area, sensing for something in a particular fashion. They are the security system's main source of information, the robot's eyes and ears, and are used by intelligent bioforms to enhance limited senses.

Security scanners are usually mounted high on a wall or on a ceiling at strategic scanning sites: above doors, corners, in the center of the room. The arc and pattern of their scanning is left up to the referee (this should be established in advance). Scanners can either be linked to a mainframe computer or monitoring stations for observation. Many are used with different maxiprograms and are tied in to defensive weapon systems mounted for installation security.

All scanners are limited by the visible horizon. This means that sometimes a small scanner works just as well as a big scanner. The size of the scanner determines the effective range, as shown on the following table.

Size	Scanner	Scanner
Type	Size	Range
A	10-cm cube	1-10 meters
B	20-cm cube	10-50 meters
C	40-cm cube	51-150 meters
D	1-m cube	151-400 meters
E	2-m cube	401-1000 meters
F	4-m cube	1-5 km
G	8-m cube	5+ km

TYPES OF SCANNERS

Beam: This scans for microwaves (like masers) and bolt weapon beams. This type of scanner is commonly used for missile guidance systems or warbots to home in on these weapon types being used.

Electromagnetic: This type of scanner detects electromagnetic waves produced by force fields.

Infrared: Commonly called heat seeking, this type of scanner detects strong heat sources, such as missiles, vehicles, generators, etc. A high-resolution version is often used by night-prowling robots or characters to track warm-blooded creatures. This scanner type always indicates the greater heat source and is not very effective on hot planets or during the day on any planet when the sun is in the sky.

Intense Light: This type of scanner detects concentrated light beams, such as lasers. It is effective both day and night, but susceptible to damage from high-intensity flares of light, such as flash grenade explosions.

Motion: This type of scanner identifies any movement within its range. The problem is that it does not identify the moving object, only that "something moved over there."

Odor: This scanner can detect molecular traces in an atmosphere or a liquid for a short time after a bioform has passed by. Every type of creature has a unique odor that this scanner can be programmed for. This type of scanner is usually used by campers as a perimeter defensive security system.

Parabolic: This scanner does for sound what omniscopes do for light. It amplifies the sound so that soft or far-away noises can be picked up. The parabolic scanner must be aimed at the source of the sound and at a specific distance to work. Loud noises, like a boomer grenade explosion, can damage or destroy a parabolic scanner.

Radar: This scanner uses radio waves and can detect solid objects that are at least as dense as bone, or detect other characters or mechanisms that are using radar.

Radioactivity: This type of scanner can detect strong fluxes of radiation. This includes nuclear generators, power plants, weapons, and radiated areas. It can also determine the level of radiation.

Seismic: Not to be confused with a motion scanner, the seismic scanner can pick up strong vibrations through the ground, such as heavy equipment moving or a large group of animals. It is also used for locating mining and energy source uses, such as coal and oil deposits.

Shape: This type of scanner needs to be connected to a mainframe computer of at least Level 3. It can be programmed to recognize or ignore certain shapes: characters, vehicles, animals, geography, etc. There is a tiny scanner that is used for missiles that also recognizes shapes, although only a few types.

Sonar: This type of scanner only works in very dense atmospheres or underwater. Sound waves are used to find solid objects at least as dense as bone.

Ultraviolet: This scanner detects ultraviolet rays, LSSs, and UV dyes.

Visual: This type of scanner is still the most common type used on the Frontier. It optically scans an area and the observer watching must interpret what he sees. There are two main optional attachments that are usually found on scanners, though a creative referee can introduce more.

One type of attachment is a light source. This is especially necessary for visual scanners, external scanners, or scanners that exist to pinpoint intruders for security guards or robots. A mounted powerlight, or an infralight will do the trick nicely.

The other attachment is a directional microphone. This is commonly used for internal security so monitoring stations can record conversations for later use in criminal convictions or data gathering. Other additions to visual scanners include zoom lenses, omnocular lenses, and starlight optics.

MISCELLANEOUS SCANNER EQUIPMENT

Spy Eye: This is a small sphere (15 or 25 cm in diameter) that has a built-in scanner and moves by silent hoverjet. It is usually used for spying but is sometimes good as a randomly directed guard. The information gathered is either stored within the spy eye for later perusal, or broadcast back to the receiving station.

A spy eye can move up to 40 meters per turn in any direction and has a maximum attainable height of 120 meters above a horizontal surface. Spy eyes have 25 structural points, move quickly and are small, and can be armed with up to two raffur M-1s or minigrenade launchers.

Mounted Security and Defensive Weapons: The following guidelines should be used for mounted security and defensive weapons. These do not include simple mounted weapons that are directly manned by character, but rather weapons directed by computers (also see the Mainframe Computer section).

- Any weapons but bolt weapons may be mounted.
- The level of proficiency for these defenses is normally level +1 plus a +1 Column Shift for each level of the mainframe computer's Security (Defense) maxiprogram. The Initiative Modifier is the program level plus three.
- If the weapon can handle it, parabatteries usually power it and belts of ammo (if needed) are fitted to it.
- Intelligent defense designers do not mount weapons that will harm the installation itself. Pistols or weak rifles are used for inside defense, along with electrified grids, gas, and so forth (or else the room or corridor is armored, insulated, or otherwise protected from the defense's form of attack). More powerful beam, projectile, or gyrojet weapons, missiles, grenades, and mines are used for external security.

While most mounted energy, projectile, or gyrojet weapons resemble their handheld counterparts, they are built for mounted use and can only be scavenged for parts, not take off and used as handheld weapons once they are captured. With the proper skills, however, they may be remounted on the robots, vehicles, or structures of the characters

who captured them.

SURVIVAL GEAR

Emergency Beeper: This pen-sized transmitter sends out a high frequency, broad-band beep once it is activated. It operates from a sealed power source and cannot be turned off once activated. Its power life is two days. Most communications equipment can pick up the beep if they are within one km and special emergency beeper trackers can pick it up at enormous distances.

Food Purifier: This backpack-sized device has a low-level radiation bombardment chamber built into it. Plants, vegetables, grain, fowl, fish, and even meat can be placed in this chamber and cleansed of most harmful organisms, poisons, and other conditions that would otherwise harm a character if he were to eat them.

Some substances resist this bombardment very well (referee should roll 1d100 for each new food type to be purified, a 99-00 indicates the food is still tainted and resists bombardment). The food purifier has 50 uses from a single 20-SEU powerclip. When in use, this device shows up on every radiation scanner within range.

Grappling Gun: This rifle-shaped device comes equipped with 100 meters of high-tensile strength microline, a metal claw type grappling hook, and four explosive digger heads. It also has an optional minimotor for automatic reel-in and ascent.

The grappling gun is used for small-scale climbs after anchoring it with its grapple, or, unscrewing the claw and attaching an explosive head, blasting its way into a rock facing, thus creating an anchor. The optional motor not only reels the line in but can also lift 120 kg weight. The anchor rod is fired by the same type of shell as in a grenade rifle. This device is of Vrusk origin.

Hot Rations Pack: The hot rations pack is a chemically treated plastifoil envelop that heats its contents instantly upon opening the pack and allowing the air inside. This is important to characters who are in a frigid climate, as hot meals are necessary to stave off the cold.

The hot rations pack's chemical reaction will show very clearly to any IR optical device or scanner within range for two turns. However, it is not hot enough to be used as a fire starter.

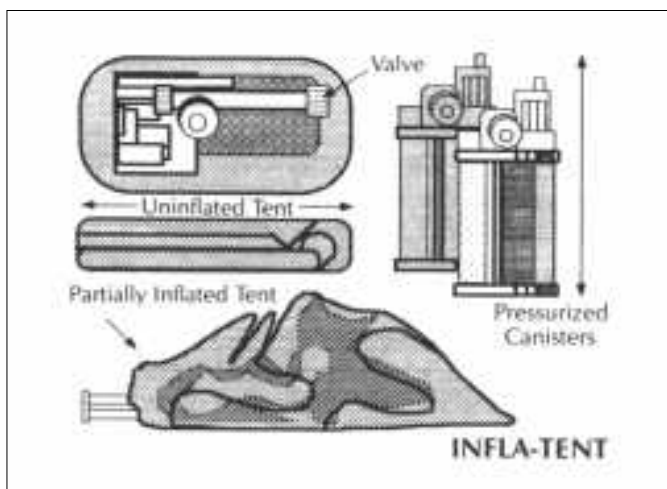
Life Bubble: The life bubble is of the same material and basic design as the infla-tent but completely envelops the wearer in one turn. They are worn like a backpack and are used by sailors or downed pilots on a watery world or sea. The normal oxygen supply inside one of these bubbles is two hours maximum but a small airhole can be opened for use of an attached snorkel, then sealed again against the elements. A life bubble will keep most bioforms alive until they are rescued or run out of provisions, but the enveloped character must keep movement down to a minimum to stabilize the airhole's position above the water.

Water Distiller/Purifier: This collapsible distillation filtering tank can purify up to 400 liters of

water before it needs to be changed. This is a necessary item for explorers who cannot carry enough drinking water with them but are on a planet where water can be found. Characters drinking unfiltered water run the risk of infection, contamination, or even poisoning. The tank also has a section for dehydration, so plants can be inserted and the water drawn from them. This is also a good method for drying fruit and vegetables so they will last longer as rations.

SURVIVAL GEAR--SHELTER

Crete Sprayer: The crete sprayer is a 1-meter-long tank tapering to a hose on the bottom that leads to a sprayer gun. The user, with the tank carried or strapped on his back, can spray a sheet of crete from his device over whatever he wishes. Crete is a superfast drying (two turns) form of concrete that is incredibly strong even in a thin layer. In this fashion an explorer can weave a canopy of vines or make a lean-to from skins, spray it, and have a shelter that resists most environmental conditions. Crete is thermally insulated and is comfortable to far below zero degrees and above one hundred degrees Celsius. One canister has enough crete to cover a 300-square-meter area. Create is considered hardcover and has 60 structural points. The range of the crete spray from the nozzle is only 60 centimeters, so it cannot be used effectively as a weapon.



Infla-tent: These inflatable tents are one-piece cocoons and come in single or two-man sizes. They are made of vinylast and are extremely durable and reusable. The infla-tent comes with pressurized canisters that pop them up in two turns, providing a secure haven in most planetary atmospheres.

Certain canisters, available at a slightly higher cost, inflate the shelter with coolant gas or insulating gas to keep the inhabitants alive in severe cold or hot climates. The worst atmosphere for an infla-tent is one with a high concentration of acid rain, which can eat through the vinylast in an hour.

SURVIVAL GEAR--APPAREL

Explorer Boots: These knee-high boots are made from waterproof, noncrushable material. They are insulated against desert heat, arctic cold, and tropical humidity. These boots can be purchased with built-in knife sheath, pistol holster, or patch pockets.

Explorer Vest: This heavy-duty vest comes with a variety of patch pockets, inside zipper

pockets, velcro strips, rings, and snaps for maximum item attachment. It is designed with an attached plasti-pack on the back so breakables can be kept relatively safe. The Humans on the Star Frontiers Alpha Dawn rules book are wearing explorer vests.

Plasti-Poncho: Plasti-ponchos can be found in nearly every color and pattern and are made of silicate plastic that sheds water easily. They can stretch to completely encase the head or helmet, are designed with form-fitting sleeve/gloves that prevent the arms and hands from getting wet, and are attached to the boots. Bipedal bioforms wearing them tend to look like odd Yazirians, Dralasilites look like deranged beachballs, and Vrusk appear as plastic nightmares, Humma appear to be vicious tents, and Osakar are indescribable.

Suc-Set: This set is a combination of suc-gloves, eldo and knee suc-pads, and suc-boots. They are completely covered with thousands of suc-pods, the organic supersuckers found on Solar Minor. Suc-pods are attached in neat little rows that can hold more than double the wearer's weight (if the full set is worn) but can be easily unsucked by sliding in the direction of the climb. In this manner a wearer can belly-crawl up sheet walls, leap on to a vehicle and have a chance to stick to it, or remain sucked to the ceiling for hours.

Suc-pods have to be watered every 20 hours to keep them from drying out and dying. The only surface they suc-pods do not adhere to is one that is oily. Vrusk cannot use the suc-set; their physical structure is not suited for its use.

MISCELLANEOUS ITEMS

Body-gene Box: A body-gene box is part statis field, part freeze field. It is a 20-cm cube made of federanium. A small piece of a character's epidermal covering is placed inside it. As long as the box remains closed, the sample remains fresh. The body-gene box is kept in a bank vault that is now standard at all major hospitals. Once a character is declared dead, his genetic sample can be removed from the box and a clone can be created of the character. As might be expected there are numerous hitches involved with this item and the entire procedure.

- *Cost:* Besides the high cost of the body-gene box (see the Equipment Tables) there is also the cost of having the sample prepared and taken (5000 Cr), the cost of storage (10,000 Cr per year), and the cost of having the clone made (75,000 Cr). Once a clone is grown the sample is destroyed. Another sample cannot be taken for at least three months.
- *Legalities:* Society has a great fear of clones running wild. No character with a felony criminal record can have a sample taken, maintain a sample in a b-g box, or have a clone grown.

Proof of a character's death must be positively established before a clone can be grown. This either requires witnesses, a medical certificate of death, or the identifiable remains of the character.

If it is discovered that a clone exists while the original still lives, a general order to shoot on sight is immediately given. Unfortunately this usually results in both the clone and the original being destroyed.

A character can only be brought back through cloning if he has died an unusually early

accidental death. Most of the Frontier believes that if allowed a free hand, the clone merchants would overpopulate the systems in a matter of decades. Therefore, by law, no one may be cloned who has died of old age or a natural death. Interpretation of this are left to the referee's discretion. (Of course, there are always rumors of the "filthy rich" who can buy their own clone banks and almost become immortal, but that is for NPC consideration only).

- *Dangers:* If a clone discovers that his original is still alive, he becomes obsessed with a desire to kill the original character and never stops trying until one or the other is dead. The next step, usually, is that the cloned character then becomes suicidal after realizing that he has killed himself.
- *Campaign Considerations:* When a character has a sample taken, the referee must record all of the character's abilities, skills, and so forth. This record is then the basis for the clone, if and when it is grown. Any new abilities or skills developed after the sample is taken are not recorded, unless the character has another sample taken later (whereupon the original sample is destroyed).

A player can never control two versions of the same character at the same time. If, for some reason, a clone is grown while a character still lives, the referee will control the clone.

Body-Jump Box: A body-jump box is a device used to try to resurrect a dead character. It comes in many forms, from huge chambers in city hospitals to the small portable units that are carried into the field. When it is wired to various nerve points of the victim's body and head and then activated, it forces beta particles through the body.

If the character using the device (who must have the Medical Devices skill) makes his skill check, the body comes back to life. If the skill check is missed, the body is completely destroyed by the beta particles. This operation can only be attempted on a character who has been dead no more than 10 hours.

Federanium: This element is the toughest known material in the Frontier. It is impervious to heat, cold, and rust. It is incredibly expensive (how expensive is left to the referee's discretion) and the cost of molding it is also high. There are very few factories where federanium can be formed or reworked.

Medical Tabs: These aspirin-sized tablets come in different varieties and are used by explorers to temporarily combat unusual maladies. Examples include the following:

Aller-Tab: One tab blocks the effects of most allergies to alien flora or fauna for twelve full hours.

Dehy-Tab: Onetab prevents the Human, Ifshnit, Humma, or Yazirian body's dehydration from heat for twenty-four hours.

Elasti-Tab: One tab prevents the Dralasite body from losing its elasticity or the Vrusk's chitinous body from locking up in freezing weather.

Fungi-Tab: One tab prevents most alien fungi from growing on or in the user's body for eight hours.

Neutrad: An injection of neutrad is necessary with the Medical Treatment: Radiation skill to stop

radiation poisoning. Radiation poisoning is most commonly caused by nuclear battery or plant leakage or by a character being exposed to ancient nuclear weapons or their residue in nuked areas.

Salgel: Salgel is an oily blue goo that effectively protects surfaces from all but the worst concentrations of acid. Explorers often coat themselves or any exposed items with it to counteract the corrosive effects of severe acid rain or acidic gas. It can only be removed by a special liquid that accompanies its purchase.

Sporekill: An injection of sporekill is necessary with the Medical Treatment: Infestation skill to stop spore or parasite infestation. Spore infestation is most often caused by alien plantlife seeking to spread its spores to a fertile growth medium... like lungs.

