

M20Modular

Setting book:Star Frontiers

Player Races: Dralasites, Humma, Humans, Ifshnit, Osakar, Vrusk, Yazirian

NPC Races: Mechanon, Sathar

Occupations: Enforcer, Explorer, Techex, Scispec, Spacer, Diplomat, Mentalist

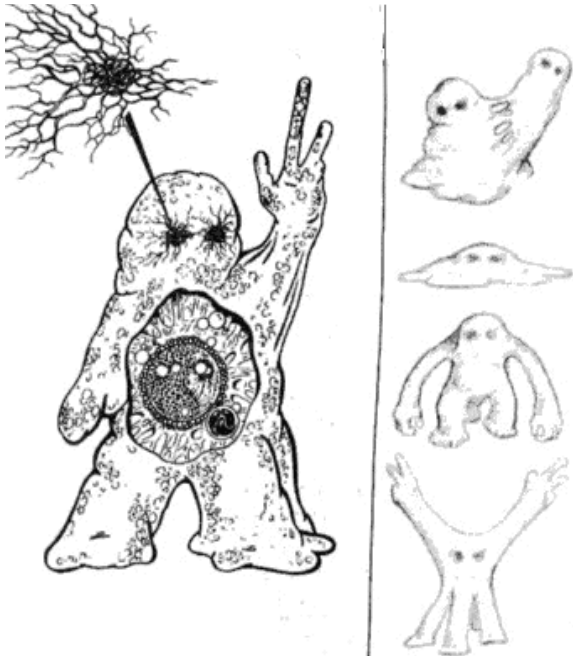
Equipment, Weapons and Armor

Vehicles

Spaceships: Travel and Combat

The Universe: Planets, Map and Timeline

DRALASITE

	<p>Average size: 1.3 m tall, 1 m wide Average mass: 65 kg Average lifespan: 250 years Reproduction: hermaphroditic, budding Body temperature: 30 C</p> <p>Species Traits</p> <ul style="list-style-type: none">• -2 dex, +2 physical• medium size: no bonuses due to size• +2 to detect lies (face to face)• +1 on any roll involving smell.• Dralasite base speed is 5 meters• Automatic languages: speak and read/write Dral and PanGal
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Physical Appearance and Structure

Dralasites are short, rubbery aliens that have no bones or hard body parts. Their skin is a flexible membrane that is very tough and scratchy. It generally is dull gray and lined with dark veins that meet at the Dralasite's two eyespots.

The internal structure of a Dralasite is very different from the other races. The Dralasite's central nerve bundle (brain), numerous small hearts and other internal organs float in a pudding-like mixture of protein and organic fluids. Dralasites breathe by absorbing oxygen directly through their skin, so they have no lungs. They are omnivores, but eat by surrounding their food and absorbing it, so they also have no digestive tract or intestines.

All Dralasites go through male, female and neutral stages during their lives (these phases can be controlled with medicines). Males release spores into the air, which drift until they become attached to a female. A young Dralasite then "sprouts" from its mother, eventually maturing and dropping off.

Senses

The most important sense for a Dralasite is smell. They breathe directly through their skin, and the entire membrane is sensitive to odors. Their sense of smell is so keen they can identify persons by smell alone and can recognize familiar smells on objects or persons. The membrane also is sensitive to touch and to vibrations, allowing Dralasites to hear and feel.

Dralasites see only in black and white. They see shapes and light and darkness very clearly, and can see a difference between distinct colors (blue and green, for example) because one is darker than the other, but they do not see actual colors.

Speech

Dralasites have a voicebox, but it works like a bellows because they have no lungs. A Dralasite's voice can vary from a soft whisper to a thundering roar and from a bass rumble to a piercing screech. Among themselves, they also use shapes, odors and touch to communicate.

Society and Customs

Dralasites are philosophical and thoughtful. Their communities are small, and many Dralasites prefer to live alone. Dralasites do not care about wealth, power or status symbols. They judge themselves by the quality of their ideas and their ability to discuss important ideas wisely. Dralasites often hold large public meetings to discuss new ideas. Discussions and debates are among their favorite ways to relax.

Steam baths are another favorite Dralasite recreation. They mix perfumes and intoxicants with the steam. These effect Dralasites the same way alcohol does a Human or Yazirian.

Dralasites are widely known for their strange sense of humor. They love old jokes and puns that make Humans groan. Many Human comedians who could not find work in Human cities have become rich performing on Dralasite worlds.

Dralasites do not normally wear clothing, because it makes breathing difficult and interferes with their sense of smell. They usually carry their equipment on web belts. When they must wear clothing to protect themselves, they use special materials that let air reach their skin.

Attitudes

Dralasites are very fond of Vrusk, because they think Vrusk have funny shapes. They get along well with Humans but are careful not to upset Yazirians, who they consider too violent.

Special Abilities:

Elasticity. A Dralasite's skin is stretchable and supported by a complex muscle structure. This allows them to change the shape of their bodies, within limits. They can "grow" arms and legs to use for walking and handling tools and weapons, and re-absorb limbs when they are not needed.

A Dralasite can have a number of limbs equal to its Dexterity divided by 2, rounded up. The player must decide whether a limb is an arm or a leg when it is grown. For example, a Dralasite with a Dexterity score of 12 can control up to six limbs. It could have three legs and two arms, two legs and one arm, no legs and five arms, or any other combination adding up to five or less.

Growing or absorbing a limb takes five minutes. Only one limb can be grown at a time. A limb can be up to 1 meter long, and no less than 10 cm thick. "Fingers" for handling items can be up to 10 cm long and no less than 1 cm thick.

Even though a Dralasite can have many arms, it can not fire more than two weapons at once. When a Dralasite player creates limbs, he must specify one as the dominant limb, the same way a Human must choose to be either right or left handed. Also, despite a Dralasite's stretching and shrinking, the pattern of veins and ridges on its skin does not change, so they have a permanent "fingerprint" for identification.

Lie Detection. All Dralasite characters have a +2 on rolls to realize when someone is lying to them. The Dralasite must be communicating face to face with the character, and the Dralasite player must tell the referee he is trying to detect a lie.

HUMMA



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

Humma Species Traits:

- -1 mind, -1 communication, +1str, +1 physical
- Prehensile tail
- Immune to all ingested poisons

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 5 rounds, 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 club for damage. It is strong enough to support a Humma's body, but only for a number of rounds equal to the Humma's Strength divided by 2.

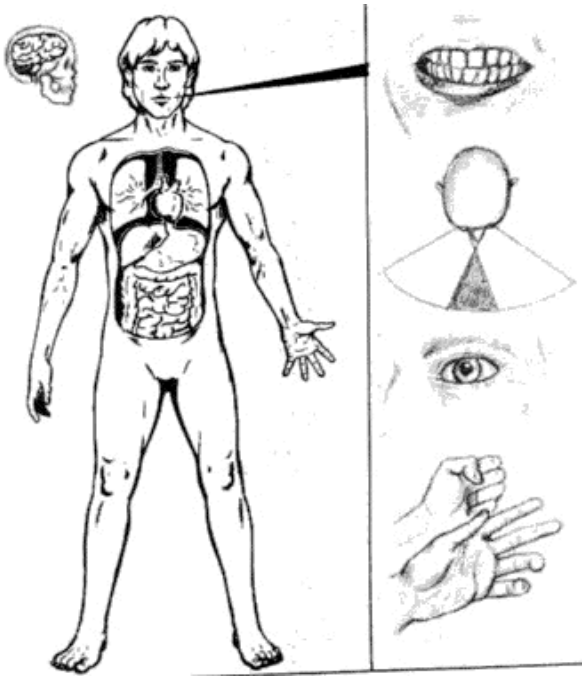
SOCIETY AND CUSTOMS

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.

HUMANS

	<p>Average size: 1.9 m tall Average mass: 80 kg (male), 55 kg (female) Average lifespan: 200 years Reproduction: heterosexual, viviparous Body temperature: 37 C</p> <p>Human Species Traits</p> <ul style="list-style-type: none">• Medium size: no special bonuses due to size• Base speed 10 meters• +1 to all skill rolls• automatic languages: speak and read/write PanGal
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Physical Appearance and Structure

Typical adult Humans are approximately 2 meters tall, and have two arms and two legs. They are warm-blooded omnivores with internal skeletons. Both hands have four fingers and one opposable thumb, which allow them to grip and use tools. Their arms are jointed at the shoulder, elbow and wrist. Their legs are similar, being jointed at the hip, knee and ankle. Humans walk upright.

Human skin color varies over a wide range, including pale white and pink, tan, pale yellow, red, brown and black. This color does not change as the Human matures. Most Humans have hair covering the top and back of the head. Males also have hair on their chins and throats. Hair color varies from white and yellow to red, brown and black, gradually changing to gray as the Human ages.

Senses

Humans have color vision, sensing the spectrum between infrared and ultraviolet wavelengths. They have good depth and motion perception. Their hearing covers a range from 16 to 27,000 cycles per second, with good separation and direction-sensing qualities. Their skin is touch-sensitive. Their senses of taste and smell are not as highly developed as their sight.

Speech

Humans speak by forcing air from their lungs through a larynx or voicebox and shaping sounds with their lips and tongue. They can create a wide range of sounds, and have no difficulty speaking Pan-Galactic and Yazirian languages.

Society and Customs

Human society centers around the family. A family generally consists of a father, a mother and 1 to 10 children. Families usually group together into communities for mutual support and protection. Community size varies widely; several Human cities are known to have populations above 5 million.

Of all the star-faring races, Humans are the most varied. As a race they are not as warlike as the Yazirians, as businesslike as the Vrusk or as thoughtful as the Dralasites. Yet, individual Humans can be found who surpass even the most violent Yazirians, the most dedicated Vrusk and the most philosophical Dralasites. Humans tend to value individuality and personal freedom more than anything else, but they do not hesitate to work together to reach a common goal or to protect themselves from attack.

To members of the other races, the most puzzling aspect of Human behavior is their curiosity and love of adventure. Many Humans are willing to put themselves in great danger simply to see something new or go somewhere no one has ever gone before. Some Humans (a very small percentage) seem to actually enjoy being in danger, thriving on the excitement of a life-or-death situation. This type of behavior has never been observed in normal members of the other races. Even the Yazirians, known for their violence and fits of rage, try to avoid taking unnecessary risks. This spirit of adventure has served Humans well, however, as most major exploration missions organized by local governments or private companies are led by a Human.

Many alien biologists have wondered how the Human race could have survived long enough to build a civilization and colonize new planets; compared to other creatures in the galaxy, Humans are not especially strong or quick, and are no smarter than the other races. However, Humans are very inventive and adaptable. They manage to survive and even flourish in areas other races consider uninhabitable, by adapting themselves to the new conditions with surprising speed. This and the Humans' love for gadgets and hardware led to the appearance of a popular saying among Vrusk, "Mr. Human and his Indestructible Junk Show." Despite this condescending attitude, Vrusk and the other star-faring races have learned to respect Humans.

Attitudes

Humans are one of the most open and accepting of the known races. They get along very well with Dralasites, and their similarity to Yazirians usually is strong enough to overcome the usual negative reaction to a Yazirian's pushiness. Many Humans, however, are mildly nervous around Vrusk. Human psychologists blame this on the Vrusk's resemblance to a giant insect. (Many Humans dislike insects, and some are actually afraid of them.)

Special Abilities

Humans emphasize training and education more than the other races, so humans gain a +1 to all skill rolls.

IFSHNIT



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

Ifshnit Species Traits

- -1 str, +1 mind
- Base speed 5 meters
- No sense of smell
- Can't be blinded by flash
- +2 knowledge OR subterfuge
- Automatic language: speak and read/write Ifshnit and PanGal

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.

SOCIETY AND CUSTOMS

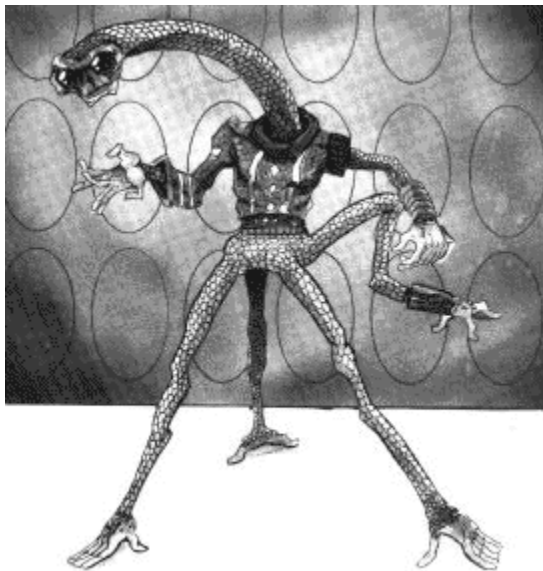
Ifshnits are the major race in the Capella system. They founded the Capellan Free Merchants and still control the organization. Their strange, polite dickering is known and welcome on most planets. Due to their origins, Ifshnits are fiercely independent. They like neither mega-corps nor cadres. They 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 Dralasite philosopher and historian, has named them "The race of the future, they who will inherit!"

Innate Skill: Because of their unique culture, which is heavily based on barter, Ifshnits learn about trading at an early age. An Ifshnit character gets +2 in knowledge OR subterfuge (player's choice).

OSAKAR



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

Osakar Species Traits

- +1 str, +1 dex, -2 communication
- Medium size: no special bonuses due to size.
- Base speed 25 meters
- +2 species bonus to any skill roll to track by smell
- Automatic languages: Osakish and PanGal plus any two other civilized languages.

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. Osakar get a +2 species bonus to any skill roll that is used to track another character by smell, 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 two civilized languages it desires in addition to PanGal and Osakish.


SOCIETY AND CUSTOMS

The incredible physical similarity 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.

VRUSK

	<p>Average size: 1.5 m tall, 1.5 m long Average mass: 85 kg Average lifespan: 175 years Reproduction: heterosexual, ovoviviparous Body Temperature: 38 C</p> <p>Vrusk Species Traits</p> <ul style="list-style-type: none">• -1 str, +1 dex• +1 to any roll to figure out any social situation.• +1 to any roll where the character would benefit from his sense of smell.• Ambidexterous• Base speed 15 meters• Medium size: Vrusk get no special bonuses due to size.• Automatic languages: speak read/write Vrusk and PanGal•
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Physical Appearance and Structure

Vrusk look like large insects. Eight legs grow from their abdomen, four on each side. Their torso is upright in front of the abdomen. The torso is humanoid, with two arms connected at the shoulders. The head is above the shoulders. Vrusk hands are circular pads with five fingers spaced evenly around the edge. A Vrusk's shoulders are double-jointed, so they can rotate their arms in a full circle without straining any muscles. They can reach any point on their abdomen or behind their backs easily.

A carapace (hard shell) covers a Vrusk's body. This shell is jointed at the Vrusk's elbows, hips, knees, etc. The carapace protects the Vrusk from bruises, cuts, scratches and other minor injuries. Unlike insects, Vrusk have an internal skeleton to support their bodies. Young Vrusk have a blue carapace with bright orange near the joints. As the Vrusk gets older, its carapace changes to dull green with yellow joints.

Vrusk have large eyes that are protected by a hard, clear covering. Four eating mandibles surround the mouth. The two larger mandibles hold food while the small ones tear it apart and place it in the mouth. They are omnivores. Vrusk have lungs, and breathe through many small nostrils under their abdomens. This arrangement makes it difficult for Vrusk to swim.

Senses

Vrusk have very good color vision, but they see more of the short wavelengths (blue and ultraviolet light) than Humans do, and less of the long wavelengths (orange and red). Their sense of smell is centered in their antennae, and is slightly better than a Human's. They also can touch with their antennae. Their hearing is about the same as a Human's.

Speech

Vrusk speak by combining clicks produced by their mandibles and buzzes produced by a plate in their mouths.

Society and Customs

Vrusk are hard working and practical. Their society is organized around independent corporations. To a Vrusk, the company he works for is his family and his nation. The company determines everything about the Vrusk's life; who he lives with, what his job is, where he travels, etc. Vrusk give their company name before their personal name.

Vrusk have two types of corporations: conglomerates and trade houses. Conglomerates have business interests in many areas. A single conglomerate might have divisions that build computers, operate farms, train lawyers and set up colonies. A Vrusk that works for a conglomerate usually works for only one division, and might not even know what other divisions the company owns. Trade houses, which are more common in the Frontier, specialize in one type of business. Because all Vrusk working for a trade house do the same work, trade houses usually work together. For example, a trade house that builds farming equipment would hire accountants from an accounting house to keep their financial records. Business between companies is regulated by laws that are so complex no one besides Vrusk have ever fully understood them.

Vrusk also love beauty, harmony and order. The goal of most Vrusk is to become wealthy, collect art, and live in peace. Their love for beauty makes them unwilling to get into fights that do not involve their company. However, Vrusk that are defending their company will do anything to remove the threat permanently.

Vrusk adventurers, however, do not belong to a company. Some are independent businessmen, some are company employees who were fired and some are just too rebellious to put up with company rules. A few start their own companies and eventually become leaders in their communities.

Attitudes

Vrusk get along well with the other three races. They respect the Yazirian custom of choosing a life-enemy, and feel at ease around Dralasites because they are careful and skillful planners (though they are annoyed by the Dralasites' sense of humor). They understand Humans the least because, to a Vrusk, Humans seem unpredictable and a little lazy.

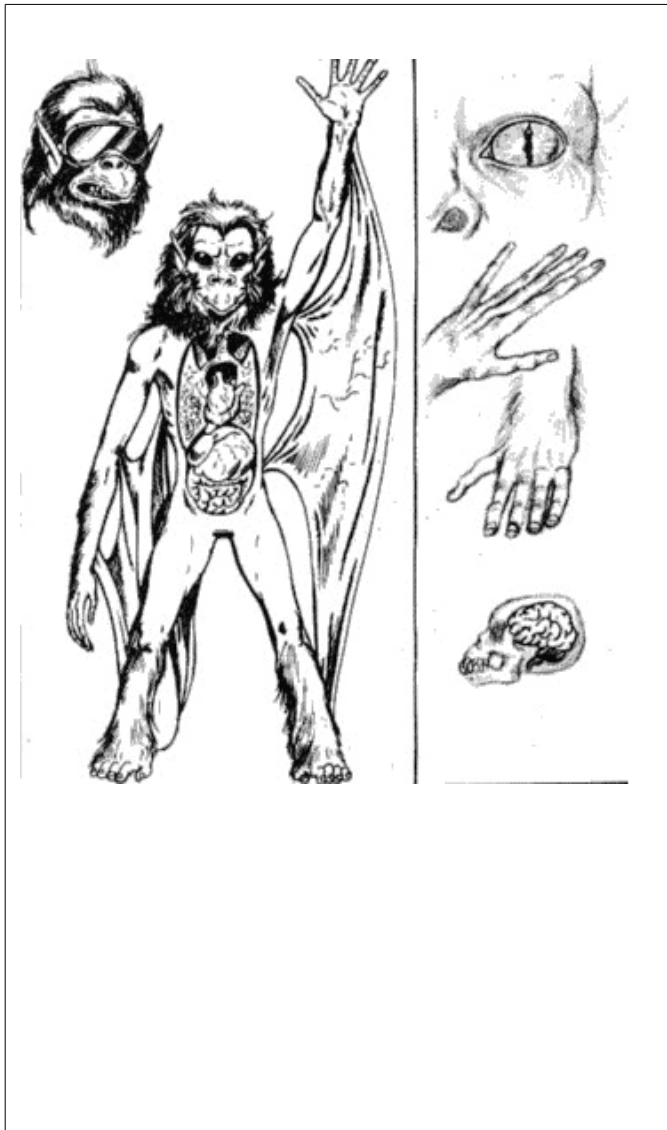
Special Abilities

Ambidexterity

All Vrusk are ambidextrous (they can use both hands equally well). Players with Vrusk characters automatically get the **Ambidexterity** feat. Vrusk can shoot weapons, throw grenades, write, catch or grip with either hand.

Comprehension. Because Vrusk have such a complicated society, they are able to understand all sorts of social dealings. All Vrusk characters get a +3 species bonus to any roll to figure out any type of social dealing that the player himself can not. For example, a Vrusk is following a Human he thinks is a spy for another company. He follows the Human into a bar and sees him talking to a group of rough-looking Yazirians, occasionally glancing over his shoulder. Then the Human hands some money to the thugs and leaves the bar. The Vrusk player is not sure what the Human was trying to do, so he tells the referee he wants to use his Comprehension ability. If makes his subterfuge+MIND roll, the referee will tell him that the Human paid the Yazirians to attack the Vrusk if he tried to follow the Human from the bar.

YAZIRIANS

 A black and white line drawing of a Yazirian character, a tall, thin humanoid with a monkey-like face, standing with one arm raised. To the left is a separate head with a mask. To the right are detailed drawings of a hand with five fingers, a foot with five toes, and a skull with a brain.	<p>Average size: 2.1 m tall Average mass: 50 kg (male), 60 kg female) Average lifespan: 140 years Reproduction: heterosexual, viviparous Body temperature: 39 C</p> <p>Yazirian Species Traits</p> <ul style="list-style-type: none">• -1 str, -1 physical, +1 dex, +1 mind• Medium size: Yazirians get no special bonuses due to size.• Low-light vision: Yazirians can see three times as far in low light conditions as a human, and retains the ability to distinguish color and detail. -3 to Dexterity-based skills in daylight without goggles.• Battle Rage: +4 str,+6 HP, -2 AC, +2 (mind+level) morale bonus. lasts 3+ str mod rounds.• Base speed is 10 meters• Glide: 2 meters for every meter above the ground.• Automatic languages: speak read/write Yazirian and PanGal.
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Physical Appearance and Structure

Yazirians are tall, thin humanoids. They have long arms and legs and slender torsos. Two large flaps of skin grow on either side of their bodies, attached along their arms, torso and legs. When a Yazirian raises its arms, this membrane is stretched tight and forms a sort of wing. Under certain conditions (explained under Gliding). Yazirians can glide short distances using these wings.

Yazirians have muzzles and high foreheads, giving them an animal-like appearance. Their heads are surrounded by manes and collars of hair, which varies in color from glossy black to pale yellow. Their skin color ranges from gray to light tan. Because their bodies do not sweat, Yazirians pant to keep cool. They are omnivores.

Yazirians have four knuckles (one more than Humans) on their fingers and toes. The inside toe is opposed like a thumb, allowing them to grasp things with their feet. The tips of their fingers and toes end in broad, ribbed pads, giving them an excellent grip. These characteristics, combined with their animal-like appearance, earned them the nickname "monkeys. "

Senses

Yazirians' senses of hearing, smell and taste are equivalent to a human's. Because they evolved from nocturnal hunters, however, their eyes are adapted to seeing in dim light. They can not see in complete darkness. They usually wear dark goggles when they must work in sunlight. In bright light, Yazirians without dark goggles get a -3 circumstance modifier to Dexterity based skills.

Speech

Yazirians have no trouble speaking Human languages or Pan-Galactic. Their own language is a combination of Human-type sounds and snarls and growls.

Society and Customs

Yazirian communities are divided into large, loosely organized clans. All the members of a clan are related to each other. In the past, clan ties were very strong. The clans had traditional enemies and allies, and they struggled constantly for power and land. Since the Yazirians moved into space, they have learned to cooperate more and the clans have become less important. Despite this, Yazirians still have a reputation throughout the Frontier as proud, fierce fighters.

A custom Yazirians have kept intact is the selection of a life-enemy. When a Yazirian chooses a life-enemy, he dedicates his life to destroying, overcoming or outdoing that enemy as completely as possible. In the past, a Yazirian would choose an enemy clan or clan member as his life-enemy, but now the choice is much wider. A Yazirian scientist could name an incurable disease as his life-enemy, or a Yazirian trader could choose a competing company. The scientist would try to find a cure for the disease; the trader would try to build up his own company so it is more powerful than his enemy's, or even try to drive the other company out of business.

A Yazirian gains honor by striving to defeat his enemy. Yazirians with powerful life-enemies are respected and admired. A Yazirian that defeats its enemy does not need to choose another, but some Yazirians do. There is no set point in a Yazirian's life when he must choose a life-enemy, and some Yazirians never choose one. A Yazirian that dies without having chosen a life-enemy is considered unlucky.

Typical Yazirian clothing is a large, brightly colored cape and tunic, a waist belt and two belts crossed over the chest. Dark goggles are worn in the daytime. Yazirians do not like shoes, but when necessary they wear mitten-like shoes.

Attitudes

In general, Yazirians like Vrusk and Humans. They occasionally lose their patience with Dralasites, because they are slow and would rather discuss ideas than act on them.

Special Abilities

Battle Rage. Yazirians train themselves to go berserk in battle. A berserk Yazirian temporarily gains +4 str, +6 HP, -2 AC, +2 (mind+level) morale bonus. Hit points and str boost go away at the end of the rage. While raging, a Yazirian cannot use skills or abilities that require patience and concentration. A fit of rage lasts for a number of rounds equal to 3 + the character's (newly improved) str modifier. The Yazirian may prematurely end the rage voluntarily. At the end of the rage, the Yazirian is fatigued (-2 to Strength, -2 to Dexterity, can't charge or run) for the duration of that encounter. The Yazirian can only fly into a rage once per encounter

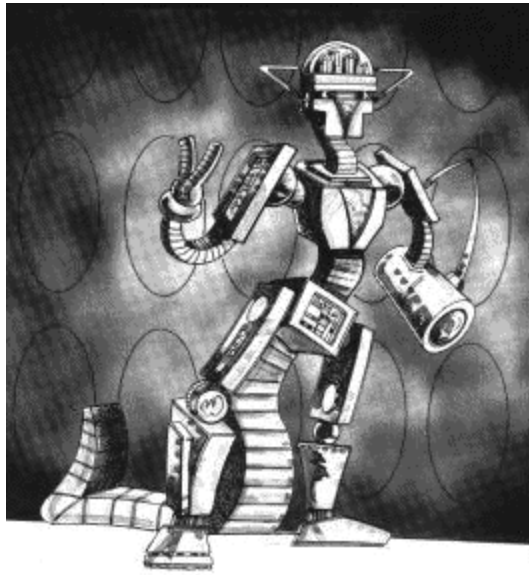
and only a certain number of times per day (equal to base attack bonus +1). Entering a rage takes no time itself, but the Yazirian can only do it during his action.

Gliding. Yazirians can glide short distances using the membranes along their sides. A Yazirian can glide 2 meters for every meter he is above the ground when he starts. He must start at least 10 meters above the ground. The maximum distance a Yazirian can glide depends on the gravity of the planet, as shown below.

<u>Gravity</u>	<u>Max. Glide</u>
.6	150 m
.7	100 m
.8	50 m
.9	25 m
1.0	10 m

Yazirians cannot glide on planets with gravities below .6 or above 1.

MECHANON



Average Size: 2.2 meters tall
Average Mass: 100 kilograms

Average Lifespan: unknown
Reproduction: construction
Body Temperature: not applicable

Mechanon Species Traits

- **Warrior** +2 mind, +3 str, -3 sub
- **Thinker** +3 mind, -2 str, +1 sub, +1comm
- Low-light vision: Mechanons can see three times as far in low light conditions as a human, and retains the ability to distinguish color and detail.
- Built in weapon (warrior): Laser or Maser pistol at least.
- Base speed is 10 meters
- Medium size: Mechanons get no special bonuses due to size.
- Automatic languages: speak read/write Mechanese and PanGal.

Note: Mechanons are intended to be played as NPCs only.

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 Voltarnus 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 that 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 Voltarnus 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.

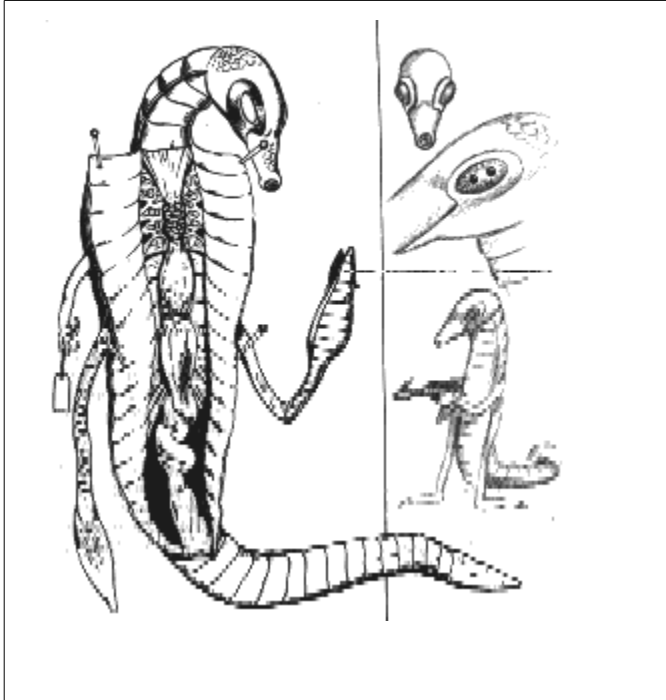
SPECIAL ABILITIES

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 mind score of 15 (with bonus). The thinker class has a mind score of at least 17 and can figure out the use of any manufactured item in a matter of minutes. Thinkers are also skilled debaters +1 comm.

SATHAR

	<p>Average size: 3.5 m long Average mass: 55 kg Average lifespan: unknown Reproduction: hermaphroditic, unknown Body temperature believed endothermic</p> <p>Sathar Species Traits</p> <ul style="list-style-type: none">• -1 dex, +2 communication• Hypnotism (as per suggestion spell): mind+level (DC18)• medium size: Sathar get no special bonuses due to size.• Base move is 10 meters• Automatic languages: speak read/write Sathar and any other civilized language. <p>Note: Sathar are intended to be played as NPCs only.</p>
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Physical Appearance and Structure

Sathar are long, worm-like creatures. Their bodies are divided into segments, like an earthworm's. They do not have a skeleton. Instead, they support their bodies hydrostatically, by pumping liquid into the segments so they become hard. A shiny, clear slime coats their skin. Scientists believe they are warm-blooded, but no live specimen has ever been studied.

A Sathar's head tapers toward its mouth, which is circular and ringed with teeth. Each of their two eyes has two pupils. Four tentacles, two on each side of the body, are arranged about 1 meter below the head. The first pair is slender and weak-looking, and about 1 meter long. These end in four smaller finger-like tentacles. The second pair of tentacles is stronger and about 1.2 meters long. Both of these tentacles end in a paddle-like pad. This second pair is used for heavy lifting, while the smaller tentacles are used for fine work and for holding small weapons.

A Sathar moves by slithering across the ground with the first meter of its body raised. They also can coil like a snake, raising 1.5 meters of their bodies from the ground.

The color of Sathar skin varies from yellow to brown. The tentacles are the same as the body, but with a slight greenish tint. The underbelly is pale pink. A pattern of dots, speckles and stripes decorates the back of the head. These patterns are natural on some Sathar, but are tattoos on others.

Some survivors of Sathar attacks have reported that Sathars are not effected by electrical shocks or doze grenades, but these reports have never been confirmed.

Senses

The Sathar's double pupils give it very wide-angle vision. They can see objects in front of them and to both sides at the same time (+2 sub+mind checks). They smell through two pits

in front of their eyes. The sharpness of their senses is not known, but UPF biologists assume their hearing, smell and taste is about the same as a Human's.

Speech

Captured recordings show that Sathar can speak Yazirian and Human languages as well as Pan-Galactic. They hiss and lisp when they speak. Their native language has never been translated.

Society and Customs

Almost nothing is known about Sathar society. They have tried to kill every alien creature they have met in the Frontier, usually with alarming success. No one knows why the Sathar attack so viciously or what they hope to gain. All attempts to contact the Sathar peacefully have failed. No Sathar has ever been captured alive, because they kill themselves before they can be taken. In one case, an entire Sathar ship self-destructed to avoid being captured. Freeze fields have been applied to several dead Sathar in an attempt to have them revived, but biologists have not been able to find a revival technique that works on them.

Scientists have proposed several theories, based on reports from observers. Gdtlask Gltak, a Vrusk sociologist, wrote the most widely accepted. Gltak's theory states that all Sathar belong to military units called cadres. The markings on the back of the Sathar's head identify its cadre. Each cadre trains its members as soldiers from the time they are born. Gltak theorizes that Sathar attack alien worlds, because their military society would fall apart if there was no enemy to fight.

Readers are warned that this is only a theory. Until a Sathar is captured alive, their true motivation will not be known.

Attitudes

All Sathar should be considered hostile and dangerous. Citizens of the Frontier who encounter Sathar are required by law to report the incident immediately. If escaping is impossible, citizens are advised to attack on sight, as friendly approaches have always failed in the past.

Sathar also are known to use Dralasite, Human, Vrusk and Yazirian agents to overthrow Frontier governments, terrorize citizens and disrupt trade. Like the Sathar themselves, these agents are extremely dangerous. Suspicious beings should be reported immediately. Citizens are discouraged from attacking Sathar agents, as most are trained and experienced killers.

Classified Information

The following information is secret, and should not be given to players until they discover it in the course of the game.

Hypnotism A Sathar can hypnotize a character by talking to him in a non-combat situation. The character must make **mind+level** roll (**DC 18**); if he fails, he is hypnotized (as per suggestion spell at 1/2 sathar's level). A hypnotized character will think the Sathar is his friend, and will want to cooperate with it. He will see things the way the Sathar describes them, if his other senses do not contradict what the Sathar tells him. (For example, a character would not believe that a fire was a pool of water). A Sathar can command a hypnotized person to do something at a specific time, and to forget that he has been hypnotized until that time. For example, a character could be commanded to turn off a security system at midnight.

Occupations

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.

- +2 phys.
- +1 all attack and damage rolls. this increases at 5th level and every 5 levels on.

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.

- +2 phys
- +3 to any roll dealing with survival in a natural environment.

Explorer chooses a terrain type (forest, savanna, desert, etc.) the explorer gets a **+10** bonus to rolls regarding survival in that terrain type.

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 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 technospy.

Techex:

- +2 know
- +3 on to repair / disable a device (see below).

At first level and every three levels thereafter, the techex chooses one of the following specialties; Computers, Machinery, Robotics, Vehicles, or Weapons. Any roll to repair items related to the techex's specialty gain a +3 aptitude bonus. The character can have the same specialty multiple times, and they do stack.

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:

- +2 know
- +2 for rolls dealing with chosen scientific specialty (see below.)

At 1st level, a Scispec chooses a Science field. The Scispec gets a +2 competence bonus to any roll involving that science. The Scispec also gains extra specialties at 5th, 10th, 15th and 20th levels. The character can have the same specialty multiple times, and they do stack.

SPACER

Spacers are rogues, the wanderers of the space lanes. They survive on the frontier by using their wits, cunning, and a willingness to "overlook" some laws when it becomes necessary. They make up a large part of the free traders on the frontier sector.

Spacer:

- +2 sub
- no penalties in weightlessness
- +1 communication bonus when haggling. (see below)
- one additional language

At 1st level, get a +2 bonus to communication checks when haggling over goods or services (legal or otherwise).

DIPLOMAT

Diplomats use their intelligence and natural charisma to make their way on the frontier. Members of this class include royalty, elected officials, military commanders, crime lords, traders, merchants, ambassadors, and celebrities. Whether for good or ill, Diplomats command respect, and have a knack for influencing people.

Diplomat:

- 2 free languages
- +2 sub
- +2 communication

At first level, Diplomats gain a +2 Orator bonus to rolls involving diplomacy.

MENTALIST

Mentalists are the mystics of frontier society, sacrificing many of the more technical skills for inner knowledge and the power that comes with that knowledge.

Mentalist:

- -3 phys
- +2 mind
- gains mentalist powers as per “Mental Abilities” rules in Microlite20 Modular Core Rules

EQUIPMENT

The following equipment is available to characters. At the start of a game, all characters have a Standard Equipment Pack and 10 Credits.

MONEY

Standard currency in STAR FRONTIERS games is the Credit, abbreviated Cr. Prices for common items are shown below.

Cost Table*

Hospital Healing	1 Cr/Point
Monorail	1 Cr/day
Skimmer Rental	10 Cr/day
Laser Pistol	600 Cr
Laser Rifle	800 Cr
Laser Powerpack	20 Cr
Needler Pistol	200 Cr
Needler Clip	10 Cr
Gyrojet Pistol	200 Cr
Gyrojet Clip	10 Cr
Doze Grenade	10 Cr
First Aid Pack	20 Cr

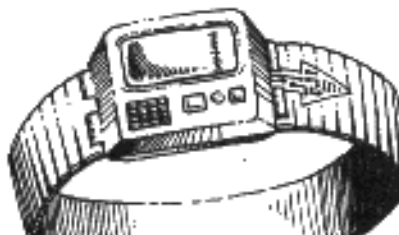
Survival Rations 1 Cr/day

* Weapon prices do not include clips or powerpacks.

Standard Equipment Pack

The standard equipment pack contains many useful items, but does not include any weapons other than a single doze grenade. Items included in the standard equipment pack are explained below:

Chronograph/Communicator: This device looks like a large wristwatch, but it can do many things. It is a watch with a lighted face that can be used as a stopwatch; it is a mini-calculator; it is a radio/video communicator that can be used to talk with other characters up to 5 kilometers away. It can be used to summon the police or a rental skimmer, as well.



Coveralls. This is a highly durable, waterproof suit. It will keep the character warm in cool weather and cool in hot weather. It has large pockets on the hips, legs and chest, as well as several smaller pockets on the sleeves.

Doze Grenade. This is the only weapon in the standard equipment pack. See Damage: Doze Grenades for more information.

First Aid Pak. This kit contains a spray bandage, an antiseptic spray and a spray hypodermic. The spray hypo does not use a needle, and is painless. It contains one dose of each of these two survival drugs:

STIMDOSE: A Stimdose injection gives a character 10 extra Stamina points for three hours. After three hours, the character loses the 10 Stamina points and must rest without moving for 24 hours. A Stimdose injection will not raise a character's current number of Stamina points above his original Stamina score. A Stimdose will not revive a character whose Stamina has been reduced to 0 or less. It will revive a character who was knocked unconscious by a doze grenade, but will not restore 10 Stamina points to the character.



STAYDOSE: Staydose puts a character to sleep for 24 hours, slows down his heartbeat and breathing, and helps stop bleeding. If a character's Stamina has been reduced to 0 or less, a Staydose injection must be given in 10 turns and will keep the character alive until he is taken to a hospital.



ID Card. All characters carry an ID card. An ID card can be used only by its owner, because the computers which read ID cards also scan the character's thumbprint.

ID cards are commonly used as credit cards. When a character buys something, his ID card must be inserted into a computer. He places his thumb (or paw, or digit, or pseudopod) on a screen so the character can verify his identity, and then the money is deducted automatically from the character's bank account. This same process is used to pay for monorail rides and rented skimmers. Money can be deposited into an account without the card, but the card is needed to get money out.

Pocket Tool. This device is similar to a pocket knife, but it includes many small tools besides a pen-knife blade; a universal screwdriver, a small adjustable wrench, vice pliers, a hole puncher, an electromagnet, and a small flashlight that will shine up to 25 meters.

TOOLKITS

techex and scispec characters get an appropriate kit when starting out. Characters who multi-class into these occupations must buy their own kits.

Technological Toolkits

A **techex** needs a toolkit to make repairs.

Techkit. The technician's toolkit contains all of the tools needed to make field repairs on vehicles and other equipment. Because plaststeel is used to make so many items that formerly were made of steel or iron, the kit weighs only 20 kg and can be carried in a backpack. A techkit contains:

Socket wrench--adjustable from 5 mm to 5 cm

Open end wrench--adjustable as socket wrench

Insulated wire--10 meters

Uninsulated wire--25 meters, can support 2,000 kg

Prybar--1 meter plaststeel rod, collapses to 10 cm

Jack--5,000 kg capacity, .5 meter lift, collapses to 200 cm cube

Hammer--large ballpeen high-impact head

Ion Bonding Tape--10 cm wide x 5 m long, bonds directly to any metal

Plastibond--tube of plastic filler, bonds to any plastic surface in one minute; five applications

500 nuts, bolts, clamps, screws and nails

10 hoses of assorted sizes

Electrosnips--powered metal-cutting shears (sheet metal only)

Magnegrips--electromagnetic vicegrips

Spray lubricant--10 applications of pressurized synthoil

Spray waterproofing--will insulate circuits, cloth, etc., from moisture; five applications

Robcomkit. The robcomkit is another highly specialized assortment of tools. It weighs only 15 kg and, like the techkit, is designed to be carried in a backpack. A robcomkit contains:

Electrodriver, ion bonding tape, insulated wire, spray lubricant, electrosnips, spray

waterproofing--all the same as those in the techkit.

Lasoldering iron--pen-sized laser soldering iron

Solder--1-meter roll of conductive soft metal

Magnetic by-pass clips--10 small connectors used to short-circuit wiring

Breadboard circuits--5 standard boards for mounting robot circuitry

Demagnetizer--electrical tool to demagnetize fouled circuits Spray cleaner--spray solvent to remove dirt from the robot's works; 10 applications

Miniature flashlight--20 hours of light; magnetized handle

Calipers--capable of taking measurements as small as .001 mm

Needlenose pliers--similar to 20th century tool

Sonic Scalpel--tool for cutting plastic, metal or flesh; makes a smooth, bloodless incision up to 5 mm deep

Components--box of transistors, diodes and computer chips for robot circuits

Oscilloscope--miniaturized viewer which displays information on electrical flow and other aspects of circuitry

Biosocial Toolkits

A medic (**scispec** specializing in medicine) needs a medkit and an environmentalist (scispec specializing in environmental science) requires an envirokit to be most effective.

Medkit. A medkit has specialized equipment the medic needs to perform his or her job. It weighs 10 kg and can be carried as a backpack. The medkit contains:

Local Anesthetic--10 hypo doses to relieve pain

Plastiflesh--5 cans of spray which closes up wounds and heals burns

Omnimycin--10 hypo doses to control infections

Acid neutralizer--1 bottle of liquid to neutralize acids

Antiseptic--5 cans of spray to clean and disinfect a skin area

Microforceps--adjustable, used to remove shrapnel and bullet fragments from wounds

Medscanner--an electrical instrument used to diagnose ailments

Spray hypo--syringe used to give shots without a needle

Biocort--20 hypo doses to stimulate very fast healing

Telol--10 hypo doses of truth serum

Stimdose--10 hypo doses to revive unconscious individuals

Staydose--10 hypo doses to sustain a dying character for 20 hours

Sonic scalpel--same as in robcomkit

Laser scalpel--used to make deep incisions

Electrosurgeon--a small machine that keeps wounds open and controls bleeding during surgery.

Autosurgeon--a special device that allows a medic to operate on himself

Antibody plus--10 hypo doses that increase the body's ability to recover from diseases

Antitox--10 hypo doses to neutralize poisons

Envirokit. An envirokit contains only three items, but they are very sophisticated pieces of equipment. The entire kit weighs 5 kg, and can be fastened to a belt or placed in a backpack. The envirokit contains:

Bioscanner--This device consists of a network of straps and electrodes connected to a readout

gauge. When attached to a plant or animal, living or dead, it can determine what type organism is being examined and whether it is edible or poisonous.

Vaporscanner--A vaporscanner is a small device that contains sensitive gas analyzers. It will report on a digital screen what gaseous elements are present, their quantities and whether breathing them is dangerous.

Geoscanner--The geoscanner can break down up to a fist-sized sample of rock or soil and analyze it. It will report what minerals the sample contains and whether there are likely to be valuable ore, gas or oil deposits nearby.

MISCELLANEOUS ITEMS

Body-gene Box: A body-gene box is part stasis 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: One tab 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 plant life seeking to spread its spores to a fertile growth medium... like lungs.

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 backpacks but designed to be attached to the helmet, power helmetpacks are primarily used for optical devices, communications devices, and weapons attached to the helmet itself.

Density Scanner

This device consists of a bulky backpack connected to a large camera-like set of goggles. The user wears the goggles, which show the scene in front of him. The density scanner checks emissions from the electromagnetic spectrum and computes the density of the items observed. It can only give very general readings. The scanner is often used for locating hidden cables and wiring for repairs. The scanner does not really "see through" things. It only gives the density reading of the surfaces of things. The density scanner must be supplied with SEU to operate, and it uses 1 SEU for every 10 minutes of operation.

Environmental Suit

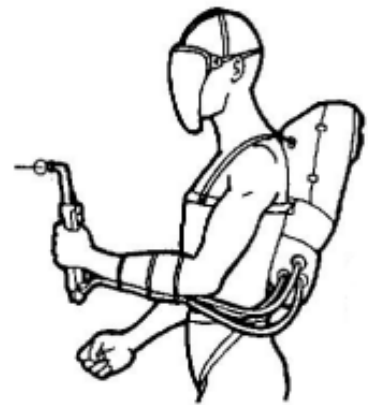
This suit is designed to protect its wearer from the weather and other conditions on habitable planets. It is made of lightweight, quilted cloth. The suit covers the entire body and has a built-in gas mask, goggles, and a small heating/cooling system. This will keep the suit cooled to a comfortable temperature on hot planets and warm on cold planets. The suit also protects against tainted atmospheres, airborne irritants, and dust- and sandstorms. Any field may be used with the suit, and it may be worn under an albedo suit or skeinsuit. It may not be worn under a slipsuit. The environmental suit itself gives no protection from attacks. The suit may be powered from a power pack or powerclip. It uses 1 SEU per day, if the heating/cooling system is used.

Enviro-Proofing

This treatment may be given to any article of equipment or vehicle except hover vehicles. Enviro-proofing protects these items from the extremes of heat, cold, dust, submersion, tainted atmospheres, and vacuum. The referee should note that there are no specific rules for equipment failure in the Star Frontiers Expanded Rules. Enviro-proofing is provided to protect equipment in situations in which the referee feels weather may affect the item. It is up to the referee to create other planets and situations where it would be useful. Enviro-proofing may be done when the item is bought or at some later time. The cost to enviro-proof an item is 10% the cost of the item.

Portable Space Welder

The portable space welder is an all- environment welder. It will work in all conditions, including in vacuum, underwater, and in poisonous or tainted atmospheres. It is similar to a modern oxyacetylene torch and uses an open flame for its welding and cutting. It may be used to weld metals and hardened plastics or to cut through these materials. It takes the welder one turn to make a weld or cut 50 cm (0.5 meters) long. The welder may cut through up to 3 cm of material. The welder may only be used in melee combat and no bonus is added for Melee Weapons skill. If a hit is scored, the target will suffer 5d10 points of damage from the flame. A fuel tank is required to operate the welder. One tank will fuel the portable space welder for one hour.



Thermosign Generator

The thermosign generator is an advanced form of the infrared jammer. It creates an infrared image of something that is not actually there by generating the proper heat patterns. This image will be seen on all infrared goggles and sensors. The thermosign generator has a 10-meter radius; it may create nothing larger than this radius. Creatures and items inside this radius will not be seen on infrared sensors. In image disc is required for the generator to create the infrared image. These discs must be custom made and cost 100 Cr each. The generator is approximately a one meter cube. It requires a parabattery to operate. The generator uses one SEU each hour of operation.

SURVIVAL GEAR

Survival Rations. This small package contains enough concentrated food and water purification tablets for one person for five days.

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 envelope 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 air hole 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.

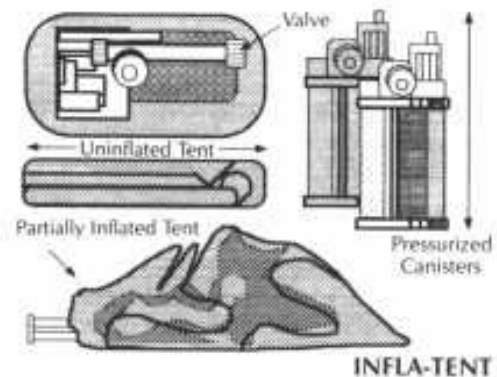
Water Distiller/Purifier: This collapsible distillation filtering tank can purify up to 400 liters of water before it needs to be changed. This is a necessary item for explorers who cannot carry enough drinking water with them but are on a planet where water can be found. Characters drinking unfiltered 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 super fast 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, non-crushable 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 cover of the Star Frontiers Alpha Dawn rulebook 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, Dralasites look like deranged beach balls, 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, elbow 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.

Weapons:

Damage

Weapon type	Damage	Range
Unarmed	1d4	
Light Weapons	1d6	
Medium Weapons	1d8	
Heavy Weapons	1d10	
Light Ranged	1d6	10ft
Medium Ranged	1d8	20ft.
Heavy Ranged	1d10	30ft.

The weapon descriptions will include the weapon type. Just look up the type in the table above, for the damage, and range (if applicable).

Armor

-Light = +2 AC

-Medium = +4 AC

-Heavy = +6 AC

Ammunition

All guns in the Basic Game use either an ammunition clip or a powerpack. These fit into the handle of the weapon. Only laser pistols and rifles use the same powerpacks; all other weapons have their own clips or powerpacks, and they can not be interchanged.

The number of shots in each powerpack or clip is shown on the following table:

AMMUNITION TABLE

Weapon	No. of Shots
Gyrojet pistol	10
Laser pistol	20
Laser rifle	10
Needler pistol	10

Players must keep track of how many shots their characters have fired. When their weapon is out of ammunition, characters cannot fire until they reload.

Reloading. A character can reload a weapon with a fresh clip in one turn if the character does not run (and the character has a fresh clip). A weapon cannot be fired on the turn it is reloaded.

Doze Grenades. Doze Grenades release a small cloud of fast-acting knockout gas. Any being in the same square as a doze grenade when it goes off will be knocked unconscious for one hour. A Stimdose will wake up the character, but will not restore 10 Stamina points. The gas affects only the square it is in, and lasts only until the end of the turn it is thrown.

Gyrojet Pistols (light ranged) fire bullets that are actually small rockets. They do not have a Point Blank range because the bullet needs some distance to accelerate to an effective speed. Gyrojet pistol clips hold only 10 rounds because the bullets are large.

Laser Pistols (light ranged) fire a pencil-thin beam of intense energy in a burst that lasts only a fraction of a second. Each powerpack contains enough energy for 20 shots. Laser pistols are the most common sidearm on the frontier worlds, and are often called "blasters." They have longer range than any other pistols, but do less damage.

Laser Rifles (medium ranged) are like laser pistols, but they have longer ranges. They use the same clip as laser pistols, but they get only 10 shots per clip. The difference is laser rifles are harder to hide than a pistol.

Needler Pistols (light ranged) fire a cluster of small needles. They are less effective at long range because the needles spread like shotgun pellets. Each clip holds enough needles and power for 10 shots.

DEFENSES

Power Screens

All powerscreens except the chameleon screen are worn like belts around the waist. Special adapters are provided for Dralasites at no extra cost. Only one powerscreen can be worn or used at one time. Putting on or taking off a powerscreen takes five turns. When a screen runs out of power, it has no effect.

Albedo Screen An albedo screen projects a silvery aura that absorbs laser damage. The aura completely surrounds the person wearing the screen. For every 5 points (or fraction of 5 points) absorbed, 1 SEU is drained from the power source. For example, absorbing 11 points of damage drains 3 SEU. The person wearing the screen will take no damage from lasers as long as the power holds out. A person can fire a laser weapon out of an albedo screen.

Gauss Screen. A gauss screen generates an invisible barrier that protects the wearer from electrical attacks (electrostunners, electric swords, shock gloves, stunsticks). The screen drains

2 SEU every time it absorbs an attack. There is a quick flash of light when the screen is hit. As long as the power holds out, a character wearing a gauss screen is immune to electrical attacks.

Holo Screen. A holo screen projects a 3-dimensinal image around its wearer. The image is projected from a holo disc, a small disk that slides into the top of the holo screen control unit. The holo disc contains complete holographic information on one person or thing. For example, a holo disc could project the image of an adult male Yazirian in civilian clothes. The holo screen is only 80% effective. On a roll of 81-00 an onlooker will notice something is wrong. The holo image is limited to roughly the same size and shape as the wearer. For example, a Vrusk could not masquerade as a Human. Personalized holo discs can be ordered for 5,000 Cr. A personalized holo disc contains holo information on a specific individual. Producing a personalized holo disc takes 1d10 months, because it requires detailed (and very illegal) holo-filming of the desired subject. If the subject is willing, the filming can be done in one day. A camouflage feedback loop can be added to the holo screen for an additional 1,000 Cr. The camouflage loop adjusts the holo image to match nearby surroundings, giving the wearer an 80% chance to be "invisible" to onlookers.

Inertia Screen. An inertia screen defends against all projectile weapons, gyrojet pistols and rifles, fragmentation grenades, explosives and all melee weapons except electrical or sonic weapons. When hit by one of these weapons, the screen uses 2 SEU and absorbs one-half of the damage caused by the attack. The wearer takes the other half of the damage. If the damage can not be divided evenly, the character takes the smaller half.

Sonic Screen. A sonic screen is also known as a hush field, because no sound can cross it, either coming in or going out. The screen also absorbs all sonic attacks that hit it. It uses 1 SEU of energy every minute it is on and 2 SEU every time it absorbs a sonic attack. A character inside a sonic screen can communicate only with a radio or hand signals.

Defensive Suits

Albedo Suit (AC+0,DR5 vs. laser) An albedo suit is made from a special shiny flexible material. It will reflect the damage from a laser attack. For each point of damage reflected, the suit takes 1 point of damage. When it has accumulated 100 points of damage or more, the suit becomes useless.

Skeinsuit. A skeinsuit is made of light ballistic cloth. It absorbs damage just like an inertia screen. It also can be used along with an inertia screen. The suit is ruined when it takes 50 points or more of damage. Two types of skeinsuits are available:military (medium armor) and civilian (light armor). Military skeinsuits are camouflage green. Civilian skeinsuits look like regular clothing.

VEHICLES

COMBAT

For combat between characters on moving vehicles:

- all characters have an effective +2 AC
- all characters (except driver) have a -2 to any dex roll
- any vehicle mounted weapon is considered to be heavy ranged

Pursuit and Evasion

If one vehicle wishes to pursue another, the pursuing vehicle may do so as long as the vehicles are capable of traveling over the same terrain, and the pursuer wins a **drive check** (dex+physical-vehicle size) check vs. the evader's **drive check** . If the evader wins twice in a row, he has gotten away.

Vehicle HP and damage

Civilian vehicles have HP equal to their size x 100. Military vehicles have size X 200 HP. If a vehicle takes 1/4 of its total HP in damage, any **drive checks** are at -5. If a vehicle takes 1/2 of its HP in damage, it is disabled. If it takes 3/4 of its HP in damage, it cannot be repaired. Vehicles deal damage according to the following formula:

size x speed modifier x 10

speed difference	modifier
up to 20 kph	2
up to 40 kph	4
up to 80 kph	8
160 kph +	16

car size speed modifier for 40kph

2 x 4 x 10 = 80

cycle size speed modifier for 40 kph

1 x 4 x 10 = 40

Ground transports are heavy, wheeled trucks. They can have open or enclosed cargo areas.

Ground Cycle (size 1)

Cost: 2,000 Cr (rental --- 25 Cr plus 25 Cr/day)
Top/Cruise 120 kph/60 kph
Speed: 2
Passengers: 20 kg, .5 cubic meter
Cargo Limit:

Ground cycles are similar to today's motorcycles. They are fast and very maneuverable.

Hover Car (size 3)

Cost: 8,000 Cr (rental --- 50 Cr plus 75 Cr/day)
Top/Cruise 150 kph/60 kph
Speed: 6
Passengers: 100 kg, 1 cubic meter
Cargo Limit:

A hovercar or "skimmer" is a car that floats on a cushion of air 30 centimeters above the ground. A pair of turbo fans propel it through the air. In general, hover vehicles are faster than ground vehicles, but are less maneuverable and are limited to traveling on fairly level surfaces or calm water.

Hover Transport (size 5)

Cost: 20,000 Cr (rental --- 75 Cr plus 150 Cr/day)
Top/Cruise 150 kph/90 kph
Speed: 3
Passengers: 10,000 kg, 35 cubic meters
Cargo Limit:

A hover transport is a heavy truck version of a skimmer.

Hovercycle (size 2)

Cost: 2,000 Cr (rental --- 25 Cr plus 25 Cr/day)
Top/Cruise 100 kph/80 kph
Speed: 2
Passengers: 20 kg, .5 cubic meter
Cargo Limit:

Hovercycles are two-man hover vehicles similar to motorcycles. They are easier to ride and control than a ground cycle, but are not as maneuverable at high speeds.

Explorer (size 3)

Cost:	20,000 Cr (rental --- 75 Cr plus 200 Cr/day)
Top/Cruise Speed:	90 kph/50 kph
Passengers:	6
Cargo Limit:	2,000 kg, 6 cubic meters

Explorers are heavy, four-wheeled vans built for traveling and exploring in rugged areas. They are very maneuverable and reliable. Each wheel has its own motor, and the extra-wide tires make it very stable. Explorers are air-tight and have a retractable rudder so they can cross open water, but they can be capsized by high waves.

Glijet (size 1)

Cost:	3,000 Cr (rental --- 75 Cr plus 50 Cr/day)
Top/Cruise Speed:	100 kph/30 kph
Passengers:	1
Cargo Limit:	15 kg, .1 cubic meter

A glijet is a combination rocketpack and hang glider. The rocketpack is used to fly to high altitude, where the glider wings are extended. The user can glide slowly with the wings, or use the rocketpack to fly at higher speed. The chemical rocket pack weighs 2 kg and costs 50 Cr to refill.

Jetcopter (size 6)

Cost:	40,000 Cr (rental --- 100 Cr plus 80 Cr/day)
Top/Cruise Speed:	350 kph/50 kph
Passengers:	4
Cargo Limit:	500 kg, 5 cubic meters

A jetcopter is a helicopter with jet engines. They can be flown like normal helicopters at up to 50 kph. Using the jet engines allows them to fly at speeds up to 350 kph.

Aircar (size 6)

Cost:	50,000 Cr (rental --- 100 Cr plus 100 Cr/day)
Top/Cruise Speed:	900 kph/400 kph
Passengers:	4
Cargo Limit:	1,000 kg, 2 cubic meters

An aircar is a vertical take-off and landing vehicle, or VerTOL. It takes off and lands like a helicopter, but flies like an airplane.

Water-based vehicles

Surface Vessels

Ski Cycle (size 2)

Cost: 2,000 Cr (rental: 25 Cr down + 25 Cr/day)

Top/cruise speed: 150/90 KPH

Passengers: 2

Cargo: .5 cubic meter

Parabattery: Type 1

Notes: Similar in size to a land cycle, a ski cycle has an engine resembling a jet engine that uses water as the propellant. This vessel is very maneuverable and can travel in extremely shallow water.

Motorboat (size 3)

Cost: 6,000 Cr (rental: 50 Cr down + 25 Cr/day)

Top/cruise speed: 120/80 KPH (15/10 KPH w/sail)

Passengers: 6

Cargo: 200 kg, 1 cubic meter

Parabattery: Type 2

Notes: This is an outboat-motor craft capable of high speeds and quick maneuvering. The price includes a collapsible sail. Motorboats can maneuver in waters one meter or more in depth. A special enclosed-canopy version may be purchased, or the canopy can be added later; the canopy makes a motorboat more streamlined and, hence, faster. Any motorboat with an enclosed canopy has a top speed of 140 KPH. As the canopy is made of canvas-like material, it does not serve as armor.

Yacht (cabin cruiser) (size 6)

Cost: 75,000 Cr

Top/cruise speed: 100/60 KPH

Passengers: 10

Cargo: 10,000 kg, 35 cubic meters

Parabattery: Two Type 4

Notes: This large ship has enclosed cabins with bunks, cooking facilities, and bathrooms. Many yachts have extravagant cabins for the owner or captain. These ships are favorites among the rich and powerful for their plushness and speed. Yachts are used in deep water, using small rowboats for boarding and disembarking. Yachts and larger ships may be modified to use towlines. Any vessel of hull size C or D may have a towline on board that can be used to pull disabled ships. A ship may pull any ship the same size or smaller than itself at one-half cruise speed.

Transport Ship (size 10)

Cost: 200,000 Cr

Top/cruise speed: 95/55 KPH&127;

Passengers: 10/30

Cargo: 72,500 kg, 24 cubic meters/7,500 kg, 8 cubic meters

Parabattery: Four Type 4

Notes: There are two types of this vessel, the workhorse of surface fleets. The first type is the cargo transport, detailed by the first set of figures; the second is the passenger transport, detailed by the second set of figures. Transports are deep-water craft and use rowboats to shuttle crewmen to and from shore in the absence of a dock. Transports may have towlines.

Submersible Vessels

Minisub (size 5)

Cost: 50,000 Cr (rental: 200 Cr down + 100 Cr/day)

Top/cruise speed: Surfaced - 100/60 KPH, submerged - 85/45 KPH

Passengers: 4

Cargo: 300 kg, 3 cubic meters

Parabattery: Two Type 2

Notes: This is a personal vessel, used often in underwater communities as a car would be used on land. Some are fitted with harvesting equipment for use on kelp farms. Others are used as exploration vessels. Most underwater communities have several of these vessels for the maintenance of habitat walls, as well as for rescue or police vessels. Minisubs carry enough life support for 72 hours before they need to resurface. Additional units of life support may be purchased to increase this time to 120 hours.

Transport Submarine (size 10)

Cost: 200,000 Cr

Top/cruise speed: Surfaced - 90/50 KPH, submerged - 70/40 KPH

Passengers: 6/20

Cargo: 50,000 kg, 18 cubic meters/5,000 kg, 5 cubic meters

Parabattery: Four Type 4

Notes: Like the transport ship, there are two versions of this vessel: the cargo transport (first set of statistics) and the passenger transport (second set of statistics). Transport subs carry enough life support for 96 hours. Additional units of life support can be purchased to increase the time to 144 hours.

Amphibious Aircraft (size 3)

Cost: 55,000 Cr (rental: 100 Cr down + 100 Cr/day)

Top/cruise speed: 875/400 KPH

Passengers: 4

Cargo: 750 kg, 2 cubic meters

Parabattery: Type 4

Notes: This is an adapted version of a typical aircar. Its underside and wings have pontoons to

keep the craft afloat. These craft are often used in swamps and near underdeveloped islands.

Amphibian Air Transport (size 6)

Cost: 45,000 Cr

Top/cruise speed: 325/50 KPH

Passengers: 4

Cargo: 350 kg, 5 cubic meters

Parabattery: Type 4

Notes: This, too, is an adapted aircraft. It rests on two pontoons where skids are usually positioned. It is often used in sea rescues and for tracking criminals in swamps and bogs.

Parabatteries

All of the vehicles described above, except the glijet, are powered by parabatteries.

Parabatteries range in size from fist-sized to 1 cubic meter. The following four types are used in vehicles:

Type 1 (600 Cr):	groundcycles and hovercycles
Type 2 (1,200 Cr):	groundcars and hovercars
Type 3 (2,300 Cr):	trucks, hovertrucks and explorers
Type 4 (4,500 Cr):	aircars and jetcopters

Range. All vehicles listed above can travel 1,000 km on a new parabattery before it is out of energy and must be recharged. A glijet does not use a parabattery; its range varies with fuel use, altitude and air currents.

STARSHIPS

SPACE TRAVEL

Starships can travel between star systems at speeds many times faster than the speed of light. A trip that would have taken hundreds of years in a spaceship could be made in only a few days in a faster-than light (FTL) starship. Because of their cost, however, most starships in the Frontier are owned by large corporations, planetary governments or starship travel companies. The established travel routes are marked on the Frontier map. These are the only explored routes that have been mapped and certified as safe for starships to use. The length of each route in light-years is printed on each route. Because FTL ships travel one light-year per day, this number also is the number of days needed to travel this route. This time includes take-off and landing, maneuvering in orbit, passenger loading and all other normal procedures. For example, the route from Prenglar to Cassidine is 7 light-years. A starship traveling from Prenglar to Cassidine, or from Cassidine to Prenglar, would take 7 days (140 hours) to reach its destination.

Most starships never land on a planet. Passengers board shuttles on the ground that take them into orbit, where they board the starship. When the starship reaches its destination, shuttles again take the passengers either to the planet's surface or to an orbiting space station where they can wait for another flight.

note: Any starship not actively accelerating is subject to micro gravity or weightless conditions. All character occupations except **spacers** suffer a -3 penalty to skill rolls unless they are strapped into an acceleration couch.

Starship Tickets and Costs

Travelers can buy three types of starship tickets: First Class, Journey Class and Storage.

First Class. First Class tickets are the most expensive, but First Class passengers get the best food, the biggest cabins and on-board entertainment. A First Class passenger can bring along

up to 1 metric ton of cargo at no extra charge. The First Class section also is closest to the starship's lifeboats and emergency spacesuits, so First Class passengers have the best chance to survive a catastrophe. A First Class ticket costs 200 Credits per light-year traveled. For example, a First Class ticket from Prenglar to Cassidine costs 1,400 Credits.

Journey Class. Travelers with Journey Class tickets get smaller cabins, poorer-quality food and no entertainment. A journey Class passenger can bring along up to .5 metric ton of cargo at no extra charge. In addition, they are farther from the lifeboats than First Class passengers. A Journey Class ticket costs 100 Credits per light-year traveled.

Storage. Passengers traveling Storage Class ship themselves as cargo. The passenger is frozen and stored in a special berth. The frozen passengers are revived at their destination. A Storage Class ticket costs 30 Credits per light-year traveled, and includes up to 100 kg of cargo.

Schedules

Starship flights are not always scheduled at convenient times for the adventurers. If the referee

does not have a specific flight in mind for the characters, he can roll 3d10 and subtract 3. The result is the number of days the adventurers must wait before the next scheduled flight leaves for their destination. If the result is 0, a starship is leaving that day.

Layovers

If characters must travel through several star systems to reach their destination, they probably will make layovers at each star system along the way. Unless the starship they are traveling on is continuing along the same route, the characters must stop and wait for another scheduled flight to their next destination. If the characters are working for a company that is flying them to their destination, their ship probably will not stop over in a system for more than one or two days: just long enough to pick up supplies, fuel and news.

STARSHIP COMBAT

adapted from Microlite20 Spacecraft

By Darth Cestual, with elements from Mass combat made easy By greywulf.

These are ship creation rules based around Microlite20 character creation rules. Ship stats do NOT directly translate to character stats. Should it be needed, such as strafing a battlefield of infantry troops, or an orbital bombardment, roll the effects as normal, then multiply by 10.

A ship has 3 stats and 4 systems.

Stats:

Hull = the strength of a ship's structural integrity

Thrust = the ship's speed and maneuverability performance

Network = the efficiency of the various systems to keep a ship running

Systems:

Computer = the information resource on board as well as the processing power in investigating new phenomenon.

Sensors = the means the ship uses to examine the area around it as well as being able to avoid other sensory systems.

Armaments = a ships offensive and defensive capabilities.

Command = the efficiency of a ships captain and crew to maintain a ships systems as well as it's ability to communicate with other representatives beyond the ships crew.

Ship Classes:

A weapon slots: 2 (3)* small 1-2 person craft, examples are: stunt fighter, spy ship, advanced recon, personal transport. Class A ships are capable of maneuvering through an atmosphere and landing planetside. +2 Thrust

B weapon slots 4 (6) 3-10 person crew, examples are: assault craft, cargo smuggler, supply shuttle, diplomatic transport. Class B ships are capable of maneuvering through an atmosphere and landing planetside. +2 Hull

C weapon slots 8 (12) 10-20 person crew, examples are: battleship, freighter, research vessel, refugee transport, small passenger liner. Class C ships are capable of maneuvering through an atmosphere and landing planetside. +2 Network

D weapon slots 16 (24) up to 50-100 crew compliment, examples are: Capital ships, carriers, heavy freighters, luxury liners, deep space exploratory vessels. Class D is a space only craft and requires a shuttle or other means of transport planetside. +1 all Systems

E weapon slots 32 (48) 100+ crew, Permanent space station Class E is a space only craft and requires a shuttle or other means of transport planetside. It is capable of very limited orbital maneuvering It cannot break orbit.+2 all systems

*** military weapon slots**

Ship Configurations:

Warship- gains +3 Armaments, military vessels designed for combat

Privateer- gains +3 Sensors, used by independent contractors, pirates, smugglers, and space gypsies.

Science Vessel- gains +3 Computer, for explorers, researchers, and medical ships

Transport- gains +3 Command, noted for cargo haulers, public/private charters, and supply ships

Combat

Hit Points = Hull Stat + ship class, (A= 10, B= 20, C= 30, D= 40, E=50) If HP reaches zero, the ship is destroyed.

Initiative = d20 + Thrust bonus

Each ship can do one thing each turn; move, attack etc.

Weapon attack bonus = Network bonus + Armaments

AC=10+thrust bonus

If the ships are of a different classes, the smaller ship gets a +1 bonus to AC and a +1 to hit for every level of difference. For example, if a class C ship attacks a class A ship, the class A ship gets +2 AC and +2 to hit the larger ship.

Combat scale (CS) is used to determine the amount of damage dealt between two or more spacecraft of different size. The Combat Scale is equal to the class difference between the ships (in favor of the larger ship). For example, if a class A ship attacks a class B ship, the CS is x1 (only one difference between classes) so the damage is unaffected. However, if a class D ship attacks a class A ship the CS is 4. Any damage is multiplied by 4 (4 difference between classes). When the class A shoots back, the class D only takes 1/4 damage. This is to reflect the greater amount of power that a larger ship has at its disposal (to charge lasers, etc).

Weapons and defenses

A ship may only have as many weapons as will fit in the available slots. Military ships automatically have half again as many weapon slots available as their civilian counterparts. This reflects the power generating capacity of the warship, even within its class, and not the physical space necessary for weapons.

Assault Rocket (AR) 1d8 +3 (2 slots)

Assault rockets usually are carried by fighters and other small ships. Assault rockets are powered by a brief fusion reaction which causes them to fly even faster than torpedoes. Unlike torpedoes, however, assault rockets are not guided missiles. They rely on their tremendous speed to hit their target before it can dodge away. A ship can carry only a limited supply, so assault rockets must be marked off the ship's record sheet as they are fired.

Disruptor Beam Cannon (DC) 3d10 (4 slots)

This powerful weapon must be mounted on the bow of a large spacecraft. It fires an intense beam, alternating protons and electrons. Disruptor beams can do heavy damage to a ship's electrical system.

Electron Beam Battery (EB) 1d6 (1 slot)

An electron beam battery fires an electrical beam of negatively charged particles (electrons). It can fire in all directions.

Laser Battery (LB) 1d6 (1 slot)

A laser battery is a cluster of very small laser cannons mounted in a rotating turret. It can fire in any direction, but is not as powerful as a laser cannon.

Laser Cannon (LC) 1d8 (2 slots)

A laser cannon is a large weapon that is mounted on the bow of a spaceship. It fires an intense, concentrated beam of light.

Mines (M) 1d10 (2 slots) thrust bonus+sensors to avoid

Mines are essentially stationary bombs with proximity fuses. They are designed to deny access to an area of space. Mines are only legal on military craft.

Proton Beam Battery (PB)

1d6 (1 slot)

This weapon fires an electrical beam of positively charged particles (protons). Like all batteries, it can fire in every direction.

Rocket Battery (RB) 1d8 (1 slot)

A rocket battery is a cluster of small rocket launchers. These rockets are much smaller than assault rockets, but they cause nearly as much damage as an assault rocket because many rockets are fired together. Like torpedoes and assault rockets, rocket batteries must be marked off the ship's record sheet as they are fired.

Torpedo (T) 2d8 (3 slots)

A torpedo is a self-guided nuclear bomb that homes in on its target after it is launched. Torpedoes are propelled by prolonged fission reactions which enable them to travel at tremendous speeds. A ship can carry only a limited number of torpedoes, and these must be marked off the ship's record sheet as they are used. Torpedoes are only legal on military craft.

Defenses

Only one screen type may be powered at a time. Below is a comprehensive list of defenses found in the Frontier.

Electron Screen (ES) 1/2 damage vs. electron beams, -2 AC vs. proton beams.

This screen is the opposite of a proton screen. It blocks electron and disruptor beams, but attracts proton beams.

Interceptor Missiles (ICM) defender gains armament bonus to AC vs. rockets and torpedoes. (min. bonus +1)

A ship equipped with Interceptor missiles may defend another nearby ship using this system. The other ship gains 1/2 the equipped ship's armament bonus to AC. (min. bonus 0)

Masking Screen (MS) 1/2 damage vs. lasers, lasts 3 rounds.

A masking screen is created when a ship releases a cloud of water vapor into space. The vapor crystallizes and forms a protective cloud surrounding the ship. Besides making the ship more difficult to hit, a masking screen absorbs energy from a laser. If a ship is hit by a laser while inside a masking screen, the amount of damage that is rolled is divided in half (fractions are rounded up). The result is the number of damage points inflicted on the target ship. A masking screen has exactly the same effect on a laser fired out of the screen as it does on a laser fired into the screen. If a ship surrounded by a masking screen fires its lasers, resolve the attack as if the defending ship is masked. A ship can carry only a limited number of masking screens. These must be marked off the ship's record sheet as they are used. When all of them are used, the ship cannot create any more masking screens. The one screen limit on defenses only counts for the first round the masking screen is in use.

Proton Screen (PS) 1/2 damage vs. proton beams, -2 AC vs. electron beams.

This screen is a field of charged particles which surrounds a ship. It is effective in blocking proton and disruptor beams, but actually attracts electron beams!

Reflective Hull (RH) 1/2 damage vs. lasers

This is mirror-like paint that is sprayed onto a ship's hull. It will often cause a laser beam to bounce off the ship without causing any damage. A reflective hull is the most common defense on spaceships.

Stasis Screen (SS) 3/4 damage vs. electron, proton and disruptor beams, -2 AC vs. rockets and torpedoes.

A stasis screen is moderately effective against all electrical beam weapons. It is not as good as a proton or electron screen against their respective weapon types, but it does not attract any beams. However, the electrical pulse of a stasis screen allows missiles and rockets to home in with increased accuracy.

THE UNIVERSE

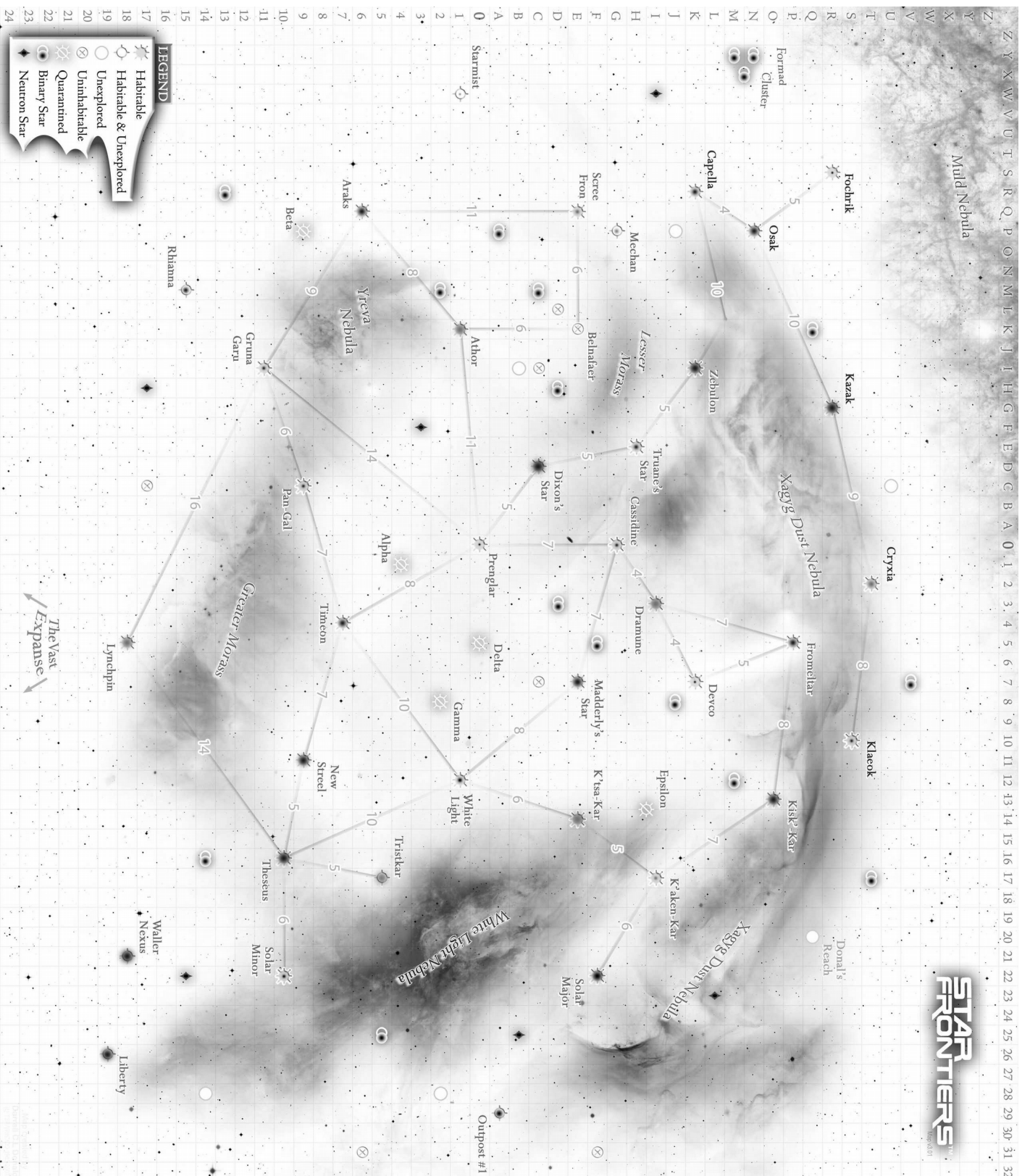
THE FRONTIER Rim Coalition refers to those recently contacted star systems outside of the United Planetary Federation and generally located on the other side of the Xagyg Dust Nebula and the Lesser Morass. The Rim is a loose collection of system governments, much less organized than the UPF, drawn together 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).

STAR FRONTIERS

150301



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, loounges, 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 funcitojns 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 lme	A None
Cassidine (G8)	H	Mod	IA	0.9	20	ASS,TS	None	C

Rupert's Hole Triad	*	Hvy	IT	1.1	30	ASS,DS	Evergleem	
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 Tars Etric Tolk	R R None None
Fromeltar (G5) Groth Terledrom								
	D	Lt	A	1.2	45	ASS	None	
	D/V	Hvy	I	1.0	60	ASS	Wikk Leen Masg	C I 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 Ringold Dillon Hachiman Ares Huan-Ti Huitz Nuada Enlil	C R B M M M M M M
Madderly's Star (G3)	H	Mod	IA	1.0	30	SF,DS,TS	Shang-Ti Tsukiy	I None

Kdikit								Zeus Jupiter Odin	None B None
Mechan (K7)									
Mechano	Me	Hvy	IT	2.0	30	None(?)	None		
New Streel (G2)									
Corpco	Co	Lt	AT	1.0	35	None	None		
Pan-Gal (G8)									
Exodus							None		
Genesis	Co	Mod	IT	1.3	20	None	Asperon	M	
	Co	Out	E	0.8	25	None	Belv	E	
Prenglar (F9)									
Gran Quivera	*	Hvy	BI	1.0	15		None		
Morgaine's World	H	Mod	BIA	1.5	40	FSS SF,DS RSS,TS	Grey Gold White Black	R None M None	
Rhianna (G6)									
Alcazzar	Co	Lt	R	0.8	V	None	A 1-7	?	
Scree Fron (K7)	Y	Mod	AI	0.9	50	None			
Hakosoar	Y	Out	E	0.6	25	None	Inti Infi A-G	E R None	
Histran									
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	Ulyseus		
Kir'-Kut	H/V	Lt	I	1.2	18	TS	None	M	
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 Setarz	None None	
Truane's Star (G7)	H	Lt	A	1.4	20	ASS	None		

New Pale Pale	*	Hvy	IR	0.9	50	SF,DS,TS	Dan Joe Sven	C M 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	
Zebulon (G2) Anker	*	Mod	E	0.9	20	RRS	Plato	None
Volturnus	*	Lt	BI	1.0	24	ASS	Leo Lulu	None None None
RIM PLANETS								
Capella (G6) Faire								
	If	Mod	B	0.7	45	DS		
Homeworld							Astraa	A
	If	Mod	A	1.5	15	TS	Flaund Bigoo Haasan	None I None
Ifshna	If	Mod	BT	0.6	22	RRS	Kleevor None	M
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								
Hum	Hu	Hvy	I	0.8	40	None	Anvil	
	Hu	Hvy	R	0.9	30	TS	Kran Glak	M C M
Larg	Hu	Mod	RI	1.1	35	None	Clud None	None
Kazak (G1) Stenmar	*	Mod	RA	1.0	25	DS,RRS	Brount Bernt Bilf Brumt	M M None 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 Ontair Octon	C R B

Piscatien	O/If	Out	E	1.0	35	None	Onmar	None
	*	Mod	B	1.0	20	None	None	
Reanee	*	Lt	AT	1.2	30	ASS	None	E
Wonma							Weskin	None
							Weot	

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 assitance. Conflicting interests soon arose and led to Laco's War between PGC and the Streel Corp. Today Laco's primary industries are owned by PGC.

Inner Reach (Dramune) has an unusual planetary custom. The Dralasites who live there dye their skin various colors to show their mood for the day. The dyes wash off easily. SynthCorp built its own city, Synhtown, 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 Dralasites. 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 Voltarnus. 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 Voltarnus 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 Streel 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.

Volturnus (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 Volturnus 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 merchantment, 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.

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 Dralasites.

300 pf. Vrusk, Dralasites, 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 Dralasites.

168 pf. Anthor system discovered by Yazirians.

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

156 pf. K'aken-Kar system 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 boundaries 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 Xagygl 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 Xagygy 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 Triad. 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 Volturnus 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. Streel 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 Xagyg 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 Dralasite 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. Dralasites 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 Xagyg 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 Xagyg 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. Mego-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 Xagyg 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 Xagyg 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.

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