A STAR FRONTIERS™ GAME

Alpha Dawn

BASIC GAME RULES

From the Producer of the **DUNGEONS & DRAGONS®** Games



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HISTORY

Near the center of a great spiral galaxy, where stars are much closer together than Earth's sun and its neighbors, a Human race developed. They were not identical to the Humans of Earth, but they were not very different, either. When these Humans discovered that waves of subspace pi-tachyon particles could cross interstellar space faster than light, they realized they had found a link to the stars. A radio message that would have taken years to travel between stars could be sent with subspace communicators in months or even weeks. The Humans started broadcasting news of themselves to the neighboring stars, and soon found they weren't alone.

The Humans made contact with an inventive race of insect-like creatures called Vrusk, who had developed limited space travel decades earlier. One of the Vrusks' mining colonies had already contacted another race, the shape-changing Dralasites. The two races had been exchanging information for several years. The Vrusk and Dralasites were pleased to learn of another race. They sent a wealth of scientific information to the Humans. Using this new knowledge, the industrious Humans quickly developed interstellar spaceships.

The three races met in a large area of space known as the Frontier. There they also discovered the Yazirians, a race of tall, maned humanoids. Soon, settled worlds in the Frontier became melting pots for the four races, with dazzling mixtures of architecture and alien cultures.

To supply the needs of these worlds, the first interstellar company, the Pan-Galactic Corporation, was formed. It developed interests everywhere, from scientific research to farming to spaceship building. PGC even created its own language, Pan-Galactic, which soon became the most common language of all races on Frontier worlds. Many large companies which started later were modeled on PGC, but none approach the size or power of the Pan-Galactic Corporation.

Then, the Sathar appeared. No one knows where they came from or why. They attacked and destroyed lonely systems on the edges of explored space, moving slowly inward. Survivors described Sathars as wormlike creatures 3 to 4 meters long. That was all that was known about them, because they would rather kill themselves than be captured. As the danger increased, the Humans, Dralasites, Vrusk and Yazirians formed the United Planetary Federation (UPF) to defend their worlds. The mysterious Sathar were forced back, but before long they returned in a more sinister form.

The Sathar had learned that they could not beat the UPF in battle. Instead, they began hiring Yazirian, Human, Dralasite and Vrusk agents to sabotage interstellar trade and interfere with local governments. The UPF created the Star Law Rangers, an interstellar police force, to track the Sathar's agents from planet to planet and fight them on their own terms. But despite the efforts of the Rangers, the sly Sathar agents have become the most dangerous threat ever to face the United Planetary Federation and the frontier corporations.

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STAR FRONTIERS™ Questions
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STAR FRONTIERS™

Science Fiction Game



Exciting Adventure on Alien Worlds

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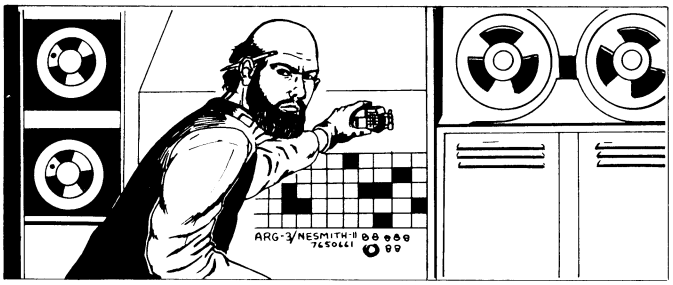
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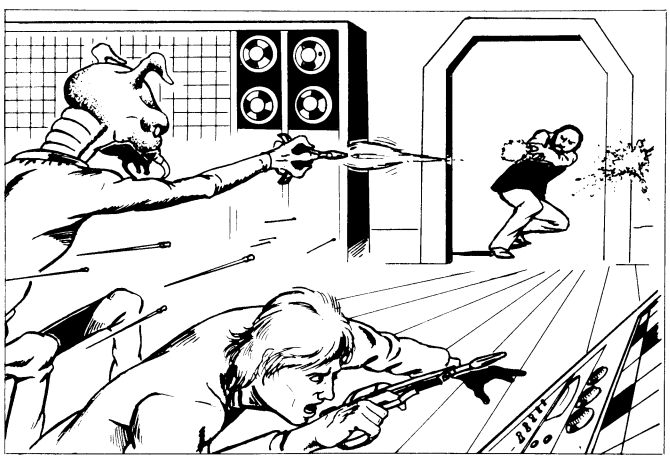
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The treacherous double agent aimed his needler pistol at me as he prepared to escape. I didn't think he could kill me with one shot from the small weapon, but I didn't want to find out. Dalmor was working for the Sathar, that mysterious, evil race of intelligent worms who were trying to conquer and destroy peaceful worlds. I knew he was ruthless. Out of the corner of my eye I could see my Vrusk partner, C'hting. The eight-legged insect man had faster reflexes than I, and I knew he was calculating whether he could draw his blaster and fire before Dalmor could shoot.

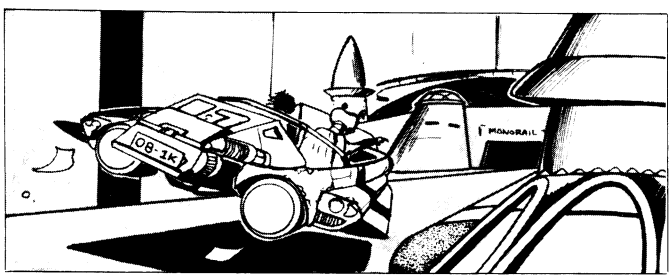


The thought was still in my mind when one of C'hting's arms flashed in a lightning-swift draw. I dived to the floor as Dalmor swung his pistol, but the needles whizzed harmlessly past C'hting and me. C'hting's laser beam only grazed Dalmor as he dashed out the door. We charged after him, but my curse was echoed by C'hting as we watched Dalmor leap aboard the monorail.



We jumped into my waiting skimmer and maneuvered into traffic, gliding smoothly above the road. "It is fortunate Bakchu the Yazirian is guarding the spaceport," C'hting rasped.

"If that big monkey can't handle Dalmor, no one can," I replied. "That's only if Dalmor's going to the spaceport, though," I added. "There are two other monorail terminals on the way. Maybe we can get to one of them before his car does." The skimmer was running at top speed, but I clenched the controls in frustration at every corner as the magnetic control fields slowed us to a safe speed. We arrived at the terminal just as Dalmor's car was pulling in.





Leaping from the skimmer, we ran to the exit ramp. Both C'hting and I crouched behind the polycrete wall and aimed our weapons at a very surprised Dalmor as he stepped from the car barely 10 meters away. "You are under arrest, Dalmor. Do not move," clicked C'hting. With a desperate cry, Dalmor drew the needler from his coat. C'hting and I fired before he could aim. Both shots hit Dalmor and he sprawled across the platform, unconscious but still alive.

After filing our reports with our contact at the Pan-Galactic Corporation, C'hting, Bakchu and I drove to the Spacer's Rest to celebrate over a few mugs of thick Yazirian ale. We were discussing what we would do with the 100 credits each of us had earned for the mission when all three of our communicators signalled incoming calls at once. Bakchu snarled in dismay when the face of Beren Tiu, our contact at PGC, appeared on the tiny screens. "Ah, I'm glad I've got all of you together," he smiled. "Nice job on Dalmor, though it's a shame you had to shoot him in public. I called to tell you that while we were interrogating him we got a lead on a little job you might..."

"Hold it, Beren," I growled. "You promised us we could take a week off after this mission and, by the stars, I'm going to take a week off!" C'hting and Bakchu rumbled in agreement, and Tiu looked disappointed.



"All right," he said, "if you're not interested in 200 credits I'm not going to force you to..."

Two hundred credits! The three of us looked at each other, and Bakchu curled his lips in a knowing smile.

"What's the job?" I asked.

INTRODUCTION

Welcome to STAR FRONTIERS™ game, TSR's role-playing game of science fiction adventure. If you have never played a role-playing game before, a great experience is waiting for you. STAR FRONTIERS adventures are as limitless as space itself.

WHAT THE GAME IS ABOUT

Each player in a STAR FRONTIERS game plays a character, either a human or an alien living far in the future. In some ways characters are like the pieces used in other games, but players in a role-playing game do not simply roll dice and move pieces around on a board. Characters can do anything a real person could do if he was living in a STAR FRONTIERS world: shoot a laser, drive a skimmer, chase dangerous interstellar criminals, explore alien worlds, or anything else the player wants the character to do. Players are not limited to only a few actions by the rules. A player has complete control over his character, and makes all the decisions for him.

In fact, you can think of your character as being you, placed in a science fiction world. Your character may not be like you at all — it may even be an alien, unlike anything you've ever seen before — but you make all the decisions, and act through your character. This is part of the fun of role playing; even if you are not a hero in real life, you can become one in a STAR FRONTIERS game.

Unlike many other games, there is no clear winner or loser in a STAR FRONTIERS game. In most games, the players will have a goal, such as capturing a group of terrorists who have kidnapped a politician or recovering a rare medicine that was lost when a spaceship crashed on an alien planet. If the players cooperate and reach their goal, everyone wins. A skillful player who uses the same character in several adventures will see that character rewarded, becoming richer, more powerful and able to handle more difficult missions.

HOW TO USE THE DICE

Two dice are included in STAR FRONTIERS games. They are numbered from 0 to 9. They are called ten-sided dice (abbreviated d10).

If the rules tell you to roll one ten-sided die (abbreviated 1d10), roll one die to get a number from 1 to 10. A zero is read as a 10.

If the rules tell you to roll two ten-sided dice (abbreviated 2d10), roll both dice and add the results to get a number from 2 to 20. A zero is read as a 10. For example, if the rolls were 0 and 4, the result would be (10 + 4 =) 14. More dice can be rolled to give results of 3-30 (3d10), 4-40 (4d10), etc.

If the rules tell you to roll percentile dice (abbreviated d100), roll both dice. Instead of adding the results, read the dark-colored die as the first (tens) digit and the light-colored die as the second (ones) digit. A zero is read as a zero. The following table shows several examples of rolls.

dark die	light die	result
5	3	53
6	0	60
0	6	6
0	0	100

The crayon included with this game can be used to color in the numbers on the dice and make them easier to read. Simply rub the crayon over the sides of the die and wipe away the excess wax with a tissue or paper towel.

CREATING CHARACTERS

Each player in a STAR FRONTIERS game needs a game character. All characters have eight abilities, arranged in four pairs. These are Strength/Stamina, Dexterity/Reaction Speed, Intuition/Logic and Personality/Leadership. These eight abilities tell players how strong, fast, smart and masterful their characters are.

Each of these abilities will have a score from 1 to 100. An ability score of 1 means the character is very poor in that ability, while a score of 100 means the character has very high ability in that area. Players find their ability scores by rolling dice. This is explained under How To Create Characters.

Explanation Of Abilities

Strength is a measure of how strong the character is. A character with a low Strength score is scrawny and weak. A character with a high Strength score is very strong. A character with a Strength score of 100 may be one of the strongest characters on that planet.

Stamina measures a character's physical fitness and general health. A character with low Stamina will get tired easily and will be prone to injury and disease. A character with high Stamina could work hard all day without getting tired, and might never be sick a day in his life. Stamina also measures how badly a character can be wounded before he passes out or dies.

Dexterity measures a character's coordination. Character's with low Dexterity scores are clumsy, while characters with high Dexterity scores are very agile. Dexterity is very important in combat.

Reaction Speed measures the quickness of a character's reflexes. If a character with a low Reaction Speed is attacked suddenly, he probably will fumble with his weapon and react slowly. A character with a high Reaction Speed could draw and fire a weapon quickly, jump out of the way of falling boulders, etc.

Initiative is not really an ability, but a character's Initiative modifier is important. It is equal to the character's Reaction Speed divided by 10, and is used to determine which character acts first in a fight.

Intuition measures a character's alertness and ability to draw conclusions from what seem to be unrelated facts. Characters with high Intuition scores are more likely to solve problems by having hunches or making guesses than by carefully considering all the evidence.

Logic is a character's ability to solve problems in an orderly, step-by-step way. It is the opposite of Intuition. Characters with high Logic scores make good scientists and computer experts.

Personality measures how well a character gets along with other intelligent beings. Characters with high Personality scores are friendly, pleasant and persuasive, while those with low scores may be grouchy and hard to get along with.

Leadership measures a character's ability to give orders that other people will understand and obey. It also measures how willing other people will be to work for the character, take his advice or follow him into a dangerous situation.

THE RACES

Players can choose to make their characters members of one of four races: Human, Dralasite, Vrusk or Yazirian.

Humans are similar to Earthmen, but these Humans developed on another planet closer to the center of the galaxy. Humans are considered the average characters in STAR FRONTIERS games, so their abilities are not modified when the character is created.

Dralasites are rubbery, elastic aliens sometimes called "blobs." They can change their shape at will, creating as many artificial arms and legs (pseudopods) as they need at the moment. They are stronger than

Humans, but are also slower. They enjoy philosophical debates and have a very strange sense of humor; they love telling old jokes and puns they hear from Humans.

Vrusk look like large insects, and are sometimes called "bugs." They are quicker than Humans, but are not as strong. Vrusk are excellent businessmen and merchants. They love art, beauty and music.

Yazirians are tall, light-boned humanoids with furry manes around their necks. Humans nicknamed them "monkeys" because they look a little like chimpanzees. Thin membranes that stretch between their arms, torso and legs allowed Yazirians to glide between the trees on their native planet. They are generally smarter and quicker than the other races, but are not as strong. Their eyes are very sensitive to light, so they usually wear dark goggles during the day. Yazirians were very warlike in the past, and are still considered pushy and aggressive by other races.

HOW TO CREATE CHARACTERS

To create a STAR FRONTIERS character, follow the eight steps given.

1. Use the STAR FRONTIERS character sheet included with the game, or make a copy on a blank sheet of paper. Use a pencil when you fill in the sheet, because some things may change during the game.

2. To find your character's Strength/Stamina ability score, roll percentile dice. Find the number you rolled on the ABILITY SCORE TABLE. Your base score for that ability is the number listed under the die roll. Write this number in the space marked "Base Score" for STR/STA on the character sheet.

ABILITY SCORE TABLE

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

EXAMPLE: Dave Schick is creating a STAR FRONTIERS character. To find his character's Strength/Stamina base score, he rolls percentile dice. The result is 53. Checking the ABILITY SCORE TABLE, he sees this gives his character a Strength/Stamina base score of 45.

3. Repeat step 2 to get your character's Dexterity/Reaction Speed, Intuition/Logic and Personality/Leadership base scores.

4. Decide which race you want your character to be. Your choice will affect your ability scores as described in step 5. Any number of players can choose the same race for their characters. Groups with characters from several races usually are more successful and more fun to play.

5. Add or subtract from your STR/STA base score the number shown in the STR/STA column of the ABILITY MODIFIERS for your race. Write the result on both sides of the slash in the space marked "STR/STA ____ /____" on the character sheet. This number is your ability score for both Strength and Stamina.

ABILITY MODIFIERS

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

EXAMPLE: Dave Schick has decided he wants his character to be a Yazirian. Looking at the line of the ABILITY MODIFIERS for Yazirians, he sees that he must subtract 10 from his Strength/Stamina base score. This is because Yazirians are not as strong as the other races. Subtracting 10 from his base score of 45, Dave gets a final Strength/Stamina ability score of 35 for his character. He writes "35" in both blanks after "STR/STA" on his character sheet.

6. Repeat step 5 for Dexterity/Reaction Speed, Intuition/Logic and Personality/Leadership.

7. Divide your Reaction Speed score by 10. If the result is a fraction, round it up to the nearest whole number. The final result is the character's Initiative modifier. Write it in the space marked "IM" on the character sheet.

   EXAMPLE: Dave Schick's character has a Reaction Speed of 45. To find his Initiative modifier, he divides 45 by 10. He gets a result of 4½. Because this is a fraction, he rounds it up to the nearest whole number, which is 5. He writes "5" in the space marked "IM" on his character sheet.

8. Give your character a name. If your character is an alien, try to give it an alien-sounding name.

Sample Character Sheet

The character sheet for Dave Schick's Yazirian female character, Eusyl, is shown on this page.

PLAYER'S NAME: DAVE SCHICK

CHARACTER'S NAME: EUSYL — RACE: YAZIRIAN
HANDEDNESS: — SEX: FEMALE
WALKING: 2 — RUNNING: 6 — HOURLY:

PHYSICAL DATA

STR/STA:	35	35
DEX/RS:	45	45
INT/LOG:	75	75
PER/LDR:	50	50
IM:	5	

MEDICAL RECORD

CURRENT STA: 35

OTHER INJURIES:

WEAPONS

WEAPON	DMG	BASIC # TO HIT	PB	S	M	L	E	AMMO
LASER PISTOL	1d10	45	1	4	10	20	40	20
DOSE GRENADE	SLEEP	45	—	1	3	5	10	1

DEFENSES

SUIT:
SCREEN:

PERSONAL FILE

RACIAL ABILITIES:

EXPERIENCE:

CREDITS:
PAY/DAY:

ENERGY RECORD

RECORD SKILLS AND EQUIPMENT ON REVERSE SIDE

UPF PERSONNEL FORM SJW-12/08-57-IA

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BASIC RULES

The Basic Game uses very simple rules for moving and fighting. New players should read these rules carefully and play the sample adventures before trying to learn the more advanced rules in the Expanded Game rule book.

THE MAP AND PLAYING PIECES

The two adventures included with the STAR FRONTIERS basic game take place on the large city map. The map shows the downtown area of Port Loren. Areas to the east, west and south of the map are residential. The spaceport is to the north. Each square on the map is 5 meters across.

Most large buildings (the Government Building, Pan-Galactic Corporation headquarters, the Medical Complex, etc.) extend several stories below the ground as well as two or three stories above the ground. Pedestrian walkways connect some buildings, and cross above the roads. The monorail is built above the buildings and walkways.

The cardboard playing pieces must be separated before they can be used. These counters include characters of all the races. Each player should choose a piece that resembles his character. There also are counters for vehicles, animals and strange aliens. Most of these are needed only in the Expanded Game.

GAME TURNS

STAR FRONTIERS games are played in turns. Each turn is six seconds long, so there are 10 turns to one minute. Note that game time is not the same as real time; it might take several minutes to play a six-second game turn if a lot is going on.

During his turn, a character can do any one of the following things:

1. move
2. fire a weapon
3. move and fire a weapon
4. reload a weapon
5. stand and do nothing

GAME TURN SEQUENCE

Each turn, players must do things in the order listed below.

1. Roll dice to see which side has initiative.
2. All characters on the side with initiative can move.
3. All characters on the side with initiative can attack.
5. All characters on the side without initiative can move.
6. All characters on the side without initiative can attack.

A player is not required to move or attack with his character. If the character moves or attacks, however, it must move or attack at the correct time during the turn.

INITIATIVE

At the beginning of each turn, one player from each side must roll 1d10. The result of this roll is added to the Initiative modifier of the character with the highest Reaction Speed from that side. Whichever side gets the highest total has initiative for that turn, which means they get to move and attack first.

If the totals are equal, then neither side has initiative. When this happens, the side with the highest single reaction speed moves and attacks first, followed by the other side. However, damage caused by successful attacks does not take effect until after both sides have fired that turn (see Combat for more information).

Players must roll for initiative every turn of every fight.

MOVEMENT

Characters can move at two different speeds: walking and running. The MOVEMENT TABLE shows how many map spaces characters from each race can move in one turn while walking or running. Moving diagonally is allowed.

MOVEMENT TABLE

	Spaces Moved per Turn	
Race	Walking	Running
Human	2	6
Dralasite	1	4
Vrusk	3	7
Yazirian	2	6

The numbers shown are the maximum distances a character can move at that speed. A Human, for example, could walk 1 or 2 spaces in a turn, or could run 3, 4, 5, or 6 spaces in a turn.

Roads. Crossing a road will slow a character down, because he must dodge traffic. When a character wants to cross a road, he must stop next to it, no matter how many spaces of movement he has left. On the next turn, the character is placed directly across the road, and can move no farther that turn. The character can move normally on the next turn. There is no penalty for running alongside a road.

Pedestrian Walkways. To get onto a pedestrian walkway, a character must enter from one of the ends. A character does not have to stop before crossing a road if he is on a pedestrian walkway. Characters can walk underneath pedestrian walkways without any penalty.

Buildings. A character can enter or leave a building only through a door or from a pedestrian walkway. Characters entering or leaving through a door must stop moving when they reach the door. On the next turn, they can move through the door at their full movement rate. Characters can move about freely inside buildings.

Parking Areas. Characters can move normally through parking areas beneath buildings (see Skimmers). Characters must enter and leave parking areas through entrance ramps or elevators in the mall.

Stacking Counters. Only one playing piece can be in a square at a time, unless:

1. The characters are getting on or off the monorail or a skimmer.

2. One of the characters is on a pedestrian walkway and the other is on the ground beneath the walkway.

A character can move through a square that contains another character.

The Monorail

The monorail is the fastest way to travel long distances in the city. To get on the monorail, a character must move into a monorail terminal square and stop. The next turn, the character gets into one of the monorail cars and the car leaves. Monorail cars travel 10 squares per turn. Cars can leave a terminal in either direction (there are two tracks), but cannot change direction between terminals. A car must stop at each terminal for one turn before moving on.

If more than one character is boarding at the same terminal at the same time, they must get into the same car. If the characters want to get into different cars, one of them must wait until the next turn, when another car arrives. Each car can hold up to six passengers.

Riding the monorail costs 1 credit per day. After paying the fare, a character can ride the monorail as many times as he wants that day. A character must have his ID card to board the monorail.

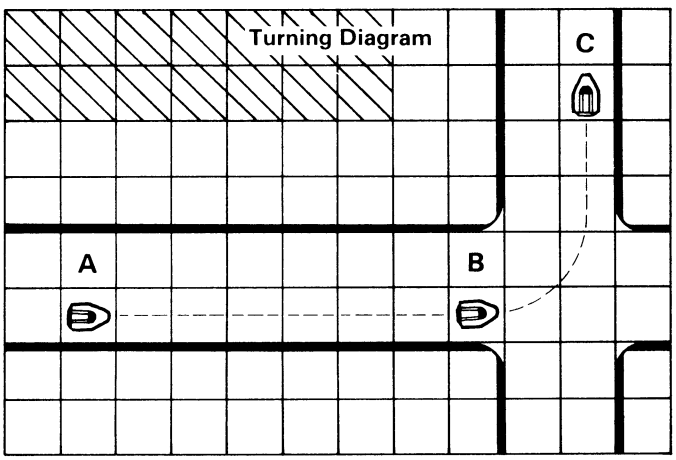
Skimmers

Skimmers are similar to automobiles, but have protected hoverfans instead of wheels. They float on a cushion of air 30 centimeters (about 1 foot) above the ground. A skimmer can hold up to five passengers.

Skimmers have a maximum speed of 10 squares per turn, and must stay on the roads (except when parked). A character can get into a skimmer on the same turn he moves into the skimmer's square, but the skimmer cannot move that turn. On the next turn, the skimmer can move up to 3 road squares. It can move its full 10 squares on the following turn.

Skimmers must slow down when they turn or move through an intersection. (Magnetic field generators built into the roads automatically reduce the speed of approaching vehicles.) A skimmer can move only 5 squares if it turns or moves through an intersection during its movement. If a skimmer is in the middle of an intersection or turning a corner at the start of its move, it can move only 5 squares.

EXAMPLE: A skimmer traveling at a speed of 10 is seven spaces away from a corner (position A). The skimmer must reduce its speed to seven and stop just short of the corner (position B). On the next turn it can move five squares and turn the corner (position C). On the following turn it can move at full speed.



Rental Skimmers. Skimmers can be rented for 10 Credits per day. To get a rental skimmer, a character must move next to the road and signal for one with his communicator. The skimmer, being driven by a computer, will arrive two turns later. The character can get into the skimmer on the turn it arrives, but can't move till the next turn. The character who is driving the skimmer must have his ID card.

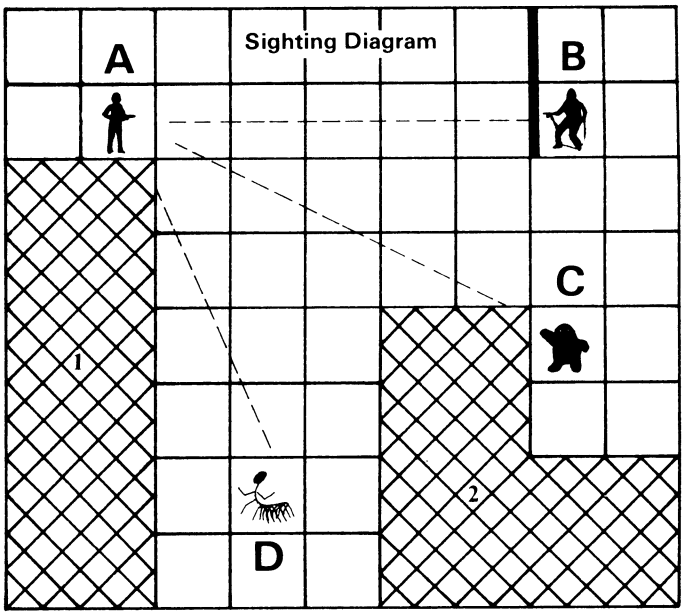
Underground Parking. Most buildings in Port Loren have underground parking garages for skimmers. Characters must use the entrance ramps to get into or out of these areas. Skimmers can drive through these areas at a speed of 5 squares per turn or less. Characters can walk or run through these areas at normal speeds.

COMBAT

Characters are in combat whenever at least one of them is attacking another in any way. Guns and grenades are the most common weapons. Two of a character's abilities are important in combat: Dexterity and Stamina. A character's Dexterity score determines his chance to hit a target. A character's Stamina score is the number of points of damage the character can take before passing out.

Sighting

A character must be able to see his target in order to shoot or throw a grenade at it. A character can see his target if a straight line from the center of his square to the center of the target's square is not blocked by a building. A building does not block a character's line of sight if the character is in a position where he can lean around the corner to shoot. Monorails, walkways, trees and other small obstacles do not block the line of sight. The Sighting Diagram shows several examples of clear and blocked lines of sight.



The Human at A can see the Yazirian behind the low wall at B. If the Yazirian crouches behind the low wall, he will be completely hidden from the Human. The Human can not see the Dralasite at C because it is hidden by the corner of building 2. If the Dralasite was leaning around the corner, the Human could see it. The Vrusk at D is blocked from the Human's view by the corner of building 1. If the Human leans around the corner, he can see the Vrusk.

Combat Procedure

Whenever a character fires a weapon at another character or any other target, follow this step-by-step procedure.

1. Count the number of squares in the most direct path from the attacker to the target. Count the square the target is in, but not the square the attacker is in.

2. Check the WEAPONS TABLE for the weapon the attacker is using. The distance in squares from the attacker to the target determines whether the target is at Point Blank, Short, Medium, Long or Extreme range. A target that is beyond Extreme range cannot be hit.

3. Subtract the Range Modifier for this range from the firing character's Dexterity score. The Range Modifiers are shown in parentheses beneath the ranges.

4. If the firing character was running or riding in a skimmer, subtract 10 from the result from step 3.

5. If the target has cover (see Cover), subtract 10 from the result from step 4. This final number is the character's "chance to hit."

6. Roll percentile dice. If the number rolled is less than or equal to the character's chance to hit from step 5, the character hits the target. If the number rolled is higher than the character's chance to hit, the character misses the target. (If the character missed with a grenade, it will go off in another square; see Grenade Bounces.)

7. If the target was hit, the character who fired checks the WEAPONS TABLE to see how much damage his weapon causes. The character rolls the indicated number of dice and the target subtracts the result from his Stamina.

EXAMPLE: Eusyl is shooting a gyrojet pistol at a target eight squares away. This is medium range (-20). Eusyl's Dexterity score is 40. Subtracting 20 because of the range gives Eusyl a 20% chance to hit. Dave Schick rolls percentile dice and the result is 13. This is less than Eusyl's chance to hit, so she hit the target. Dave rolls 2d10 for damage, and the result is 12. The target character must subtract 12 points from its Stamina.

WEAPONS TABLE

Weapon	Damage	Range (5-meter squares)				
		Point Blank (0)*	Short (-10)*	Medium (-20)*	Long (-40)*	Extreme (-80)*
Gyrojet Pistol	2d10	—	1	2-10	11-20	21-30
Laser Pistol	1d10	1	2-4	5-10	11-20	21-40
Laser Rifle	1d10	1-2	3-8	9-20	21-40	41-80
Needler Pistol	2d10	1	2-3	4-6	7-12	13-20
Doze Grenade	special**	-	1	2-3	4-5	6-10

* Numbers in parentheses are range modifiers, subtracted from the firing character's Dexterity.
** See Damage: Doze Grenades.

Combat Procedure Summary

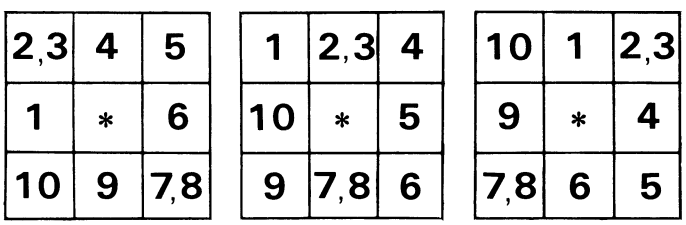
1. Find Dexterity.
2. Determine the range to target.
3. Subtract range modifier from Dexterity.
4. Subtract 10 if running or riding in skimmer.
5. Roll d100, if less than or equal to *CHANCE TO HIT* then you hit. (If threw grenade and missed check Grenade Bounces.)
6. Roll damage.

Grenade Bounces

When a character throws a doze grenade, his chance to hit the target is determined normally. If the percentile dice roll is less than or equal to the character's chance to hit, the grenade goes off where the character wanted it to. If the dice roll is higher than the character's chance to hit, the grenade bounces into a different square before going off.

The direction the grenade bounces is determined by rolling 1d10 and checking the diagram below. The grenade bounces in the direction shown by the number that was rolled on the die. The diagrams show grenades coming from several different directions. If the grenade did not come exactly from one of these directions, use whichever diagram is closest to the situation.

Grenade Bounce Diagrams



Direction of Throw
*** is target square**

The distance the grenade bounces depends on how far it was thrown. The table below shows how far grenades will bounce if they are thrown from different ranges:

If the Target Was At	Then The Grenade Will Bounce
Short Range	1 square
Medium Range	2 squares
Long Range	3 squares
Extreme Range	4 squares

A grenade will stop if it hits a wall or other obstacle.

EXAMPLE: Eusyl is throwing a doze grenade from long range. The grenade misses its intended square. Dave Schick rolls 1d10 and gets a 5. The grenade bounces 3 squares directly to the right of the target square, and then goes off. If anyone was in that square, they would be knocked out by the gas.

The effect of a doze grenade is described under Damage.

Automatic Hits

A roll of 01 to 05 always is a hit, regardless of modifiers, if the target is visible and in range. For example, if a character with a Dexterity score of 35 shoots at a target at Extreme range, his chance to hit is -45%. However, if the character rolls 01 to 05 on percentile dice, he hits the target anyway.

Cover

Cover is any solid object that can protect someone from gunfire. A character who is partially hidden by a wall, a rock, a skimmer, etc., has cover. A character has cover if he is in any of the following situations:

1. The character is in a space containing a monorail pylon, a statue, trees, low walls, large rocks or a parking area entrance ramp.
2. The character is inside a building. This applies whether the character is fighting opponents who are also inside the building or is standing next to a door or window and shooting at targets outside.
3. The character is standing near the corner of a building, in a position that lets him lean around the corner to shoot at a target.
4. The character is standing on a pedestrian walkway.
5. The character is riding in a skimmer.

Vehicles

A character who is riding in a skimmer can fire a weapon, but has a -10 modifier for moving (the same as if the character were running). A character who is driving a skimmer cannot shoot a gun.

All characters who are riding or driving skimmers have cover.

A character riding in a monorail car cannot shoot at anyone outside the car, or be shot at by anyone outside the car.

Damage

When a shot hits its target, the firing character must roll dice to see how badly the target is injured. The WEAPONS TABLE lists how many dice of damage each weapon causes.

Damage caused by weapons is subtracted from the target character's Stamina. When a character's Stamina is reduced to 0 or less, the character is unconscious. An unconscious character cannot move or fire for the rest of the game. The character will die unless given a Staydose injection (see First Aid Pak).

EXAMPLE: Eusyl's Stamina score is 35. She is shot with a laser pistol, and takes 8 points of damage. Her Stamina is reduced to 27. After four more turns, Eusyl's Stamina has been reduced to 9 by two more wounds. On the next turn, Eusyl is shot with a needler and takes 12 points of damage. This reduces her Stamina to -3, so Eusyl passes out from her wounds.

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.

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.

RECOVERING STAMINA

A wounded character can recover 10 points of Stamina by giving himself a Stimdose injection with the spray hypo from his first aid pak (see First Aid Pak). The effect of a Stimdose is temporary; after three hours, the 10 points are lost and the character must rest without moving for 24 hours. A Stimdose will not help a character whose Stamina has been reduced below 0. It will not raise a character's current Stamina above his original Stamina.

Hospitals

At the end of an adventure, characters that are still conscious can take themselves and any unconscious friends to the Medical Complex to be healed. Healing costs 1 Credit per Stamina point recovered.

Characters who can not pay the hospital costs will be healed, but they must pay the hospital as soon as they earn enough money to do so.

OTHER ACTIONS

STAR FRONTIERS games allow something other games usually do not; a player can have his character try to do things that are not described in the rules.

Character abilities determine a character's chance of performing an action not explained in the rules. The player must roll a number equal to or less than the appropriate ability score on d100 to succeed. All the players should decide if an action is possible and which ability should be used to determine success. For example, players might decide a character can tackle another character by rolling a number equal to or less than his Strength score on d100.

If an action is very easy the player may add 5, 10, or 15 points to his score when trying to perform the action. If the action is difficult the player may subtract 5, 10, or 15 points from his score to determine if the character succeeds. All the players must agree that the character should get a bonus or penalty. Players also should decide the result of the action; if the character fails, does he fall and take damage? What happens to a character who is tackled?

Reactions

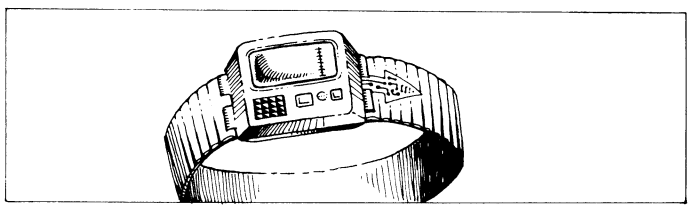
At some time, a player character may want to talk to a shopkeeper, pedestrian or other character that is not being controlled by another player (such characters are called non-player characters or NPCs). The player must determine the NPC's response. If the player rolls his character's Personality score or less on d100 the NPC will be friendly and cooperative. If the player rolls greater than the character's score, the NPC will be uninterested or unfriendly. In either case, the players must decide what the NPC will do.

EQUIPMENT

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

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:

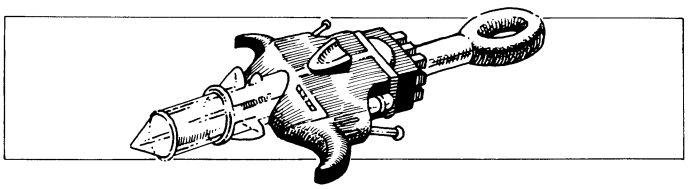


Chronograph/Communicator. This device looks like a large wristwatch, but it can do many things. It is a watch with a lighted face that can be used as a stopwatch; it is a mini-calculator; it is a radio/video communicator that can be used to talk with other characters up to 5 kilometers away. It can be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

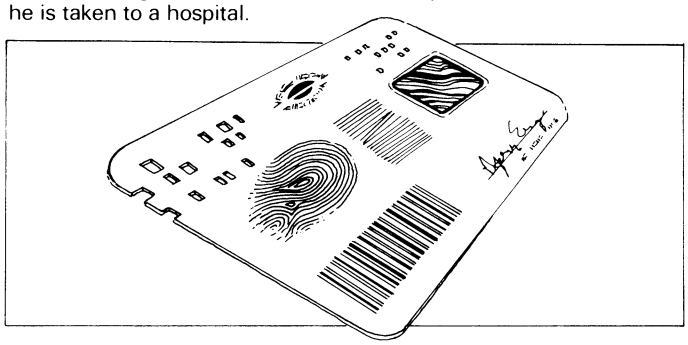
Doze Grenade. This is the only weapon in the standard equipment pack. See Damage: Doze Grenades for more information.

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, digit or pseudopod) on a screen so the computer 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.

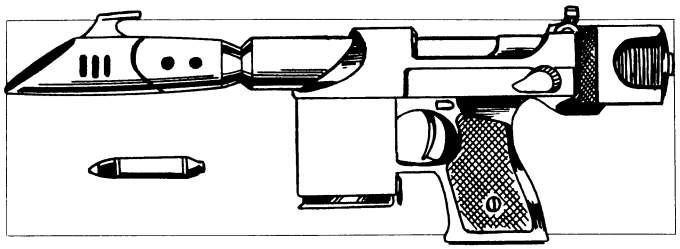
Pocket Tool. This device is similar to a pocket knife, but it includes many tools besides a penknife blade; a universal screwdriver, a small adjustable wrench, vice pliers, a hole puncher, an electromagnet and a small flashlight that will shine a light up to 25 meters.

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

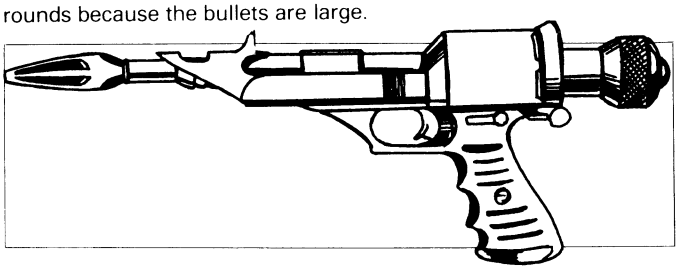
Weapons

Weapons usually are assigned to characters at the start of a mission by their employers, based on what sort of mission they are undertaking.

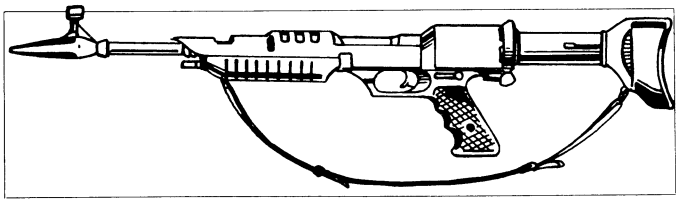
Doze Grenades are explained under Damage: Doze Grenades.



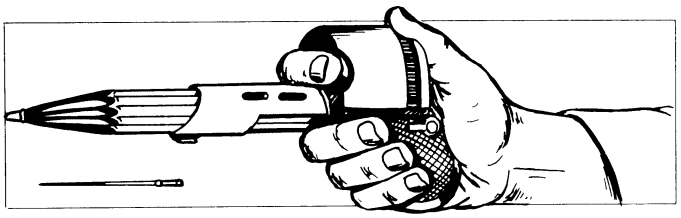
Gyrojet Pistols fire bullets that are actually small rockets. They do not have a Point Blank range because the bullet needs some distance to accelerate to an effective speed. Gyrojet pistol clips hold only 10 rounds because the bullets are large.



Laser Pistols 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 frontier worlds, and are often called "blasters." They have longer range than other pistols, but do less damage.



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



Needler Pistols 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.

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 Pak	20 Cr
Survival Rations	1 Cr/day

* Weapon prices do not include clips or powerpacks.

ADVENTURES

This section describes several adventures or games which will introduce the players to using the basic rules. The adventures are designed so they can be played more than once, and they will be different every time you play them. Suggestions and instructions for making up new adventures can be found at the end of this section.

Each adventure is presented in six parts: Purpose, Teams, How To Win, How To Play, Set-Up and Rewards. A section at the end of each adventure shows how to make the adventure different and fun to play again.

The Players

Players in STAR FRONTIERS games play characters who perform special jobs for companies and planetary governments. They may work to prevent trouble, solve a mystery, explore a new planet or perform any other sort of dangerous task. In this series of adventures the player characters work for the Pan-Galactic Corporation, the largest company in the Frontier.

One player must be chosen to run the adventure. This person does not control a PGC agent like the other players do. Instead, he controls the opponents the other players meet and reads the adventure to them.

Adventure 1: PAN-GALACTIC SECURITY BREACH

Purpose

You have been contacted by Pan-Galactic Headquarters to investigate a breach in security at several top PGC research centers. Someone has broken into these centers and destroyed valuable equipment. The raiders never set off any alarms and never were stopped by anti-intruder security systems. Your mission is to find out why the raids are taking place and to end them.

Teams

One person must be chosen to be the reader. Everyone else plays agents working for Pan-Galactic. The reader reads the numbered events to the players as they reach them and plays all opponents. Information on opponents is included in the story below.

The Pan-Galactic team should have four characters, created by the players using the rules for creating characters. If there are not four players, some players must control more than one character.

Each character starts the game with a standard equipment pack and a fully loaded laser pistol.

How To Play

This is a programed adventure. The story is written in a series of numbered paragraphs. The reader reads the first paragraph to the players, and then they are presented with several choices. All the players must agree on one choice. This choice will direct the reader to another numbered paragraph, which he then turns to and reads to the players. At some points the players will get into combat, and this must be played out before moving to the next event. The passages boxed in gray should not be read aloud; they are special instructions for the reader only.

The reader controls the movement of the raiders and rolls the dice for them when they attack. The reader decides who an NPC will attack, but should try to have each NPC shoot at a different player character if possible; if it is not possible, the NPC should shoot at the nearest enemy.

The raiders always move first, until a fight starts. Once the player characters get into combat with the raiders, the players and the reader must roll for initiative.

The player characters and the raiders have fully loaded guns, but they do not have any extra ammunition. All players must keep track of the shots they fire; when they use all their ammunition they can only run away.

How To Win

The players win if they learn why the raids are taking place and stop the raiders from striking again.

Set-Up

Each player should pick a counter that looks like his character. The reader should pick a Vrusk, a Dralasite, a Yazirian and three Human counters. All counters are placed inside the Security building. The reader then picks a skimmer counter and places it at the curb on the road north of the Security building.

Now you are ready to play.

The Adventure

START. You have met at the Security Service building to discuss your new assignment and talk to some PGC experts about why the security at the research centers failed. You are in the main computer room where data collection and analysis is handled. The chief of security and the head programer, both humans, are helping you. Also in the room are four technicians, one of each different race.

The programer shows you a small computer cabinet containing thousands of crystal wafers. "The security information and command controls for all of Pan-Galactic's research centers are stored here," he says. "We ran a thorough check of all the systems and couldn't find anything wrong. There is no way the raiders could have broken in." The programer and chief seem puzzled.

What are you going to do?
—Wait for the raiders to strike again (Read 01).
—Investigate the site of the last attack (Read 02).
—Ask the computer if there is a pattern in the raiders' attacks (Read 03).

01. Having decided to wait until the next attack, you thank the experts for their help and leave. As you walk down the hall you hear a cry of surprise behind you. You rush back to the computer room. The programer and chief lie unconscious on the floor. The technicians, with their laser pistols pointing at you, tell you not to move. (Read 04)

02. You thank them for their help and turn to leave. Behind you there is a pop, a puffing sound and a cry of surprise. Turning, you see the programer and chief, surrounded by a cloud of gas, fall unconscious to the floor. The four technicians draw laser pistols and point them at you. "You're not going anywhere!" the Yazirian growls. (Read 04)

03. The programer nods, pleased with the suggestion, and inputs the question. In a moment the holotank lights, displaying a map of the Frontier with red lights showing the planets where raids have taken place. The lights form a circle around the planet you are on.

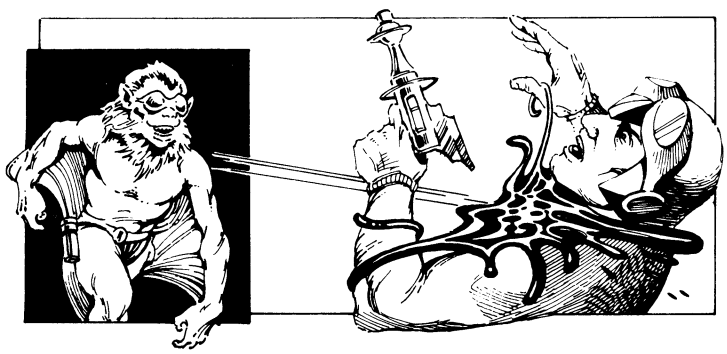
"This is suspicious," exclaims the chief. "If all the attacks center around our planet and the alarms are never set off, it must be an inside job."

Suddenly there is a soft pop and the chief and programer are surrounded by a cloud of gas. They gasp in surprise and fall unconscious. Looking up you find yourself surrounded by the technicians, who have drawn their laser pistols. "Clever deductions," clicks the Vrusk. "Too bad you found out." (Read 04)

04. "Geiger! Konchinho! Keep them covered!," barks the Yazirian to the Human and Dralasite. "Gramic, get to work!"

The Vrusk moves to the crystal matrix cabinet and attaches a small metallic cube, then turns to the controls. You study the cold features of the Human and the dark hollow eyes of the Dralasite, weighing your chances to draw a weapon before they can shoot.

Suddenly you hear the sound of someone coming down the hall. Smiling slyly, the Yazirian slides a black jelly-like object from a canister at his side and turns to face the door.



The door swings open and a startled guard stares in surprise. Too late, he reaches for his gun. The black blob strikes him in the chest. Horrified, you watch the thing sprout tendrils that tangle around the terrified guard, pinning his arms to his side and constricting around his throat. He falls to the floor and the Yazirian chuckles.

What do you want to do?
—Stand still and wait to see what happens (Read 05).
—Try to talk to the technicians (Read 06).
—Try to draw a weapon and attack (Read 07).

05. You hear a humming sound from the small cube and it glows brightly. The Vrusk clicks in satisfaction, disconnects the cube and slides it into a vest pocket. Waving an antenna at the Yazirian it starts smashing consoles and crystal matrices.

"Konchinho," the big monkey calls, "get their weapons." The Dralasite reaches out with long pseudopods, lifts your pistols from their holsters and tosses them across the room. Then the raiders back out of the room.

"Bite on this," shouts the human, and you dive to the floor barely avoiding the laser bursts he fires over your head. You scramble for your guns and race after the raiders. (Read 08)

06. Let the players ask you questions, but don't answer them. Instead, tell them, "You better keep quiet, if you know what's good for you." Then ask them what they want to do:
—Stand still and wait to see what happens (Read 05).
—Try to draw a weapon and attack (Read 07).

07. If the players try to draw their weapons, the raiders will attack. The abilities the raiders use in combat are listed below. If for some reason you need to know their other ability scores, go ahead and roll them. Remember, everyone has cover because they are in a building (-10 to hit).

The player with the highest Initiative modifier should roll 1d10 and add the result to his IM. The reader also should roll 1d10 and add the result to the raiders' highest Initiative modifier (6). The side with the highest total gets to move and fire first. After this turn, initiative must be checked at the start of each turn to see who moves and fires first.

THE RAIDERS

NAME	RACE	WEAPON	IM	DEX	STA	MOVE
Konchinho	(Dralasite)	Laser	5	45	35	1/4
Gramic	(Vrusk)	Laser	6	55	40	3/7
Geiger	(Human)	Laser	5	50	55	2/6
Manetoe	(Yazirian)	Laser	4	40	65	2/6

When each raider has been shot once, tell the players that one of the raiders grabs the cube and they flee. Gramic will take the cube and run if he can. If he can not, then the reader should have either Geiger or Manetoe grab it. (Read 08)

08. The raiders flee down the corridor and out the front door. You run after them, but they have a head start and are a turn ahead of you. Seeing you following, the raiders split up. One runs across the road and the rest jump into a waiting skimmer and pull away from the curb.

What do you want to do?
—Call Star Law and alert them to the crime (Read 09).
—Pursue the lone raider (Read 11).
—Pursue the raiders in the skimmer (Read 12).

09. You call Star Law on your communicator and report the crime. They thank you for the information and tell you the raiders probably will head toward the spaceport. They will alert spaceport security to watch for them.

Now what do you want to do?
—Try to discover what the raiders were after (Read 10).
—Pursue the lone raider (Read 11).
—Pursue the raiders in the skimmer (Read 12).

10. You return to the computer room and administer stimdose to the two unconscious men and manage to cut the guard free from the black strands.

After examining the damage, the chief announces, "I'm afraid all of the security data on every PGC research center has been stolen! I hope the Star Rangers catch them at the spaceport." (Read 21)

11. Since the players have decided to chase the lone raider, the reader can remove the skimmer from the board. Now the reader must move the running raider, determine who he will shoot at and tell the players what is happening.

The lone raider is the character who took the metallic cube. He will run north to the road and then cross the road. When the raider reaches the other side, he will turn and fire at the player characters, then run into the monorail terminal.

The raider will be one turn ahead of the player characters. If the player characters stopped to call Star Law he will be an extra turn ahead of them. Be sure to move the raider these extra turns at running speed. He must stop at the road, and then spend one turn crossing the road.
—If the raider is caught (Read 20).

If the raider boards the monorail, ask the players what they want to do:
—Call Star Law to intercept the raider (Read 13).
—Board another monorail car and follow the raider (Read 14).
—Call a cab to chase the raider (Read 15).

12. Because the players decided to chase the skimmer, the raider can be removed from the board. The reader must choose where the skimmer moves and who the raiders will shoot at.

Remember, characters in a skimmer have cover (-10 to the attacker's roll) and are moving (-10 when the raiders try to shoot). The raiders will be one turn ahead of the player characters, an extra turn if the players called Star Law. Be sure to move the raiders ahead.

The raiders can drive along the main roads, or take shortcuts through the underground parking areas. They can only drive one way on one-way streets. Ask the players:
—Do you want to chase them on foot? (Read 18).
—Do you want to call a cab to chase them? (Read 19).

13. The Star Rangers say the raider probably is headed to the spaceport to meet his friends. They will watch everyone getting off the monorail. They should catch him if he doesn't get off at one of the earlier terminals.

What do you want to do now?
—Wait to hear from Star Law (Read 21).
—Board another monorail car and follow the raider (Read 14).
—Call a cab to chase the raider (Read 15).

14. The reader should move the raider's counter along the monorail 10 spaces per turn. The raider will be one turn ahead of the players, plus an extra turn if they stopped to call Star Law. The raider will get off the monorail at the Government Building terminal. Once the raider has exited, place the skimmer at the curb there and check below to see what to read next.
—If the player characters exit one turn after the raider does (Read 16).
—If the player characters exit two or more turns after the raider (Read 17).

15. The reader should move the raider's counter along the monorail 10 spaces per turn, as the player characters pursue in a skimmer. It will take one turn for the cab to arrive. The raider should be moved one extra turn if the players called Star Law.

The raider will exit at the Government Building terminal. The reader should place the skimmer at the curb there.
—If the player characters arrive one turn after the raider (Read 16).
—If the player characters arrive two or more turns after the raider (Read 17).

16. You see the raider run out of the monorail terminal ahead of you and leap into a waiting skimmer. The other raiders are in the skimmer waiting for him.

The players can shoot at the raiders in the skimmer. Remember that characters in a skimmer have cover (-10). The reader should pick one of the raiders to be the driver. If he is knocked unconscious the skimmer will stop and the raiders will surrender. The raiders will try to drive off the board to the spaceport. Check below to see what to read next depending on the result of combat.
—If the raiders escape and Star Law was not called (Read 21).
—If the raiders escape and Star Law was called (Read 20).
—If the raiders were captured (Read 22).

17. You are too late! You see the raider with the cube dash out of the monorail terminal and leap into the waiting skimmer with his friends. They spin onto the Spaceport Expressway. You try to chase them, but their skimmer soon disappears into traffic.
—If the players called Star Law (Read 20).
—If the players have not called Star Law (Read 21).

18. If the players run after the skimmer, the reader should make sure that the rules on crossing roads, getting onto walkways and running through buildings are followed.

The reader should pick one of the raiders to be the driver of the skimmer. If the driver is knocked unconscious the skimmer will stop and the raiders will surrender. The raiders will try to drive to the Government Building monorail terminal. Check below to see what to read next depending on the result of combat.

—If the player characters are one turn behind the raiders when they reach the Government Building (Read 16).
—If the player characters are two or more turns behind when the raiders reach the Government Building (Read 17).
—If the skimmer was stopped and the raiders are captured (Read 22).

19. If the players call a cab, it will take one turn to arrive. Move the raiders one extra move. The reader should make sure that rules for moving through intersections, around curves, on ramps and through underground parking areas are followed.

The reader and the players should each pick a character to drive their skimmer. Drivers can not shoot. If the driver is knocked unconscious the skimmer will stop. If the raiders' skimmer stops, they will surrender. The raiders will try to drive to the Government Building monorail terminal. Check below to see what to read next depending on the result of combat.

—If the player characters are one turn behind the raiders when they reach the Government Building (Read 16.)
—If the player characters are two turns or more behind when the raiders reach the Government Building (Read 17).
—If the skimmer is stopped and raiders surrender (Read 22).

20. When you return to Pan-Galactic Headquarters, there is a call from Star Law for you. They congratulate you for your quick thinking and are happy to report that they managed to capture the rest of the raiders as they tried to board a starship. Unfortunately, when they tried to question the criminals each pressed a button on their collar. The button injected them with a drug that turned them into idiots. Now they won't be answering any questions.

The Star Rangers say they also found something in the raiders' skimmer when they searched it. It seems to be some type of recorded message. They play it back for you. (Read END)

21. When you return to Pan-Galactic Headquarters your superiors put in a call to Star Law. Unfortunately, they report that they failed to catch the raiders, but did find the skimmer the raiders used. When they searched the skimmer they found something that looks like a recorded message. They play it back for you. (Read END)

22. Pan-Galactic is very pleased that you caught the raiders and that the raids have finally been stopped. They are especially happy that you recovered the metallic cube, because it contained data on all PGC security systems. If it had fallen into the wrong hands, who knows what could have happened.

When you try to question the raiders, each smiles slyly and touches a button on his collar, then stares dumbly at you. When you examine them you discover they have been injected with a drug that turned them into idiots. They won't be answering any questions now.

While you are reviewing the case with your superiors there is a call from Star Law. They searched the raiders' skimmer and found something that looks like some kind of recorded message. They play it for you. (Read END)

END. The trivid screen grows hazy and then a hideous worm-like creature appears, its segments glistening with slime. You hear its hissing whisper congratulating the raiders for infiltrating Security. Then it describes the raiders' next mission. They are to fly to a top secret military asteroid where research is underway on a special weapon that can reduce entire populations to mass hysteria. They are to meet other agents who have already infiltrated the base and steal the device.

Cold chills run up and down your spine as you eye each other silently. This case is more diabolical and far-reaching than you first thought; the raiders are working for the Sathar!

Reward

When the adventure is over each player character will be rewarded for his part in stopping the raiders. The characters can use the reward to pay for healing their Stamina back to normal and to buy new ammunition and equipment. The characters will be rewarded only if they performed the actions, not if Star Law did. Each character will be rewarded the following credits:

For each raider captured	+20 Cr
For retrieving the cube	+50 Cr
For alerting Star Law...	
during the battle	+20 Cr
after the battle	+10 Cr

Playing The Adventure Again

It is possible to play this adventure again. To make sure that there are surprises each time you play, you should make several changes.

Teams. Play the adventure as two teams — security force and raiders — with an equal number of characters on each side. Create your own characters for both teams. This way neither side will know what the other team is like.

Instead of giving everyone the same weapon, each character can select his weapons. Each team starts with 6 points per character to buy weapons. The number of points each weapon costs is listed below. Players can choose one weapon type for their team or pick several different weapons by sharing points. Thus everyone on a team could have gyrojets, or some could carry needlers while some have lasers. Extra doze grenades can be chosen, also.

Weapon	Points
Needler	4
Gyrojet	6
Laser Pistol	8
Laser Rifle	12
Doze Grenade	2

Set-Up. The Pan-Galactic team starts in the Security Building. The raiders should write down which door they will enter from or if they start inside the building. Then the PGC team must guess where the raiders start. If they guess right they can draw their weapons and both teams roll for initiative. If they guess wrong, the raiders get to leave the building and take one extra move before the PGC team can move.

How To Play. Until the first shot is fired, the raiders always get to move first every turn. Once a shot has been fired, the players must roll for initiative.

The raider team should decide which character is carrying the cube and write his name on a piece of paper. The only way to find the cube is to knock a character unconscious and search the body for it. To search, a character must move into the same space as the unconscious body and end his move. At the start of the next turn the raiders must tell whether the cube is found. If it is, the character can pick up the cube and move and attack normally during the turn.

It is possible to change the game even more. Players can change the goal to capturing all the raiders, defeating all the PGC agents or anything else. If the players want, they can add special restrictions such as not allowing skimmers or doze grenades to be used. It is up to you, but be careful that any changes affect each team the same way.

How To Win. The raiders win if they get the metallic cube off the board on the Spaceport Expressway (not the monorail). The PGC team wins if they capture the cube and carry it to Pan-Galactic Headquarters.

Rewards. No money is awarded at the end of these games, but everyone who is wounded is taken to the medical complex and healed at no charge.

Adventure 2: ALIEN CREATURE ON THE LOOSE

Purpose

You are four agents of Pan-Galactic Corporation relaxing at the trivid Gaming Hall after a dangerous mission. Suddenly there is a blaring alarm from your wrist communicators followed by an emergency public broadcast.

"Alien creature has broken out of confinement at the Zoological Park! Last seen headed north! Creature is reported to have attacked handler earlier this morning and should be considered dangerous! Stay inside! Police have been notified but a major accident on the Spaceport Expressway is occupying most of the patrols!"

You look at each other and nod agreement. The creature can not be allowed to run loose until the police can arrive. You must try to stop it.

Teams

In this adventure one player must be chosen to be the reader of the adventure and to play the part of the alien creature. Information on the creature is listed in a special section for the reader.

The rest of the players are working for Pan-Galactic. The players can roll up new characters or use their characters from the last adventure.

All new characters are armed with laser pistols. The pistols are fully loaded, but characters do not have extra ammunition and must keep track of how many shots they fire. Once their gun is empty they must look for another weapon or run away.

How To Play

The player characters always move first, until they attack the creature. The hydra will not attack until after the characters attack it for the first time. After this first attack, the game proceeds normally with players rolling for initiative at the start of each turn.

Borrowing Weapons. Once the player characters discover that their lasers are useless, the reader should ask: "What are you going to do? Your weapons don't seem to be hurting the hydra." When the players ask where they can get different weapons, tell them: "You can go to the Wilderness Outfitters, Weapons Shop or the Security Building."

When a character enters one of these three buildings and asks for a weapon, the reader should determine if the shop owner will let them borrow one. Roll d100; if the number rolled is less than or equal to the character's Personality score, the shop owner will loan the character a gun. If it is greater than the character's Personality score the shop owner will refuse and the character will have to try somewhere else.

Creature Information

THE HYDRA

For Reader's Eyes Only

The hydra is a strange creature that looks like a 10-meter tall silver tree with clusters of limbs around its mouth. The creature has a soft body and moves by slithering about on its trunk. It sees with many eyespots located just below the limbs on its head.

Periodically the hydra goes through a reproductive cycle when it grows new branches with limbs and mouths which eventually mature and drop off to form new hydras. This hydra is undergoing that reproductive cycle and has grown several branches.

Earlier in the day, when the hydra started to bud, the creature's handler tried to move it to a larger pen. The sonic prod he used enraged the creature and it attacked the handler. The creature was finally penned and the handler taken to the medical complex. The zoo owners then brought a subsonic projector to soothe the creature with low-frequency sounds, but these only made the creature madder and it broke out. The creature now hunts for its handler, believing that if it can destroy him it will be freed of its torment.

The reader should run the creature so that it wanders through the town, giving the player characters a merry chase, leading eventually to the medical complex. Once at the medical complex it will slither in one of the doors and search for its handler. Each turn the creature is in the medical complex, the reader should roll 1d10; if a 1, 2 or 3 is rolled the creature has found and eaten its handler. If this happens Star Law will arrive and capture the creature.

Creature's Abilities. In order for the hydra to be an equal challenge to the players, its Stamina and Number of Attacks will vary with the number of player characters.

The hydra starts with 30 Stamina points per player character. Thus, if there are three characters, it will have a Stamina of 90.

The hydra also has as many heads as there are player characters. It gets one attack per head. It can attack a different target with each head. For example, if there are three characters, the hydra will have three heads and will get to attack three times every turn.

The creature attacks by firing nematocysts (muscle-fired darts) from its mouth at its prey. Each hit causes 1d10 points of damage. The hydra's IM and Dexterity, and the range of its darts, are listed below.

IM	DEX	Point Blank	Short	Medium	Long	Extreme
5	40	1-2	3-5	6-10	11-20	21-40



Immunity. Laser beams simply bounce off the creature's silvery hide without harming it. However, the heat of the beam excites the creature's cells and causes it to bud again, gaining 10 Stamina points and another attack. If, for example, a hydra with a Stamina of 90 and three attacks was hit by a laser beam it would gain 10 points of Stamina and one attack for a total of 100 Stamina points and four attacks.

Because the creature is so big, it is immune to the effects of a single doze grenade. At least three grenades must land in the hydra's square on the same turn to knock it out. The grenades will not effect the hydra if they are thrown on different turns.

If any single shot from a needler or gyrojet causes 15 or more points of damage to the hydra it will lose one of its heads and one of its attacks. This will happen only if the damage is caused by a single shot.

If the creature loses all its heads or if its Stamina is reduced to 0 the hydra is unconscious and can be captured.

Movement. The hydra can move up to 4 spaces per turn. It does not need to stop before it crosses a road. Instead, the reader rolls 1d10; on a roll of 1, 2 or 3 a skimmer on the road has swerved to avoid the creature and crashed. One of the player characters near the crash must stop and spend one turn calling the medical complex on his or her communicator. That character may not fire that turn. The players decide which character must make the call.

_____ # of atks.

_____ Stamina

How To Win

The Pan-Galactic team members win if they stop the creature. If the creature reaches the medical complex, the reader should be sure to tell the players that the creature seems to be looking for something.

Set-Up

The player characters each choose a piece and place it in the Game Hall. The reader picks a piece with a picture of a giant creature on it and places it five spaces north of the Zoological Park exit.

Reward

At the end of the adventure the city will pay each character a reward for their brave actions. The following rewards will be given depending on the outcome of the adventure.

Players defeat Hydra before it devours handler	150 Cr each
Hydra devours handler	50 Cr each

If the player characters borrowed any weapons during the adventure, they must return them afterward.

Playing The Adventure Again

It is possible to play this adventure again. You can make several changes so there will be surprises each time you play.

Team. You can vary the equipment the characters start the game with by using the method explained at the end of Adventure 1.

Creature. The creature player can design a whole new creature. To find its DEX/RS, roll d100, find the result on the ABILITY SCORE TABLE and add 5. The creature gets 30 Stamina points and one attack per player character. The person controlling the hydra then gets to select its movement speed, attacks, defenses, up to three special abilities, and its goal.

Designing Your Own Creature

#Atks: IM: DEX: STA:

MOVEMENT: [] 2 [] 3 [] 4 [] 5 [] 6 [] 7

ATTACKS: (Choose one of the following)

Attack	Damage	Point Blank	Short	Medium	Long	Extreme
[] Acid Spray	2d10	1	2-3	4-6	7-12	13-20
[] Darts	1d10	1-2	3-5	6-10	11-20	21-40
[] Sonic Beam	2d10	1	2-5	6-15	16-30	31-50
[] Gas Cloud*	1d10	--	1-2	3-5	6-8	9-10

* A gas attack fills one square for one turn and any character in that space is affected; the gas obscurs vision and any characters there must move out of the space to see to shoot.

DEFENSES: (Choose one of the following)

Defense	Effect
[] Layer of Insulation	Immune to Needlers
[] Protective Shell	Immune to Gyrojets
[] Reflective Hide	Immune to Lasers
[] Regenerates	Reduces damage from each attack by 5 points

SPECIAL ABILITIES: (Roll 1d10 three times; roll again if an ability repeats)

Ability	Effect
[] 1	Smashes Through Walls — Walls don't effect movement; moving through a wall creates rubble where characters must stop before crossing.
[] 2	Shakes Ground — Characters can move no faster than half their running speed.
[] 3	Teleport — Creature can teleport up to eight spaces away once every three turns.
[] 4	Spins Web — Creature can permanently block the square it is in by spending one turn standing still and spinning a web. Also can throw a web and catch a character for two turns (treat as a grenade for range and hits).
[] 5	Doze Gas — Same as doze grenade, but always misses target square.
[] 6	Grows Stronger — Gains 10 Stamina points if hit by a weapon it is immune to; if hydra has no immunity, it gains 20 points by damaging a monorail station*.
[] 7	Grows New Attack — Gains one attack when hit by a weapon it is immune to; if creature has no immunity it gains one attack when hit by a skimmer.
[] 8	Takes Extra Damage — Takes 2 extra points of damage when hit by a weapon other than one the creature is immune to (choose which weapon at start); if hydra has no immunity, it takes 10 points of damage from each skimmer accident.
[] 9	Loses 1 Attack — Loses one attack if a single shot causes 15 or more points of damage.
[] 10	Changes 1 Ability — On its next turn after being hit by a weapon it is immune to, the creature can change its attack, its defense or one special ability (by rolling dice); if it has no immunity, this happens when it damages a monorail terminal.*

* To damage a monorail terminal, the creature must move into the terminal's space and stop. On the next turn the player controlling the creature rolls 1d10; on a roll of 1, 2 or 3, the creature has bitten through the terminal's power cables and shut down the terminal. The creature can move and fight normally on the next turn. No monorail cars can travel across that terminal for the rest of the game. If players ride the monorail to that terminal, they must get off there.

GOALS: (Select one of the following)

[] Eat enough to lay eggs. The PGC players must pick 15 pieces to represent civilians in the downtown area. He places each piece in a different building on the map. When the alien creature moves into the same space as a civilian piece, the player rolls 1d10; on a roll of 1-5, the creature eats the civilian. The PGC player can move civilian pieces only if they are being attacked by a creature or are next to a PGC character. Civilians may not move off the board. PGC characters may not be eaten. The creature wins if it eats eight civilians.

[] Find someone. The PGC player chooses five counters and secretly marks one. He then mixes up the pieces and, without looking, places each face down in a different building that covers 16 spaces or more. The creature must search the buildings for the marked piece. Once in the building, the hydra player must roll 1, 2 or 3 on 1d10 to find the face down counter and reveal its identity. if the creature finds a dummy counter, it discards it.

[] Build a nest. The creature selects a building that covers 16 or more spaces and writes its name on a piece of paper. The creature must wreck three buildings from a different complex and carry the rubble back to build its nest. To destroy a building it must move next to the building and roll a 1, 2 or 3 on 1d10. The creature also must cause one accident and carry a destroyed skimmer back to its nest. The creature can carry only one load at a time. When carrying material back to its nest the hydra moves at half speed. The creature wins if it finishes its nest.

[] Destroy the town. The creature must destroy 40 or more points of buildings to win the game. The sizes of buildings, their point values and the numbers that must be rolled on 1d10 to destroy them are shown below:

	BUILDINGS	
No. of Spaces	Point Value	Die Roll
1-6	5	1-9
7-15	10	1-5
16 or more	15	1-3

[] Destroy all skimmers. The PGC player places five skimmers at different locations on the map. The creature can destroy a skimmer simply by moving into the same space with it. Player characters can drive skimmers, but the skimmers can not be driven off the map.

CREATING YOUR OWN ADVENTURES

After playing the two adventures you may want to play something new and different. You can, by making up your own adventures. Adventures are easy to make up if you do it step by step. If you played either of the adventures more than once, you have a general idea of how to make up new adventures. A step-by-step method for designing new adventures is given below.

Purpose

First, pick a story outline to be the basis for your adventure. This will make it easier to fill in the other parts of the adventure. The story can be about anything, such as a crash on a desert planet. You can make up your own stories, or use ideas from your favorite books and movies.

Teams

Decide how many characters each team will have and what sort of equipment they own. The adventure can be played with two teams of adventurers (possibly from different companies) trying to get the same thing, or with only one team of player characters and another player, like the reader in the first two adventures, controlling all other creatures and characters. In the first case, both teams will be trying to beat each other. In the second, the player characters are trying to reach a goal, not defeat the reader.

Try to make sure that one side is not stronger than the other. Their Stamina point totals and numbers of attacks should be about the same. Dexterities and damage from attacks will vary, but you should try to balance them.

Choose weapons and equipment that will be useful in the adventure. You can use the system from Adventure 1, if you want. You should remember to include vehicles, if they are needed. One party may have a skimmer while the other has riding animals.

How To Win

Set goals for each team, so the players know what they must do to win. The goal should be related to the story. In our example, the players may need to find an abandoned radio beacon and call for help. The examples from the two adventures can help you pick a goal.

Set-Up

Choose the pieces and map you will use for the adventure. For a crash on an alien planet, you could use the desert map or the crater map.

If you want, you can even draw your own maps. Be sure to draw them big enough to put counters on, and include a ½" grid for movement and combat. Include everything on the map that you need to play, like doors, roads, vital control panels, etc. Some maps you might want to make for adventures are an island, a space station or the inside of a large building.

Once you have picked your playing area, decide where each piece starts the adventure.

How To Play

Once you have a story and have picked your teams, goals and set-up areas, you must create any special rules needed to play the adventure. You also must decide which side will move first until combat starts and when special events will happen.

For a crash on a desert planet adventure, you may want to create several rules. To simulate moving through a large desert, each move in this adventure will take half an hour and player characters can move only four spaces per turn. If a creature attacks the characters, they can not move until they defeat the beast.

The players have enough water to last 25 turns. Each turn the players must subtract 1 from their water supply. If their water supply reaches zero, they are out of water and will pass out. Before this happens they want to find a radio beacon that was torn off their ship in the crash. With it, they can radio for help. The reader picks a space where the player characters start and secretly picks another space at least 10 spaces away where the beacon fell.

To search for the beacon, the player characters must tell the reader which direction they are scanning at the end of their turn. The reader then rolls 1d10 without letting the players see the result. If the players were looking in the right direction, and the number rolled on the die was greater than the number of spaces between the characters and the beacon, the reader tells the players their scan has detected the beacon in that general direction. If the result of the die roll is equal to or less than the distance between the characters and the beacon, or if the players were not scanning in the right direction, the reader tells them their scan does not detect anything.

Finally, at the end of every turn the characters must check to see if something happens to them in their wanderings. To simulate this chance the characters must roll d100 and check the EVENT TABLE below to see what happens.



Die Roll	Event	Situation
01-20	Lost	Characters wander off course in shifting sand dunes; move the party two spaces in a direction determined using the Grenade Bounce Chart.
21-22	Sandstorm	Characters lose 1 turn in blowing sand.
23-24	Cool Cave	Rest in shade, add 5 to water supply.
25-26	Creature	Attacked by one Funnel Worm in its pit.
27-28	Mirage	Lose one turn.
29-30	Creature	Attacked by 2 Sandsharks.
31-32	Sunstroke	Each character must roll his Stamina or less or lose 1d10 Stamina points.
33-34	Creature	Attacked by 5 Winged Rippers.
35-36	Poison Water	Each character must roll his Intuition or less or lose 1d10 Stamina points.
37-38	Oasis	Refill your canteens; increase water supply back to 25.
39-40	Circle	Characters wander in circle; return to space they started in this turn.
41-00	No Event	Proceed to next turn.

Creature	Defense	Damage	IM	DEX	STA
Funnel Worm	Has cover	3d10	4	45	120
Sandshark	Immune to needlers	2d10	5	50	80
Winged Ripper	-20 to be hit	1d10	6	60	30

Notice that the reader also can have characters run into events and obstacles as well as opponents. Anything you can imagine can happen during a STAR FRONTIERS adventure.

Rewards

At the end of an adventure the player characters can be rewarded for their actions during the adventure. The reason for giving rewards is to enable characters to pay for healing, to replace lost or damaged equipment and to buy new items the players need. Rewards can vary depending on how successful the characters were. A minimum reward for each character should be 50 Cr., and a maximum of 200 Cr.

If the character's employer is providing weapons, ammunition and free healing, the reward should be reduced. In some cases, like the desert planet example, the characters will not receive any payment for finding the beacon; their reward is getting off the planet alive.

Suggested Adventures

Some ideas you can develop into adventures of your own are listed below. Science fiction books and movies also are good sources for adventure ideas.

1. A strange alien disease is infecting people in the city and making them violent and destructive. The players must stop the victims before they cause permanent damage and find and capture the carrier of the disease to prevent him from infecting others.
2. An ancient alien artifact has been found by Pan-Galactic Corporation and brought to a base to be studied. No one has heard from the base since the artifact was delivered. The characters must break into the base and find the artifact (which has taken over control of the base and its robots).
3. A special meeting of delegates from the United Planetary Federation Council on Frontier Law and Peace is being held on a nearby planet. Someone or something is murdering the delegates one by one. The players must find the murderer and prevent further assassinations.
4. An abandoned alien city-ship has entered the planetary system on a collision course with a colonized planet.The characters must find the giant ship's control center and change its course before it hits the planet.

THIS ENDS THE BASIC GAME. If you have enjoyed playing adventures with the STAR FRONTIERS Basic Rules, then you will enjoy learning the Expanded Rules which add more weapons and equipment, ways to improve your characters and learn skills, and new rules for creating more fun and exciting adventures.



THE METRIC SYSTEM

STAR FRONTIERS game uses the metric system of measurement. The following metric-English conversion tables are included for players who are unfamiliar with the metric system.

If you're measuring	the English system uses	and the Metric system uses
length	yards	meters
weight	pounds	kilograms
capacity	gallons	liters

1,000 millimeters (mm) = 100 centimeters (cm) = 1 meter (m)
1,000 meters = 1 kilometer (km)
1,000 grams (gm) = 1 kilogram (kg)
1,000 kilograms = 1 metric ton
1,000 milliliters (ml) = 1 liter (l)

The table below gives conversions from English measurements to metric measurements, and from metric to English. The approximate conversions can be used for quick calculations when exactness is not needed.

English unit	Metric equivalent	Metric approximation
1 inch	2.54 centimeters	2.5 cm
1 yard	.92 meter	1 meter
1 mile	1.61 kilometers	1.5 kilometers
1 ounce	28 grams	30 grams
1 pound	.454 kilogram	.5 kilogram
1 ton	.91 metric ton	1 metric ton
1 quart	.95 liter	1 liter
1 gallon	3.8 liters	4 liters

Metric unit	English equivalent	English approximation
1 centimeter	.39 inch	.4 inch
1 meter	1.09 yards	1 yard
1 kilometer	.62 mile	.6 mile
1 gram	.035 ounce	.04 ounce
1 kilogram	2.2 pounds	2 pounds
1 metric ton	1.1 tons	1 ton
1 liter	1.06 quarts	1 quart

GLOSSARY

Ability score — A measure of a character's natural physical or mental ability. Characters in STAR FRONTIERS games have eight important abilities, organized in pairs: Strength and Stamina, Dexterity and Reaction Speed, Intuition and Logic, Personality and Leadership. Each of these abilities has a score between 1 and 100.

Clip — An ammunition container or powerpack for a weapon. A clip fits directly into the weapon. Each type of weapon has its own clip.

Cover — Any obstacle that can protect a character from gunfire.

Credit (Cr) — The basic unit of money in STAR FRONTIERS games.

d10 — The abbreviation for 10-sided die. When preceded by a number, it tells players how many 10-sided dice to roll for a specific result. For example, 2d10 is two 10-sided dice.

d100 — The abbreviation for percentile dice.

Damage — An indication of the effect of a weapon on both people and structures. Whenever a weapon hits its target, it causes damage. Damage is subtracted from a character's Stamina.

Dexterity (DEX) — The ability that measures coordination.

Doze Grenade — A small container that releases a cloud of fast-acting knockout gas. A character affected by a doze grenade will be unconscious for one hour.

Dralasites — One of the four space-faring races in STAR FRONTIERS games. Dralasites are blobbish creatures that can change their shape. They are stronger than Humans, but also slower. They love philosophy, debates and weird humor.

Frontier — The star systems where Dralasites, Humans, Vrusk and Yazirians met. It contains many new colonies and unexplored worlds.

Gyrojet Pistol — A weapon that fires small rockets instead of ordinary bullets. A gyrojet causes 2d10 points of damage when it hits its target.

Hologram — A realistic 3-dimensional picture that is created with projectors, much like a modern movie.

Humans — One of the four space-faring races in STAR FRONTIERS games. They are identical to the humans of Earth, but originated on a different planet.

Initiative — A term used to note which team gets to move and attack first. The character on each side with the highest Initiative modifier rolls 1d10 and adds his IM to the roll. The side with the highest total has initiative for that turn, and gets to move and attack first.

Initiative Modifier (IM) — One-tenth of a character's Reaction Speed score. It is used to determine which side has initiative each turn.

Intuition (INT) — The ability that measures a character's creativity, perception and knack for understanding things immediately.

Laser Pistol/Rifle — Weapons that fire pulses of focused light that are so intense they can burn holes in metal plates.

Leadership (LDR) — The ability to give orders and command a large group of people.

Logic (LOG) — The ability to think in an orderly way and to solve problems through reasoning.

Monorail — A mass transit system that uses six-passenger cars riding a magnetic cushion on an elevated one-rail track. A character can ride the monorail all day for 1 Cr.

Needler Pistol — A short-range weapon that fires a cluster of small needles, causing 2d10 points of damage when they hit.

Non-Player Character (NPC) — This is any character in a STAR FRONTIERS game that is not being controlled by one of the players. NPCs usually are controlled by the reader or referee.

Pan-Galactic Corporation — The oldest and largest interstellar company. PGC is one of the most powerful organizations in the Frontier.

Party — A group of characters working together on an adventure.

Pedestrian Walkways — Small bridges built across roads and between buildings to make traveling on foot in the city easier and safer.

Percentile Dice (d100) — Two 10-sided dice, rolled together. The darker die is multiplied by 10, and then the two results are added together to get a number from 1 to 100.

Personality (PER) — The character ability that measures charm, physical appearance, friendliness and persuasiveness.

Player Character — A character in a STAR FRONTIERS game that is being controlled by a player.

Range Modifier — A number that is subtracted from a character's Dexterity score when the character fires a weapon. The range modifier increases with the range.

Reaction Speed (RS) — The character ability that measures a character's reflexes and quickness.

Reader — A person who reads a programed adventure to the players as they play, rather than running a player character himself. The reader is replaced by a referee in the Expanded Game.

Role-Playing Game — A game that allows players to act out the exciting adventures of their characters, without being restricted by rules that limit what they can do.

Sathar — A race of aggressive, worm-like creatures that have attacked and destroyed Frontier outposts and colonies. Very little is known about them because no Sather has ever been captured alive.

Scenario — A short story or situation, used as the background for a STAR FRONTIERS adventure or shootout.

Skimmer — A five-passenger vehicle that floats on a cushion of air. They can be rented for 10 Cr per day.

Spray Hypo — A pocket-sized medical instrument that stores drugs under pressure. The spray hypo can inject these drugs painlessly into a patient.

Stamina (STA) — The character ability that measures general health and physical fitness. It also is a measure of how much damage a character can take before being knocked unconscious.

Star Law Rangers — A branch of the UPF that operates as a sort of interstellar police force. It concentrates on finding Sathar agents, but also fights space pirates and other interstellar criminals.

Staydose — A drug that will put a character to sleep for 24 hours and keep him alive after his Stamina is reduced to zero or less.

Stimdose — A drug that can be used either to restore 10 Stamina points to a wounded character or to wake up a character who has been knocked unconscious by wounds or a doze grenade.

Strength (STR) — The character ability that measures muscle power.

To-Hit Roll — A percentile dice roll that determines whether a character hits the target he is shooting at. A character's percentage chance to hit his target is his Dexterity score modified by the range to the target and the target's movement and cover status.

Trivid — Three-dimensional (holographic) television.

Turn — The game turn is the basic measure of time in a STAR FRONTIERS game. Each turn is six seconds long. Playing a turn can take more than six seconds, but the turn itself represents six seconds of time for the player characters.

United Planetary Federation — A loose alliance formed between many planetary governments after the first Sathar attacks. The UPF is not an interstellar government; it is a defense organization devoted to protecting member planets from Sathar takeover or destruction. The UPF also has its own police force, the Star Law Rangers. The Rangers track down and capture Sathar undercover agents. However, their authority is not recognized on all planets.

Vrusk — One of the four space-faring races in STAR FRONTIERS games. Vrusk resemble large insects, and sometimes are called "bugs" by the other races. Their society is organized around large companies. They love beauty and order. Vrusk are quicker than humans, but not as strong.

Yazirians — One of the four space-faring races in STAR FRONTIERS games. Yazirians are tall humanoids with manes, nicknamed "monkeys" by the other races. They are generally smarter and quicker than the other races, but are not as strong. Other races consider them aggressive and pushy.

PLAYER'S NAME:

CHARACTER'S NAME: RACE:

HANDEDNESS: SEX:

WALKING: RUNNING: HOURLY:

UPF PERSONNEL FORM
SJW-12/08-57-IA

PHYSICAL DATA

STR/STA: _____/_____

DEX/RS: _____/_____

INT/LOG: _____/_____

PER/LDR: _____/_____

IM: _____

MEDICAL RECORD

CURRENT STA:

OTHER INJURIES:

WEAPONS

WEAPON	DMG	BASIC # TO HIT	PB	S	M	L	E	AMMO

DEFENSES

SUIT:

SCREEN:

PERSONAL FILE

RACIAL ABILITIES:

EXPERIENCE:

CREDITS:

PAY/DAY:

ENERGY RECORD

RECORD SKILLS AND EQUIPMENT ON REVERSE SIDE

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A STAR FRONTIERS™ GAME

Alpha Dawn

EXPANDED GAME RULES

From the Producer of the **DUNGEONS & DRAGONS®** Games



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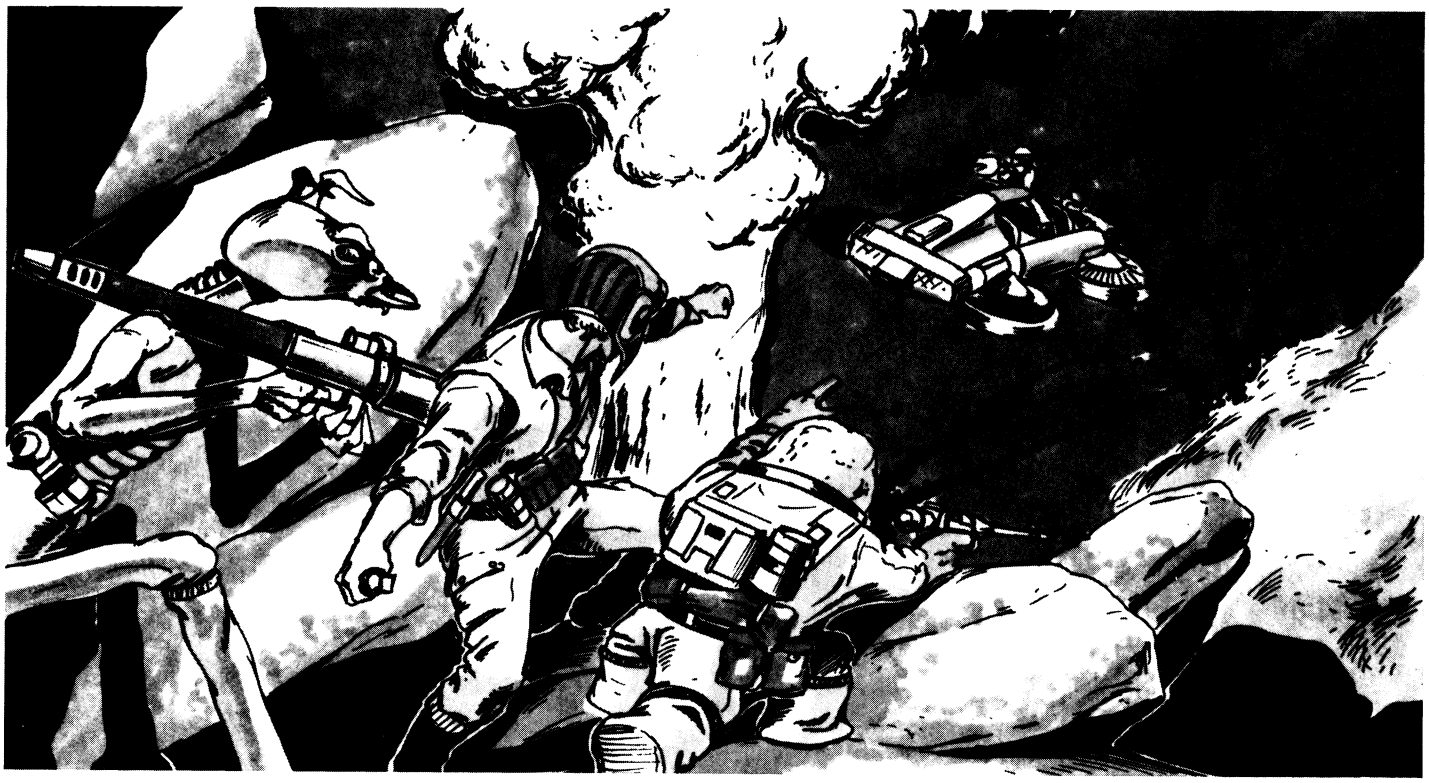
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STAR FRONTIERS™

Science Fiction Game



Expanded Rules

Exciting Adventure on Alien Worlds

Design: TSR Staff
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TSR™
The Game Wizards

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READING FOR FUN AND IDEAS ..... back cover



INTRODUCTION

This is the STAR FRONTIERS™ Expanded Game rule book. This book adds more details to the Basic Game rules, and introduces new rules that widen the game's scope and make the game more challenging and more fun to play. If you have not read the Basic Game rules and played the basic adventures, you should do so before starting to read these Expanded rules.

What Is A STAR FRONTIERS Game?

STAR FRONTIERS Science Fiction Game is a role playing game. In this type of game, each player controls an imaginary hero, making all his decisions and guiding him through heroic exploits: defeating villains, capturing criminals and exploring strange alien worlds.

Although the STAR FRONTIERS rule books contain detailed rules, the special quality of a role playing game is that players are not limited by the rules. Players are encouraged to use their imaginations and find creative solutions to the problems facing their characters. The rules are designed to help players see the effects of their decisions.

Differences Between the Basic and Expanded Rules

The Expanded Game rules give more detailed explanations of character abilities, new rules for movement and combat, new equipment, and rules that allow characters to improve their ability scores and learn special skills.

The most important change in the Expanded game is the addition of a referee. A referee does what the reader did in the Basic Game, but he also creates the adventures and makes the final decisions about how the rules should be applied. If players are the citizens of a world in the future, then the referee is that world; he writes the laws, he creates the unexplored planets and alien races, and he controls everyone that is not a player character. The referee has the most important job in the game.

Because his job is so important, this book was written especially for the referee. It not only explains the rules, but teaches the referee how to apply the rules to special situations and how to handle situations that are not covered by any rules. Other sections on how to create adventures and how to control non-player characters are very important for novice referees.

The separate adventure, Crash on Volturnus, will help a new referee get started. It is intended to help the referee learn the expanded rules.

Anyone who has played STAR FRONTIERS game and is familiar with the rules can be a referee. If you like telling stories, springing surprises and making fast decisions, you will have a lot of fun as a STAR FRONTIERS game referee.

How to Use the Components

To play a STAR FRONTIERS game you need these rules, two 10-sided dice, the map and counters included with the game, pencils, paper, a place to play, and your imagination.

Counter Facing. Players can use the counters to indicate which direction a character, creature or robot is looking. The top of the picture on the counter indicates which side is the character's front. Players can imagine the character standing upright on the counter, facing toward the top of the counter.

A character can see anything that is not behind him. He can attack anything that is in front of him, and can defend himself from any attack that comes from the front or the side.

Maps. Seven small maps showing different types of terrain are printed on the back of the Port Loren map. These were drawn for the Crash on Volturnus adventure, but they can be used in any adventure calling for that type of terrain.

Map Scales. In the Basic Game, distances were stated in terms of squares on the map of Port Loren. In the Expanded Game, distances are measured in meters. This makes it easy to play the game on maps with different scales. A referee could map the inside of a building using a map scale of 2 meters per square, map a city using a scale of 5 meters per square, and map the area around the city using a scale of 25 meters per square.

If the size of a map square does not divide evenly into a character's movement rate, counters can be placed on the lines between squares.

Players can draw maps with much larger scales, showing entire continents or even planets. These types of maps are used when characters must travel a long distance. The planetary map from Crash on Volturnus is this type of map.

Playing Without a Map. STAR FRONTIERS combats can be played on a table top, without using maps. Pieces of paper or other items can be used to show furniture, doors and other obstacles. Another possibility is to play on a sheet of plastic, using wash-away markers to draw obstacles on the plastic. Distances can be measured with a ruler; 1 inch should equal 5 meters.

Miniatures. Instead of using counters, players can use small metal or plastic figures painted to look like their characters. These can be purchased in many toy and hobby stores.

Imagination. After they are familiar with the game, players may decide it is easier to play simple fights without the maps and counters. The referee simply keeps track of ranges and obstacles in his head, and lets the players picture the situation in their imaginations. Besides being a lot of fun, this eliminates the need to draw a map for everything.

Dice. Some rules in the Expanded Game use a 5-sided die (abbreviated 1d5) to roll a number from 1 to 5. When a d5 roll is called for, the player should roll 1d10 and divide the result by 2, rounding fractions up. For example, a 6 becomes a 3 and a 7 becomes a 4.

EXPANDED GAME CHARACTERS

Character generation is a bit different in the Expanded Game. A player can change his character's Ability scores by subtracting points from one ability and adding them to the other ability in the pair. Some races have special abilities that are unique to their species.

How to Create A Character — Summary

1. Use the STAR FRONTIERS character sheet, or make a copy on a blank sheet of paper.

2. Roll d100 once for each ability pair. Find the ability base score on the table below.

ABILITY SCORE TABLE

DICE ROLL	01-10	11-20	21-35	36-55	56-70	71-80	81-90	91-95	96-00
BASE SCORE	30	35	40	45	50	55	60	65	70

3. Decide which race your character will be. Add or subtract the appropriate modifiers from the Ability Modifier Table.

ABILITY MODIFIER TABLE

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

4. If the character is a Human, the player can add 5 points to any one ability score. These points apply to only one ability, not to both abilities in a pair.

5. Players now can modify their ability scores by subtracting points from one ability and adding them to the other ability in that pair. No more than 10 points can be shifted this way. Example: A character has a Strength/Stamina base score of 50/50. The player decides he wants his character to be very strong. He can increase the character's Strength score to 60 if he reduces the Stamina score to 40.

6. Divide the character's Reaction Speed score by 10. If the result is a fraction, round it up. The final result is the character's Initiative modifier (IM).

7. Non-human characters have special abilities that should be noted on the character sheet. These special abilities are listed below. For more details, see the descriptions of the various races.

   Dralasites: Lie Detection (5%), Elasticity
   Vrusk: Comprehension (15%), Ambidexterity
   Yazirians: Battle Rage (5%), Gliding, Night Vision

8. If the character is a Human or Yazirian, decide whether he is right or left handed. Dralasites and Vrusk do not choose handedness; see their racial descriptions for more information.

9. Decide whether the character is male or female (unless it is a Dralasite) and give it a name.

10. Roll d100 and add the result to 250. The final result is the number of Credits the character has at the start of the game. The character can spend this money immediately on equipment, or save some of it until later in the game. Equipment prices are listed in the section on EQUIPMENT. To keep things simple, new characters can buy a standard equipment pack from the Basic Game for 250 Cr.

ABILITY CHECKS

During STAR FRONTIERS games, players will want their characters to try doing many different things. It would be impossible to state rules covering every possibility. Instead, this section describes a very simple rule that can be used in almost any situation.

When a character tries to do something that is not covered by a specific rule, the referee should decide whether the action is something the character can do automatically or if there is a chance the character might fail. If the action is not something the character can do automatically, then the character must make an ability check. The referee decides which of the character's abilities is most important in performing the action. The player rolls d100 and, if the result is equal to or less than the ability score the referee chose, then the character succeeded at whatever he was trying to do

EXAMPLE: A character who is alone in a room can easily pick up a gun from the floor. However, if he tries to grab the gun from the floor while being chased through the room, he could miss it or drop it. In this case, the character should make a Dexterity check to grab the gun.

Modifiers. The referee may decide an action is easier or harder than average because of an unusual situation. When this happens, the referee can tell the player to adjust his character's ability score by adding or subtracting a number, making the ability check easier or harder to pass. Most modifiers should not be more than plus or minus 30.

EXAMPLE: A group of characters is using a rope and spikes to climb a cliff. One of the upper characters knocks loose several rocks. The referee decides that the next character on the rope must make a Reaction Speed check to dodge the falling rocks. He also decides that, because the character is hanging on a rope, his Reaction Speed should be lowered by 20 for this ability check. The character's Reaction Speed is 55. Subtracting 20 gives him a modified Reaction Speed of 35. If the player rolls 35 or less on d100, the character avoids the rocks.

Secret Checks. If knowing the result of an ability check roll would tell a player something his character would not know, the referee should make the check secretly and tell the player only what his character sees, or what happens to the character.

EXAMPLE: A group of characters is traveling across an unexplored planet. Their Explorer was destroyed in a rockslide, and a group of native bandits stole most of their equipment. They need water, but the water in the pond they just found looks bright blue. One of the characters volunteers to taste it. The referee knows the water contains microscopic plants that will make the character sick 20 hours after drinking the water, if the character fails a Stamina check. He rolls the check secretly, and the character fails. The referee tells the player, "The water tastes a little strange, but it doesn't seem to be affecting you at all." Twenty hours later, however, the character will become sick.

Ability Uses

All eight character abilities are listed below, along with typical actions that would require an ability check against that ability.

Strength. Strength determines a character's chance to break open doors, bend metal, shift heavy objects or anything else requiring brute force.

Stamina. A character's Stamina score is the number of points of damage the character can take before being killed. It is the character's percent chance to resist the effects of poison, gas, drugs, disease, extreme heat or cold, starvation and fatigue.

Dexterity. A character's Dexterity score determines his base chance to hit in combat. It also is his percent chance to sense things by touch, throw or catch an object, keep his balance, jump into a moving vehicle or perform delicate actions like cutting a wire without touching any surrounding wires.

Reaction Speed. A character's Reaction Speed score is his percent chance to react quickly, to avoid falling rocks, to catch something he knocked over before it hits the floor, to jump away from a skimmer that is racing toward him, to grab an animal or to dive through a door before it slams shut.

Intuition. A character's Intuition score is his percent chance to notice small details or hidden objects, to sense an ambush or trap and, at the referee's discretion, to make sense out of seemingly unrelated or illogical facts. When a character passes an Intuition check, the referee should tell the player that he notices something unusual, and describe what the character sees (or hears, smells, feels or tastes). The player must decide what to do with this information. Referees should urge players to figure out puzzles on their own; Intuition checks should not be allowed until after the players have tried (and failed) to solve the puzzle themselves.

Logic. A character's Logic score is his percent chance to follow complicated instructions, to figure out the best way to do something he has never done before or use something he is not familiar with, and to make accurate predictions from facts. The referee should roll Logic checks secretly. If the character fails the check, the referee can tell him either that he does not understand whatever he was studying, or can give him false information. A character's Logic score can be modified by the complexity of the situation and the amount of time the character spends studying it. The referee should encourage players to draw their own conclusions from information; like Intuition, Logic checks should be a last resort.



Personality. Personality affects how likely a character is to get a friendly response from a stranger and how long he can hold someone's attention. The referee should encourage players to role-play their attempts to use Personality and talk to NPCs.

EXAMPLE: Dreevale the Vrusk has just insulted a Gorlian thug by accidentally spilling a drink on him. The Gorlian is very mad. Dreevale decides to try talking his way out of the situation. "Oops, pardon me, my good fellow, how absolutely clumsy of me," the player says. "Here, let me buy you a drink and let's forget about it." Dreevale's Personality score is 40. The referee notes that the Gorlian is mad and wet and itching for a fight. He tells Dreevale to subtract 20 from his score. Dreevale rolls 91, which is greater than his modified score of 20. The Gorlian punches Dreevale.

Leadership. A character's Leadership score reflects his ability to command with authority and have NPCs obey his orders. Leadership checks are needed only if a character orders an NPC to do something dangerous, or has mistreated the NPC. Under normal conditions, NPCs who work for a character will always obey that character. If characters try to give orders to strangers, the referee must decide how likely the stranger is to obey.

Leadership also is used to bargain with NPCs. The referee should not let characters with high Leadership scores trade junk for valuable merchandise, but a successful Leadership check will get a better deal for the character, or convince reluctant NPCs to deal with the character. Characters can bargain for information as well as merchandise.

More information about the effect of Leadership on NPCs can be found in the rule section on NPCs.

IMPROVING CHARACTERS

Characters can increase their ability scores, and racial abilities, and gain skills through adventuring. As characters adventure, they learn from their experiences and improve themselves through practice. In STAR FRONTIERS games, this type of experience is recorded with experience points (XP). The referee hands out experience points at the end of an adventure to reward characters' performance and success. If a character performed beyond the expectations of his employer, he will receive more experience. If he failed miserably at his task, he will receive less experience.

Improving Abilities

Players can increase their characters' ability scores by trading 1 XP to raise an ability score 1 point. No ability score can ever be raised above 100.

EXAMPLE: Rex Dexter earned 5 XP in his latest adventure. The player decides to spend 3 XP increasing Rex's Logic score from 50 to 53, and 2 points increasing his Personality from 65 to 67.

Certain Racial Abilities (Lie Detection, Comprehension and Battle Rage) also can be increased by trading 1 XP to increase the ability 1 point. Racial Abilities cannot be raised above 100.

Obviously, increasing a character's ability scores will improve his chances to perform special actions, will improve his chances to hit in combat by increasing Dexterity, and will increase his chances to survive by increasing his Stamina. Raising ability scores also can replace points lost permanently to disease or tissue deterioration in a freeze field.

Skills

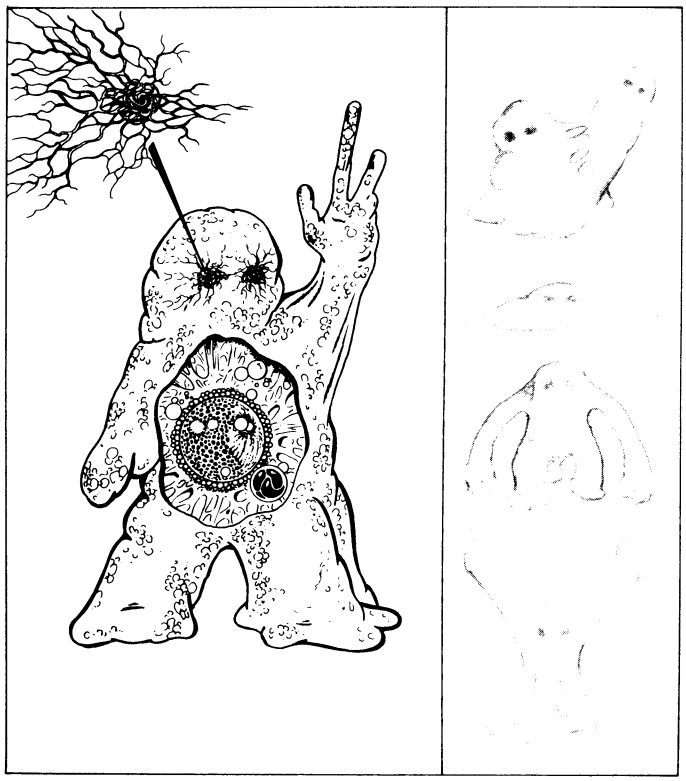
Characters can learn skills which allow them to perform special actions. Each skill has six levels of expertise. A character can raise his skill levels by spending experience points. Experiences points can be traded to gain a level 1 skill or to increase a skill the character already has to the next level. The number of XP that must be traded for each skill and skill level is described in the SKILLS section.

THE RACES

The five major races in the Frontier are described on the following pages. Players can choose to have Dralasite, Human, Vrusk or Yazirian characters. Sathar should be NPCs only.

These five races are not the only intelligent races living in the Frontier; there are many other races native to planets in the area. However, these five are the only races that have managed to build starships and explore and colonize other worlds.

DRALASITES



average size:	1.3 m tall, 1 m wide
average mass:	65 kg
average lifespan:	250 years
reproduction:	hermaphroditic, budding
body temperature:	30 C

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 reabsorb limbs when they are not needed.

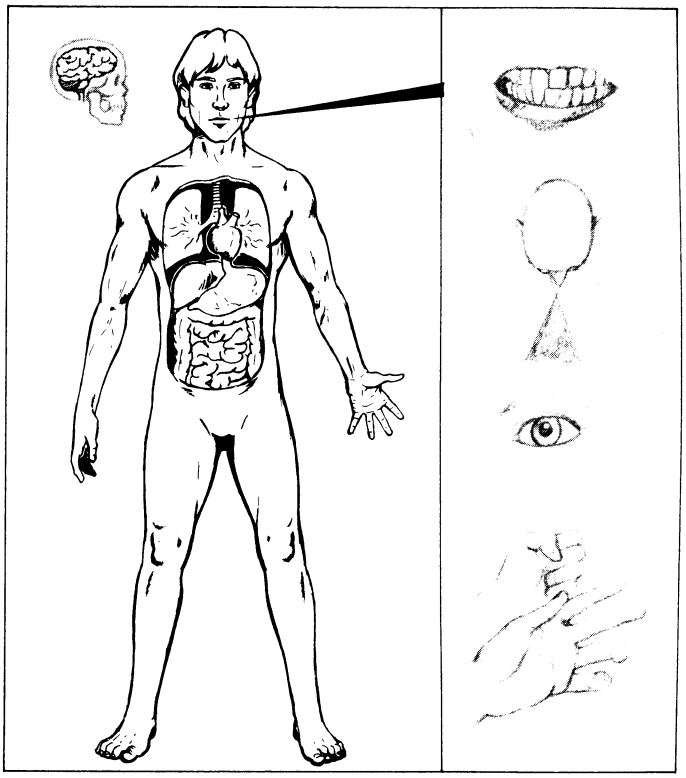
A Dralasite can have a number of limbs equal to its Dexterity divided by 10, rounded up. The player must decide whether a limb is an arm or a leg when it is grown. For example, a Dralasite with a Dexterity score of 45 can control up to five limbs. It could have three legs and two arms, two legs and one 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 5% chance 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. The referee rolls d100 secretly. If the result is 5 or less, the Dralasite knows whether the person is telling the truth. If the die roll is 6 or more, the Dralasite does not sense that the person is lying. This special ability can be improved above 5% by spending experience points (see IMPROVING CHARACTERS).

HUMANS



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

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 allows 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, and 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.

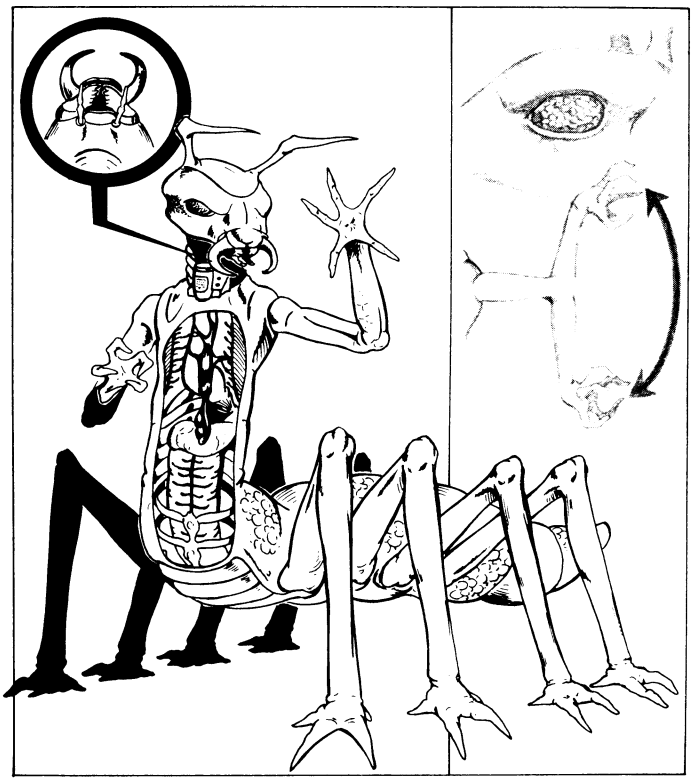
Attitudes

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 players who are starting new Human characters get to add 5 to any one ability score. This bonus can be added to only one ability in an ability pair. For example, increasing a character's Strength score does not affect the character's Stamina score.

VRUSK



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

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 Vrusk's body is covered by a carapace (hard shell). 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. The mouth is surrounded by four eating mandibles. 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

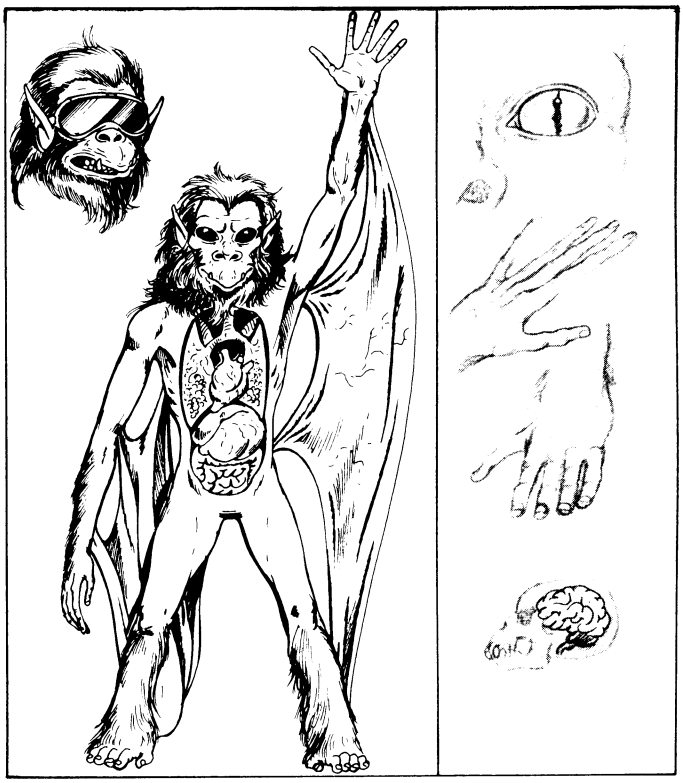
Vrusk get along well with the other three races. They respect the Yazirian custom of choosing a life-enemy, and feel at ease around Dralasites because they are careful and skillful planners (though they are annoyed by the Dralasites' sense of humor). They understand Humans the least because, to a Vrusk, 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 do not need to choose whether their character is right or left handed. 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 start with a Comprehension score of 15. This score is the character's percent chance 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 he rolls 15 or less on d100, 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. A character's Comprehension score can be increased by spending experience points (see IMPROVING CHARACTERS).

YAZIRIANS



average size:	2.1 m tall
average mass:	50 kg (male), 60 kg (female)
average lifespan:	140 years
reproduction:	hetrosexual, viviparous
body temperature:	39 C

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 yelow. 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

Yaririans' 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 must subtract 15 from both their Dexterity and Reaction speed scores.

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

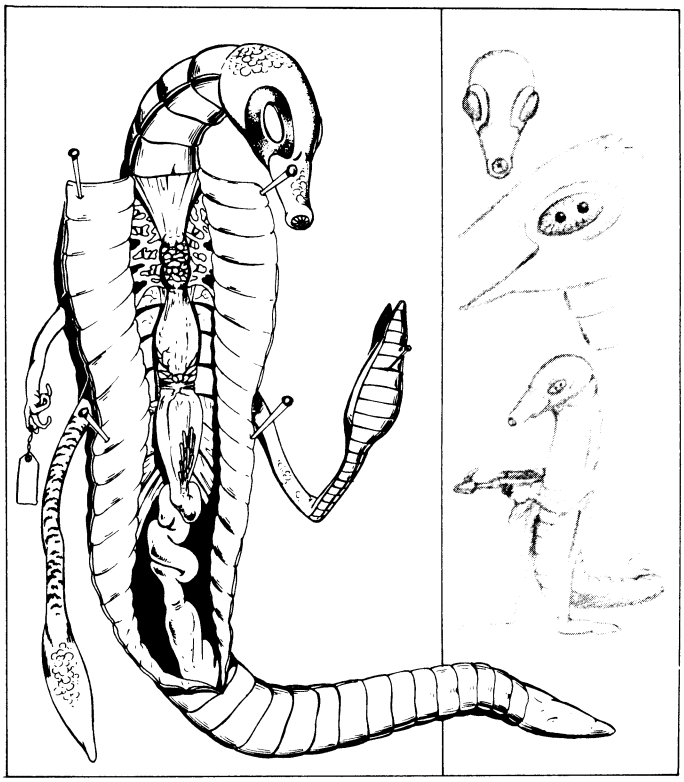
Battle Rage. Yazirians train themselves to go berserk in battle. A berserk Yazirian gets a bonus of +20 to hit in melee. Yazirian characters start with a Battle Rage score of 5, and a 5% chance to go berserk at the start of a battle. This chance can be increased by spending experience points (see IMPROVING CHARACTERS) to raise the Battle Rage score. Battle Rage lasts as long as the Yazirian keeps fighting; it ends when the Yazirian rests for five minutes.

Gliding. Yazirians can glide short distances using the membranes along their sides. A Yazirian can glide 1 meter 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.

Gravity	Max. Glide
.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.

SATHAR



average size:	3.5 m long
average mass:	55 kg
average lifespan:	unknown
reproduction:	hermaphroditic, unknown
body temperature:	believed endothermic

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.

Speech

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. 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.

Senses

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. The most widely accepted was written by Gdtlask Gltak, a Vrusk sociologist. 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 a Logic check; if he fails, he is hypnotized. 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.

Sathar Ability Modifiers. A Sathar's Leadership score must be 20 points higher than its Personality score. Their racial modifiers are:

STR/STA 0: DEX/RS -5: INT/LOG - 5: PER/LDR +10

SKILLS

There are 13 different skills that player characters can learn. These 13 skills are organized into three Primary Skill Areas (PSAs): Military, Technological and Biosocial.

Military skills deal with combat. There are seven different Military skills: Beam Weapons, Demolitions, Gyrojet Weapons, Martial Arts, Melee Weapons, Projectile Weapons and Thrown Weapons.

Technological skills deal with various types of machines. There are three different Technological skills: Computer skill, Robotics and Technician.

Biosocial skills deal with the intelligent races and their surroundings. There are three different Biosocial skills: Environmental, Medical and Psycho-Social.

At the start of the game, each character must choose one Primary Skill Area as his career. The player then chooses two skills for his character. One skill must be from the character's PSA, but the other can be from any PSA. The character starts with Level 1 experience in both skills.

Learning Skills

To learn new or higher-level skills, characters must spend experience points. The experience point cost depends on the skill's level and PSA. The Skill Cost Table shows the costs for each level of skill in the different PSAs. If the skill is from the character's Primary Skill Area, the cost is the number in the column. A character can learn skills from other PSAs, but must pay twice as many experience points for them. Doubled costs are shown in parentheses.

SKILL COST TABLE

	Military PSA	Technological PSA	Biosocial PSA
Level 1	3 (6)	4 (8)	5 (10)
Level 2	6 (12)	8 (16)	10 (20)
Level 3	9 (18)	12 (24)	15 (30)
Level 4	12 (24)	16 (32)	20 (40)
Level 5	15 (30)	20 (40)	25 (50)
Level 6	18 (36)	24 (48)	30 (60)

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

EXAMPLE: Brango O'Bourke, a Human, has accumulated 10 experience points on adventures. The player decides to spend these experience points to increase Brango's Gyrojet Weapons skill from level 2 to level 3. Brango's Primary Skill Area is Military, so the new level costs him 9 experience points. The player increases Brango's Gyrojet Weapons skill level from 2 to 3 on the character sheet, and subtracts 9 from his experience point total. Brango has 1 experience point left.

Training. When characters learn new skills or increase a skill level, they must be trained somehow. Three methods are described below.

HYPNO-TRAINING. Hypno-training is a teaching system that involves hypnotism, memorization and the use of drugs that improve the mind's ability to learn. A character with enough experience points can learn a new skill or skill level at a hypno-training center in five days (100 hours) for 100 Cr.

TEACHERS. A character with enough experience points can learn a new skill or skill level from another character. The teacher's skill level must be at least two levels higher than the pupil's. A character can learn a new skill or skill level from a teacher in one month.

PRACTICE. Characters with enough experience points can learn new skills or skill levels simply by practicing. This is not always possible, however, especially with skills that require special equipment.

All three of these methods are optional. Some referees may want to ignore this rule, and simply allow players to pick new skills when their characters have earned enough experience points. Training is more realistic, but also more complicated.

Using Skills

Each skill is divided into subskills. Subskills define exactly what types of things a skill lets a character do. For example, Demolitions skill has two subskills: set charges and defuse charges. This means a character with Demolitions skill can set and defuse explosive charges according to the rules listed under those subskills. When a character learns a skill, he automatically learns all of its subskills.

Success Rates. Each subskill has a success rate. The success rate consists of a basic chance to succeed, plus modifiers for the character's skill level. If the success rate for a subskill is "40% + skill level," then the character's chance to use the subskill successfully is 40% plus 10 × his skill level.

Some success rates have a second modifier, such as "60% + skill level – robot level." A character's chance to use this subskill successfully is 60% plus 10 x his skill level, minus 10 × the level of the robot he is working on.

Repair

Computer, Robotics and Technician skills allow characters to repair damaged equipment. The success rates vary depending on what is being repaired, but the procedure is the same for all three skills.

If the damaged equipment is repaired in a shop, there is no chance it will break down again on its own. When a repair is made away from a shop ("in the field") with a personal toolkit, there is a chance that the device will break down again. This chance accumulates from day to day; a device has a 10% chance to break down in the first 20 hours, 20% in the second 20 hours, 30% in the third, and so on. When something breaks down, the referee must decide whether the damage is minor, major or total. A minor repair takes 1d10 minutes, a major repair takes 1d10 hours and a total repair takes 1d10 × 10 hours.

MILITARY SKILLS

There are seven different Military skills. Five of them involve the use of weapons. Demolitions covers the use of explosives, and Martial Arts covers fighting without weapons or with melee weapons.

Weapon Skills

Success rate: ½ DEX + skill level

All weapons skills work the same way. Each level of skill adds 10% to the character's chance to hit with that type of weapon. A roll of 96-00 always misses, however, no matter what the character's modified chance to hit is. Each type of weapon has its own skill, and characters must increase their scores separately in each. When a character uses experience points to increase one weapon skill, his other weapon skills are not affected.

BEAM WEAPONS skill applies to electrostunners, heavy lasers, laser pistols, laser rifles, sonic devastators, sonic disruptors and sonic stunners.

GYROJET WEAPONS skill applies to gyrojet pistols, gyrojet rifles, grenade rifles, grenade mortars and rocket launchers.

MELEE WEAPONS skill applies to axes, brass knuckles, chains, clubs, swords, electric swords, sonic swords, knives, sonic knives, vibroknives, nightsticks, polearms, shock gloves, spears, stunsticks and whips.

PROJECTILE WEAPONS skill applies to automatic pistols and rifles, bows, muskets, needler pistols and rifles, machine guns and recoilless rifles.

THROWN WEAPONS skill applies to all grenades and thrown axes, knives and spears.

Demolitions Skill

There are two subskills to the demolitions skill: set charge and defuse charge. Only a character with demolitions skill can legally buy or use explosives or detonators. Tornadium D-19, sometimes called kaboomite, is the standard explosive.

SETTING CHARGES

Success Rate: 30% + skill level

Only characters with demolitions skill can set charges. The number of turns needed to set a charge is the character's skill level subtracted from seven. At 1st level, a character needs six turns to set a charge, but at 6th level he needs only one turn.

If a character fails the skill check to set and detonate the charge, the charge has not exploded and must be re-set. The referee should feel free to have the charge explode prematurely or late.

Charges can be detonated by timer, radio signal or weapon fire. A timer lets the character set a time when the charge will explode. The timer can be adjusted to delay from 1 second to 60 hours. If a chronocom or subspace radio is available, charges can be set to explode when a particular signal is beamed at them. The chance to explode a charge with a radio beam is 10% less than normal. Demolitions experts also can set off a charge with a laser. If the expert hits the charge, it explodes.

DEFUSING CHARGES

Success Rate: 50% + skill level - skill level

A demolitions expert can try to defuse a charge that was set by another expert. Defusing a charge takes one turn, no matter what level the expert is. The expert's chance to succeed is modified by subtracting 10 x the skill level of the person that set the charge. A character can defuse one of his own charges automatically.

Martial Arts

Success Rate: ½ DEX or ½ STR + skill level

Martial Arts skill makes a character a better fighter in melee. A character with Martial Arts skill can add 10% per level to his basic chance to hit with his bare hands in melee. The skill also increases the damage caused by a successful bare-hands attack, adding one point of damage per level.

Martial Arts skill also gives the character three subskills: tumbling, defensive throws and nerve combat. Tumbling reduces damage from falling by -1 point of damage per skill level. Defensive throwing lets the character inflict damage when breaking out of a hold. When a character with Martial Arts skill breaks out of a hold, he automatically knocks his opponent down, causing damage equal to his punching score. Nerve combat increases the character's chance to knock out his opponent. The opponent must be one of the four major races. The attacker gains a +1% chance to knock out the opponent per skill level on each attack. Thus, a character with 4th level skill in unarmed combat and a Dexterity score of 40 would knock his opponent unconscious on a roll of 01-06, 10, 20, 30, 40, 50 or 60.

TECHNOLOGICAL SKILLS

There are three Technological skills: Computer skill, Robotics and Technician.

Computer Skill

There are eight separate subskills to Computer skill: Operate Computer, Write Programs, Defeat Security, Bypass Security, Display Information, Manipulate Programs, Interface Computers and Repair Computers.

Computer programs have levels from 1 to 6, depending on their complexity. Computers also have levels from 1 to 6, depending on what programs they hold. These levels are explained in the descriptions of computers in the Equipment section.

Computer specialists get only one chance to try a subskill on a computer. Success is automatic for some subskills under certain conditions. If the computer was built by aliens (not Dralasites, Humans, Vrusk or Yazirians) the success rates for the subskills are modified by -20%.

OPERATING COMPUTERS

Success Rate: 100% + skill level - computer level

Before he can use any other subskill, the computer specialist must be able to operate the particular type of computer he is working on. The chance to successfully operate a particular type of computer is 100% plus 10 x the expert's level, minus 10 x the computer's level. A roll of 96-00 is not automatic failure. Once a specialist has operated a computer successfully, he can operate that computer anytime, unless it is modified.

WRITING PROGRAMS

Success Rate: special

Computer specialists learn to write their own programs. For every skill level the specialist gains, he learns how to write one computer program. The player should pick a program from the list of programs in the Equipment section. When a specialist writes a program, its level is the same as his current level, no matter when he learned the program. For example, a computer specialist that learned the Installation Security program at 1st level can write a 4th level Installation Security program when he reaches the 4th skill level. A specialist can continue learning new programs after he reaches 6th level; each additional program costs 4 experience points to learn.

A specialist that knows how to write a particular program can buy that program at half-price for his own computer. He gains a 20% bonus when trying to manipulate that program or detect security on it in any computer.

DEFEATING SECURITY

Success Rate: 60% + skill level — program level

If a computer has a Computer Security program, characters must break or bypass this program before they can perform any other subskill except repair. Defeating a security program involves a decoding process that can take a long time. Characters trying to break security must spend 1-10 hours working at the computer.

Also, before a specialist tries to manipulate a program, he must find out whether the program itself has any security overrides. A security override will sound an alarm if anyone tries to run, alter or purge the program without first defeating or bypassing the security override. A security override is the same level as the computer's security program. The referee should make the roll to detect a security override secretly, since many programs have no overrides on them.

BYPASSING SECURITY

Success Rate: 30% + skill level - program level

A computer specialist can bypass a security program manually by rewiring the computer. This takes only 1d10 minutes, but has several disadvantages: the chance for success is lower, it requires a robcomkit, and failing the roll will set off every alarm the computer has.

DISPLAYING INFORMATION

Success Rate: 80% + skill level — computer level

A specialist can use this skill to display any information in the computer's memory. It is especially useful for getting lists of programs that are stored in the computer, personal records, and raw, unprocessed data that is loaded and waiting to be fed into a program. A specialist gets a +20 modifier if he is trying to display information about a program he knows. He can automatically display information about programs he wrote in the computer. If a specialist displays an item successfully, he never needs to roll to display it again.

MANIPULATING PROGRAMS

Success Rate: 50% + skill level – program level

A computer specialist has a chance to successfully run a program, change it or purge it from the computer. The normal chance of success is 50% plus 10 × the character's level, minus 10 × the program's level. If the program is one that the character has learned, he gets a +20% bonus.

A specialist can run a program automatically if it is one he programmed into the computer himself, or if he has run it successfully in this computer before.

A specialist may want to alter a program before running it. For example, a life support program will not let someone shut down the life support system or release a poison into the air. The program could be altered, however, so it would let the operator do either of those things. The referee should note that a character usually must run the program successfully after altering it before the changes will have any effect.

This subskill also lets a specialist try to wipe out a program from a computer's memory, either to destroy the program or to make room for a different program. A character can purge a program automatically if he wrote it in the computer.

INTERFACING COMPUTERS

Success Rate: 30% + skill level – computer level

This subskill lets a character try to link two computers together, either by connecting them with wires or through some communication system such as phone lines or a radio link. Once the two computers are linked, the computer specialist can perform all subskills (except bypass security and repair) from either computer. The chance to successfully interface two computers is 30% plus 10 × the specialist's level, minus 10 x the highest of the two computers' levels.

REPAIRING COMPUTERS

Success Rate: 40% + skill level

When computers break down or are damaged, they can be repaired only by a computer specialist. The level of the computer does not affect the specialist's chance to repair it. Computers are repaired according to the standard repair rule.

Robotics Skill

A robotics expert specializes in robots. Robots are complex, mobile machines that are designed to perform specific jobs. Many types of robots are available. Eight common types are described in the Equipment section. The referee can create new types if he wants them.

The robotics skill has nine subskills: Identify, Add Equipment, Repair, Activate/Deactivate, Remove Security Lock, List Functions, Alter Function and Alter Mission.

If the robot is an alien design, then the robotics expert has a -20% modifier on his rolls to perform these subskills. A character must have a robcomkit to work on a robot.

Robot Levels. There are six levels of robots. A robot's level indicates how complex it is. High-level robots can perform more complicated jobs.

Level 1 robots can do only simple jobs. They have been pre-programmed for some specific job and usually can not do any other job. They can not communicate, and often are nothing more than moving, self-operated appliances. An example of a level 1 robot is a maintenance robot that washes and waxes the floors of a building each night.

Level 2 robots can handle several simple jobs. They can receive and follow radio commands in binary machine language sent from some other machine, such as a robot brain or a computer. An example of a level 2 robot is a heavy machine that digs into and smashes up rock, then separates out flecks of gold.

Level 3 robots can do more complicated jobs. In addition, all robots that are level 3 or higher can talk and follow verbal instructions. If these instructions disagree with the robot's programming, it will ignore the orders.

Level 4 robots can act semi-independently. Their programs are flexible, letting the robot accomplish specific goals using different methods. When asked, "How do I get to the starport?" one level 4 service robot might give verbal directions, while another might photocopy a city map and mark the proper route on it.

Level 5 robots can act independently and give orders to other robots (level 6 robots can do this also). For example, a level 5 security robot might decide to stop chasing a criminal because the criminal left victims tied up in a burning house. The robot could organize a rescue mission of other robots.

Level 6 robots are self-programming. They can change the methods they use and even their goals to account for changing conditions. They are almost, but not quite, living machines. A robot brain that runs an automated manufacturing plant and alters the manufacturing process in response to changing economic conditions is an example of a level 6 robot.

Missions. All robots have a mission. A mission is a set of rules that tell the robot what its job is. A robot's mission is the most important order it has, and overrides any orders that conflict with it.

Functions: All robots have several functions that tell them how to accomplish their missions. Low-level robots can not make decisions, so their functions must be very specific statements. Higher-level robots can make decisions for themselves, so their functions can be more general statements.

For example, a level 3 security robot might have the mission: "Stop all unauthorized personnel from entering this building." Its functions could define "stop" as giving intruders a warning, then using the Restrain program to keep them from entering. "All unauthorized personnel" could be defined as any person or machine that is not wearing a special badge. The robot must be given a function that defines "this building," and another that tells it what areas it must patrol to look for intruders. Another function could instruct it to call the police and report the break-in after an intruder has been restrained.

IDENTIFICATION

Success Rate: 100% + skill level - robot level

A robotics expert has a chance to determine a robot's type and level simply by looking at the robot. The chance is 100% plus the specialist's level x 10, minus the robot's level x 10. Once a robot has been successfully identified, the expert can always identify that robot (unless its appearance is changed).

ADDING EQUIPMENT

Sucess Rate: 100%

A robotics expert can install new equipment on a robot himself and save the 10% installation fee.

REPAIRING ROBOTS

Success Rate 40% + skill level - robot level

Only robotics experts can repair robots. Robots are repaired according to the standard repair rules.

ACTIVATE/DEACTIVATE

Success Rate: 100%

A robotics expert can deactivate (turn off) a robot regardless of its level. The expert also can activate robots that have been deactivated.

However, before a robotics specialist can deactivate the robot, list its functions, remove its security lock or alter its functions or mission, he must get at the robot's internal circuitry. This requires removing a protective plate, which takes one turn. (The plate can be removed in one turn even if the robot is fighting the character, but the character probably will take damage before he gets the plate off.) Once the plate is off, the robot can be deactivated in one turn.

REMOVING SECURITY LOCKS

Success Rate: 70% + skill level - robot level

If a robot has a security lock, the lock must be removed before someone can list the robot's functions or alter its functions or mission. A robot can be deactivated before the security lock is removed. Once a security lock has been removed it can not be used again.

LISTING FUNCTIONS

Success Rate: 90% + skill level - robot level

A robotics expert can learn a robot's exact mission and functions, as well as get a list of all the programs in the robot, by using this subskill.

Once a character has successfully listed the robot's function's, he can always list that robot's functions.

ALTERING FUNCTIONS

Success Rate: 60% + skill level - robot level

A robotics expert can change one of a robot's functions at a time. The character must roll separately for each function altered. Changing an altered function back to the original also requires a new roll. Changing a function takes 1d10 minutes. If the new function violates the robot's mission or requires programs the robot does not have, the robot will ignore the new function.

ALTERING MISSION

Success Rate: 50% + skill level - robot level

A robotics expert can try to alter a robot's mission. This takes 1d10 minutes plus the robot's level. Changing the robot's mission does not affect its functions; these must be altered individually. Once a mission has been changed, changing it back to the original mission requires another roll. If the new mission requires programs the robot does not have, the robot will still try to follow its new mission however it can.

MALFUNCTIONS

If a character fails a roll to remove a security lock or alter a robot's function or mission, the robot can malfunction. When this happens, the referee should roll d100 on the Malfunction Table.



MALFUNCTION TABLE

Die Roll	Effect
01-25	No Malfunction
26-50	Program Destroyed
51-75	Short Circuit
76-90	Haywire
91-00	Explosion

No Malfunction — The robot continues to function normally.

Program Destroyed — One of the robot's programs (picked randomly by the referee) has been destroyed. The robot can not perform any functions requiring that program. If all the programs in a robot are destroyed, the robot shuts itself off.

Short Circuit — The robot is still operating, but has been damaged. For example, a robot with a short circuit might stop suddenly every other turn, or rattle and spark while it works.

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

Explosion — The robot's parabattery explodes, causing 2d10 points of damage multiplied by the parabattery's type to the robotics expert.

Technician Skill

There are five Technician subskills: Operate Machinery, Repair, Detect Alarm/Defense, Deactivate Alarm/Defense and Open Locks. A techkit is needed for all these subskills except Operate Machinery.

OPERATING MACHINERY

Success Rate: 50% + skill level

Operating a vehicle includes starting it, driving it and using it to do anything it was designed to do. The chance to succeed includes the possibility that the technician may need to bypass a locked ignition to start the vehicle. Obviously, if the vehicle is damaged or out of fuel, it will not start until it is repaired or refueled.

A technician gets one chance to operate an unfamiliar vehicle. If the technician has driven this type of machine before, he can start it and drive it automatically. A technician can try to operate any ground or water vehicle, regardless of his level. At 2nd level he can fly a jetcopter. At 4th level he can fly an aircar, and at 6th level he can operate rocket-powered machines.

REPAIRING MACHINERY

Success Rate: 40% + skill level

Technicians can repair vehicles, large and small machines, and electrical equipment (including video and communication devices). They can not repair computers or robots. Technicians use the standard repair rule.

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

VEHICLE BREAKDOWNS

Dice Roll	Problem
2	broken axle or hoverfan*
3-5	broken driveshaft or transmission*
6-10	minor engine failure
11-15	minor drive train failure
16-17	broken suspension
18-19	major engine failure, repairable*
20	blown engine, unrepairable**

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

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

DETECTING ALARMS/DEFENSES

Success Rate: 60% + skill level - alarm level

Technicians have a chance to detect security alarms and defenses. The following table lists the types of alarms and traps and their levels. This same table is used with the Open Lock and Deactivate Alarm/Defense subskills.

SECURITY DEVICE LEVELS

Device	Level
Simple Mechanical and Electrical	1
Motion and Pressure Sensitive	2
Infra-red Beams and Sound Sensitive	3
Video	4
Heat Sensitive	5
Personalized Recognition Devices (fingerprints, voice patterns, etc.)	6

DEACTIVATING ALARMS/DEFENSES

Success Rate: 40% + skill level - alarm level

Once a technician has detected an alarm or defense, he can try to deactivate it. If the character fails, the referee must decide whether the alarm goes off; if the roll was missed by only a small amount, the alarm might not have been triggered.

OPENING LOCKS

Success Rate: 50% +skill level - lock level

A technician can try to open locks without the necessary "key." The level of a lock usually is the same as the level of any nearby security devices, but the referee may change this. The referee should reduce the chance to succeed if the lock is on a safe or security vault.

BIOSOCIAL SKILLS

Biosocial skills involve the sciences, life and health. There are three Biosocial skills: Environmental, Medical and Psycho-Social.

Environmental Skill

Environmental Skill deals with relationships between intelligent life and nature. An environmental specialist has training in astronomy, biology, botany, chemistry, ecology and geology. There are nine Environmental subskills: Analyze Samples, Analyze Ecosystem, Find Direction, Survival, Make Tools/Weapons, Tracking, Stealth, Concealment and Naming.

When an environmentalist is dealing with an alien or unknown environment, he has a -20 modifier on his rolls to analyze samples or the ecosystem, find direction, track or use survival.

ANALYZING SAMPLES

Success Rate: 50% + skill level

An environmental specialist can analyze atmospheric, biological or geological samples.

An environmental specialist can use a vaporscanner to analyze atmospheric samples. If the analysis succeeds, the vaporscanner will indicate whether the air is breathable or poisonous, and what gases are present.

The specialist needs a bioscanner to analyze a biological sample. If the analysis succeeds, the bioscanner will indicate what type of plant or animal the sample was, and whether it is edible or poisonous.

A geoscanner can be used to analyze geological samples. If the analysis succeeds, the geoscanner indicates what minerals are present in the sample and the possibility of finding rich ore or gas in the area.

ANALYZING ECOSYSTEMS

Success Rate: 30% + skill level

An ecosystem is the combination of all the plants and animals that make up the local environment, and their relationships to each other. If an ecosystem is upset or thrown out of balance, entire species can become extinct and whole regions devastated by floods, droughts or other natural disasters. One of the environmental specialist's jobs is to analyze local ecosystems and determine whether they are balanced and, if not, to determine what can be done to restore balance. An environmentalist must spend at least 200 hours studying the area to use this subskill.

FINDING DIRECTIONS

Success Rate: 50% + skill level

An environmental specialist can try to find directions in a wilderness without a compass or other aid. If the specialist makes a map or marks a trail (by cutting notches in trees or lining up rocks), his chance to find a direction on that path is increased 30%.

SURVIVAL

Success Rate: 40% + skill level

This subskill gives a specialist a chance to do several things related to survival: find food or water (if any is available in the area), find or improvise shelter, and set or avoid traps. If a trap is set in a built-up area (city, farm community, etc.), there is a 50% chance it will be noticed. This subskill also lets the environmental specialist make a special Intuition check to predict natural disasters.

MAKING TOOLS/WEAPONS

Success Rate: 100% if materials are available

An environmental specialist can make tools and weapons out of stones, sticks, cords, and other natural materials. Only bows, axes, clubs, knives and spears can be made. Only the spear can be balanced well enough to use as a thrown weapon. The referee may allow an environmentalist to improvise tools and weapons from wreckage and scrap parts.

TRACKING

Success Rate: 30% + skill level

An environmental specialist has a chance to follow a creature, person or machine by watching for its trail. This skill works only in the wilderness, not in settled areas. The specialist also can use this subskill to cover his own tracks.

STEALTH

Success Rate: 20% + skill level

Stealth is the ability to move without being seen or heard. This ability is useful for stalking animals, but also can be used to sneak up on guards or follow suspects.

CONCEALMENT

Success Rate: 10% + skill level

Concealment is the art of hiding in natural cover. Once concealed, there is an 80% chance the specialist will not be seen as long as he does not move or make noise.

NAMING

Success Rate: 100%

One of the benefits of being an environmental specialist is that when he discovers a new plant, animal, mountain range, sea, etc., he is allowed to name the new discovery.

Medical Skill

A character that has Medical skill is called a medic. Medics need a medkit to use their skill. Medics diagnose ailments, heal wounds, control infections, neutralize poisons, cure diseases, wake up unconscious individuals and prevent tissue deterioration.

There are nine Medical subskills: Administer Drugs, Diagnosis, First Aid, Minor Surgery, Major Surgery, Control Infection, Cure Disease, Neutralize Toxins and Activate Freeze Field.

If a patient is treated in a hospital or sick bay all Success Rates are increased 20%. If the patient is an animal or an unfamiliar alien, all Success Rates are reduced 20%. These two modifiers are cumulative, so the chance to perform major surgery on an unfamiliar alien at a hospital is normal.

ADMINISTERING DRUGS

Success Rate: 100%

Three drugs are covered under this subskill: stimdose, staydose and telol.

A medic can use one dose of stimdose to wake up an unconscious or stunned character, or to restore 10 Stamina points to a character that was poisoned or contracted a disease or infection. Stimdose can only be given by a medic. If more than one dose is given in a 20-hour period, the second dose has no effect.

A medic can use one dose of staydose to place an individual in a state of arrested animation. A character whose Stamina has been reduced to 0, but not below -30, will be brought back to life by the drug if it is injected within one minute (10 turns) after death. The staydose slows down the character's heartbeat and breathing so he can survive with no Stamina points. If the character's Stamina is brought back above 0 within 24 hours, he will live. If not, the character dies. Only one dose of staydose can be given to a character, until his Stamina is raised above 0.

Telol is a truth drug. Only a medic can administer it correctly. There is an 80% chance the telol will work. If it does, the injected character will answer up to five simple questions, using simple answers. An injected character passes out for 1d10 hours, whether the drug works or not.



DIAGNOSIS

Success Rate: 60% + skill level

A medscanner will give a medic a brief diagnosis. This diagnosis will outline the patient's general symptoms and will identify the ailment as a wound, a disease, a poison or an infection.

Once the medic has a general diagnosis, he can use this subskill to get a specific diagnosis. If he passes the skill check, the medic knows exactly what the ailment is. With this information, the medic can use one of his other subskills to heal the wound, control the infection, cure the disease or neutralize the toxin.

Without a specific diagnosis, a medic can not use a subskill to treat a victim. However, the medic can use the medscanner's general diagnosis as a guide to which drug the victim needs. After the medic gives the injection, the victim must roll his current Stamina or less on d100 to overcome the effect of the poison, disease or infection. If the victim fails this roll, the drug has no effect. A second dose given within 20 hours automatically has no effect.

FIRST AID

Success Rate: 100%

A medic can heal 10 points of wound damage automatically by using one dose of biocort plus any appropriate items from the medkit (local anesthetics, plastiflesh spray, etc.) Only one shot of biocort can be given to a character in a 20-hour period. If a second shot is given within 20 hours, it has no effect. If a character suffered more than 10 points of damage, the medic must use major or minor surgery to heal him completely. Biocort has no effect on poisons, infections or diseases.

MINOR SURGERY

Success Rate: 40% + skill level

Minor surgery can heal up to 20 points of damage. This is in additon to the 10 points that can be healed with first aid. For every 10 points of damage (or fraction of 10 points) that is healed, an additional dose of biocort is required. Minor surgery also uses one dose of anesthetic. If the surgery fails, the patient does not recover any Stamina points and one dose of biocort is used.

MAJOR SURGERY

Success Rate: 20% + skill level

Major surgery can heal any amount of damage to a character. For every 10 points of damage (or fraction of 10 points) healed, a dose of biocort is used. The only limit to the amount of damage that can be healed is the patient's original Stamina and the supply of biocort. If the operation fails, the patient does not recover any Stamina points and one dose of biocort is used up. The medic can try minor surgery on the same patient, if he has not already. Major surgery also requires one dose of anesthetic.

Major and minor surgery are effective only on wounds. They can not be used to heal damage from infections, diseases or poisons.

CONTROLLING INFECTION

Success Rate: 50% + skill level

Controlling infection requires a dose of omnimycin. If the attempt fails, the omnimycin is used up and the infection is out of control. Infections are rated by their infection strength (S) and duration (D). The infection causes a specific amount of damage every 10 hours. For example, an S6/D8 infection causes six points of damage every 10 hours for 80 hours if it is not controlled.

CURING DISEASES

Success Rate: 40% + skill level

Curing a disease requires a dose of antibody plus. If the attempt fails, the antibody plus has been used up and the disease has not been cured. Diseases are rated according to how they modify ability checks, how long the modification lasts and whether the disease is fatal. The modifier is a negative number and the duration is in 10-hour periods. If the duration is followed by an exclamation mark, the disease will kill anyone it has infected after that length of time unless the disease is treated at a hospital. For example, a -10/D10! disease modifies every ability check the character makes by -10 for 100 hours. The victim will die after 100 hours unless he is treated successfully at a hospital.

NEUTRALIZING TOXINS

Success Rate: 30% + skill level

Neutralizing a poison inside a victim's body requires a dose of antitox. Poisons are rated like infections, according to how much damage they cause and for how long. Poison damage is inflicted every turn instead of every 10 hours, and the duration is in turns. An S7/T9 poison will cause 7 points of damage every turn for 9 turns. Neutralizing a poison stops the poison from causing any more damage, but does not heal damage the poison caused on earlier turns

ACTIVATING FREEZE FIELDS

Success Rate: 30% + skill level

A freeze field is a device that places a body in stasis and preserves it until it can be revived. Only a medic can activate a freeze field correctly. A freeze field must be activated within two minutes (20 turns) after death, or the body can not be revived. Activating the field takes five turns. The process can be interrupted, as long as the field is completely activated within the two-minute time limit. If the medic does not pass his skill check and there is at least one minute left in the time limit, he has two options: he can make a second attempt to activate the field, or he can inject the body with staydose. If the second attempt to activate the field fails, the body can not be revived.

Psycho-Social Skill

Psycho-Social skill gives a character an advantage when dealing with individuals or groups of intelligent beings. The skill can be used when dealing with any of the major races as well as any other intelligent species the character encounters.

There are five Psycho-Social subskills: empathy, persuasion, communication, hypnosis, and psycho-pathology.

Racial Bonuses. Because Vrusk have the racial ability of Comprehension, they gain +5% on all rolls involving Psycho-Social skill. Dralasites get a bonus of +10 when using empathy, because of their racial ability to detect lies. These modifiers apply only if the character has Psycho-Social skill.

EMPATHY

Success rate: 10% + skill level

Empathy allows a character to get a general impression of the mood and intentions of individuals or groups. In order to use this skill, the specialist must be able to see or hear the individual or group.

The information that a character gains by using this skill is very vague and non-specific. The referee should use descriptions like hostile, curious, cautious, helpful, neutral, etc.

Empathy can be used by a character only once per encounter. If two characters in the group have Psycho-Social skill, each can try to use their empathy subskill.

PERSUASION

Success rate: 10% + skill level

Persuasion lets a character try to convince a person or group to follow a reasonable course of action suggested by the character. The character must explain his plan to the group or person being persuaded. If the character must use a translator, he has a -10% modifier.

A character can try to persuade a group or individual only once. If the character misses his roll by 50 points or more, his audience will get mad and might try to do something that is the opposite of what the character wanted.

COMMUNICATION

Success rate: 40% + skill level

This subskill can be used when a character must communicate with a creature whose language he does not speak or understand. If the character uses this subskill successfully, he can communicate using very simple messages. The referee might force players to use simple messages by restricting them to two-word phrases.

HYPNOSIS

Success rate: 15% + skill level

In order to hypnotize a character, the hypnotist must be able to speak to the subject in a common language without a translator.

If the person being hypnotized is willing, this is the only requirement. If the subject does not realize he is being hypnotized, he gets to make an Intuition check. If he passes the check, the subject realizes what is happening and can not be hypnotized. If he fails the check, he can be hypnotized normally. No one can be hypnotized against his will if he realizes he is being hypnotized.

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

Hypnosis can be used to give a character a +10 modifier on all rolls to hit in melee. This effect lasts one hour, and can be used on a character only once every 20 hours.

Hypnosis also can be used as an anesthetic. A wounded character that is hypnotized can ignore the wound modifier in combat. This effect lasts 1d10 hours and can be used on a character only once every 20 hours.

A hypnotist's most powerful ability is suggestion. A hypnotized subject will believe almost anything the hypnotist tells him. The hypnotized character will not do something that is against his moral code or religion, but he can be tricked into doing things he would not normally do. The hypnotist must give the subject a good reason to do something unusual, or convince him that the situation is not exactly as it seems. For example, a hypnotized guard will not let unauthorized persons into a restricted area. If the hypnotist tells the guard that he is authorized but has forgotten his pass, the guard will let him in.

PSYCHO-PATHOLOGY

Success Rate: 30% + skill level

Psycho-pathology subskill lets the specialist try to help characters or creatures that are psychologically disturbed. Extreme fright, isolation, or even unusual air and food chemistry can seriously affect an explorer's mental condition. A psycho-pathologist can help characters recover their confidence or forget their traumatic experiences. The specialist also can determine what will reassure or frighten an alien or primitive.



MOVEMENT

The Movement Table below shows movement rates for the different races. The hourly rate assumes the character is walking and resting periodically. The movement rate per minute is 10 times the rate per turn. The movement rate per day is the hourly rate multiplied by the number of hours the characters traveled.

MOVEMENT TABLE

RACE	Walk/Turn	Run/Turn	Per Hour
Dralasite	5 m	20 m	3 km
Human	10 m	30 m	5 km
Vrusk	15 m	35 m	6 km
Yazirian	10 m	30 m	4 km
Sathar	10 m	20 m	3 km

Endurance. A character can run at top speed for a number of minutes equal to his Strength score divided by 10, rounded up. The character then must rest for 10 minutes before running again. If characters walk for more than 10 hours, they move at half speed and their Dexterity scores and Reaction Speeds are reduced by half until they sleep.

Terrain

The type of terrain a group is crossing affects how fast the group can travel. The TERRAIN EFFECTS TABLE shows how various types of terrain affect speed. The types of terrain are described below.

Clear — Any area that allows easy, unobstructed movement. Includes plains, prairies, salt flats, dirt roads and fields.

Broken Ground — Any area with obstructions or a loose, shifting surface. Includes steep hills, sand dunes, ice or snow fields, forests and gravel slopes.

Rugged — Any area that requires travelers to pick their path carefully, or that channels them into a few unblocked passes. Includes mountains, canyons, jungles, cratered plains and caverns.

Bogs — Wet areas with lush vegetation, shallow, open water and soft ground that impedes movement. Includes swamps, marshes, mud flats, mineral terraces and slush.

Open Water — Large areas of water such as lakes, rivers and oceans.

Highway — An artificial or natural path that is smooth, flat and generally straight.

Hazardous — Any area that cannot be crossed without a specially modified vehicle. Includes molten lava, acid pools, lime pits and frozen nitrogen or methane plains.

To find a character's or vehicle's movement rate over different terrain, multiply its normal movement rate by the number shown on the Terrain Effects Table for the terrain being crossed. The result is the character's or vehicle's top speed in that type of terrain.

TERRAIN EFFECTS TABLE

Travel Mode	Terrain						
	Clear	Broken	Rugged	Bog	Water	Highway	Hazard
Walking	1.0	.8	.2	.6	*	1.0	—
Slithering	1.0	1.0	.4	.8	*	1.0	—
Flying**	1.0	.9	.5	1.0	1.0	1.0	.4
Hovercraft	1.2	.6	—	.8	.9	1.4	.8
Groundcar	.8	.6	.2	.4	.4	1.2	—
Track-mobile	1.0	.9	.4	.2	—	1.0	—
Explorer	1.0	.8	.4	.6	.2	1.2	—

* See Swimming.
** These limits apply only if the creature or vehicle is flying or gliding within 100 meters of the ground. If flying more than 100 meters above ground obstacles, all terrain is 1.0.

EXAMPLE: A Sathar war party is tracking a group of adventurers through mountains. The Sathar normally move 3 km/hour. The group of adventurers normally moves 5 km/hour.

The Sathar move by slithering, so their speed is multiplied by .4. The result is 1.2, so the Sathar can travel 1.2 km/hour. The group of adventurers moves by walking, so its speed is multiplied by .2. The result is 1, so the adventurers can travel 1 km/hour.

3	5
x .4	x .2
1.2	1.0

Animals. The movement speeds given for animals are adjusted to match the animal's native terrain, so no further modifications are necessary.

Encumbrance

There is a limit to how much weight a character can carry. This limit is equal to the character's Strength score, in kilograms. If the weight a character is carrying is more than half of his Strength score, he is encumbered. The movement rate of an encumbered character is cut in half in all terrain. A character can pick up an object that weighs up to twice his Strength in kg, but can carry it only a few meters.

Stacking

A character can stand in a space 1 meter square. This means a map square that is 5 meters across can hold up to 25 characters. If the characters are fighting, however, only eight can be in a 5-meter square and only two can be in a 2-meter square. Only two characters can shoot out one side of a 5-meter square, only one can shoot out one side of a 2-meter square.

Wounds

A character whose current Stamina is one-half or less of his full Stamina can move at only half speed, and his carrying capacity is cut in half.

Mixed Parties

A party that contains a mixture of races can travel 5km/hour if it does not include Yazirians, 4 km/hour if it does. (Because of their high Stamina, Dralasites can keep up if they must.)

Special Situations

Leaping and Vaulting. A character can leap up to 2 meters horizontally without a running start. If the character can run 15 meters in a straight line before leaping, he can leap up to 5 meters.

A character trying to leap across an obstacle must make a Strength check. A character who fails the check has lost his balance and can not move for 1 turn. A character who tries to leap farther than the distance has a -20 modifier on his Strength check for each additional half-meter. Failure means the character falls short of the distance.

A character with a 15 meter running start can vault over an obstacle that is 2 meters high, or grab something that is up to 4 meters above the ground.

Falling, Jumping and Diving. Characters who fall from buildings, ledges or other heights suffer 1d5 points of damage plus 1 point for every meter they fall. For example, a character that falls 10 meters suffers 1d5 +10 points of damage.

If a character suffers 15 or more points of damage in a fall, he has sprained a leg. His movement speed is reduced by half. If the character suffers 25 or more points of damage, he has broken a bone or a torn a muscle. The player must roll 1d10; on 1-8, the character injured a leg, on 9 or 10 he injured an arm. A character with a broken leg can not move until the leg is splinted, and then moves at half speed. A broken arm can not be used. (Dralasites can spend 10 minutes absorbing the old limb and growing a new one; this does not heal the damage, but does remove the penalty.)

If a character suffers 30 or more points of damage, he may be knocked unconscious. The player must roll d100; if the result is equal to or less than the damage the character suffered, then the character is knocked unconscious for 1d10 minutes.

JUMPING. A character can jump down 5 meters without being hurt. If the character jumps more than 5 meters, he will suffer injuries the same as if he had fallen, but the distance is reduced by 5 meters.

Example: Lklekt (a Vrusk) jumps from a jetcopter that is hovering 15 meters above the ground. He will suffer 1d5+10 points of damage, the same as if he had fallen 10 meters.

Swimming. All characters can swim 10 meters/turn, or 1 km/hour. After swimming for one hour, characters start losing 5 Stamina points every 30 minutes they continue swimming.

Characters can hold their breath for a number of turns equal to their Stamina score divided by 5. A character who tries to hold his breath longer than this takes 2d10 points of damage every turn.

Dralasites do not float naturally. They can swim, but if knocked unconscious they will drown. A Dralasite can float if it spends 5 minutes forming an air pocket in its body before entering the water.

Climbing. A character can climb a rope at a rate of 2 meters/turn. The character must make a strength check with +30 modifier at the halfway point of the climb and at the top. A roll of 96-00 is automatic failure. Failing the roll means the character falls.

A character can climb a vertical surface at a rate of 1 meter/turn, if there are handholds and footholds on the wall. He must make a Dexterity check with a +30 modifier at the halfway point of the climb and at the top. A roll of 96-00 is automatic failure. Failing the roll means the character falls. These rolls are not necessary if the surface the character is climbing slopes less than 60 degrees.

A character can climb a ladder at his normal walking speed.

Dangerous Movements. A character is making a dangerous movement if slipping could cause injury: inching along a ledge and swinging on a rope across a pit are two examples. A character must pass a Reaction Speed check to complete a dangerous movement safely. Failing means the character slips. The referee must decide whether the character has a chance to catch himself, and what happens if he falls.

Doors. Open doors and doors that open automatically do not affect movement. To move through a closed door, a character must stop next to the door. On the next turn the character can move through the door at half speed. To open a pressure door or hatch, a character must stand next to the door for two turns, and can move through the door at half speed on the third turn. A character can perform other actions while waiting for a pressure door to open, but can do nothing else while opening a hatch.

Vehicles and Riding Animals. Getting into or out of a vehicle takes half of a turn, and the vehicle must be stationary. Mounting or dismounting a riding animal takes one complete turn, during which the character can do nothing else.

Picking Up and Dropping Objects. Picking up an object that weighs more than 10 kg takes one turn. Picking up an object that weighs 10 kg or less takes half of a turn. Dropping an object takes no time at all.

Gravity, Weight and Mass. The strength of gravity on a planet depends on the planet's size. Increasing or decreasing gravity can affect characters several ways. These effects are explained below. (This rule is optional. Referees who do not want the added detail can ignore it and assume all adventures happen on planets where gravity equals 1 g.)

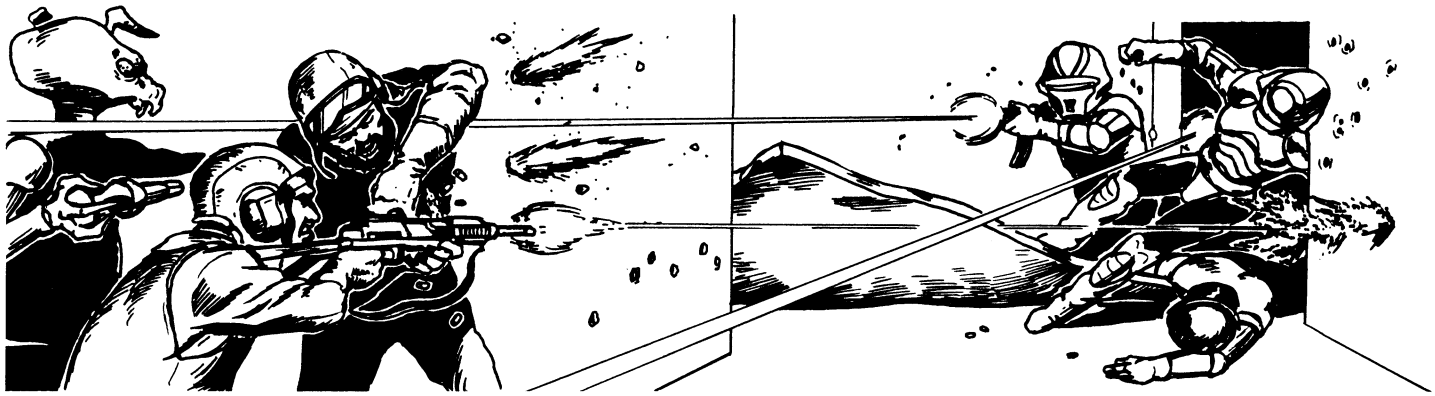
For every tenth of a gravity (.1 g) less than 1.0
— a character's carrying capacity is increased 5 kg
— the distance a character can leap and vault is increased 5 m
— the distance a character can jump safely is increased 1 m
— the damage a character suffers in a fall is decreased 2 points

For every tenth of a gravity (.1 g) above 1.0

— a character's carrying capacity is decreased 2 kg
— the distance characters can leap and vault is decreased .5 m
— the distance a character can jump safely is decreased 1 m
— the damage a character suffers in a fall is increased by 2

Weightless Movement. Moving in an area where there is no gravity is different than normal movement. Handholds are built into the walls of most space stations and spaceships, so characters can pull or push themselves along in freefall. Once a character starts moving, he will not stop until he bumps into a wall or grabs another handhold and stops himself. Characters moving this way can move at walking speed. They must follow a wall or, if they move across an open area, they must move straight at a constant speed until they reach the opposite wall. Some ships have velcro strips along the hallways, so characters wearing special boots can walk normally. Characters walking this way can move at one-half their usual walking speed.

Characters can move outside ships or space stations using space suits. Space suits have magnetic boots so characters can walk on the metallic surface of the ship or station at one-half their usual walking speed. Characters can connect themselves to the ship with a tether; if they are knocked off the ship they can simply pull themselves back along the tether.



EXPANDED COMBAT

The expanded combat system uses a different turn sequence and gives characters many more options, as well as introducing a wide variety of new weapons.

Combat Sequence

The sequence of events in combat is outlined below.

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

SURPRISE

If there is a chance characters will be surprised by an attack, the referee should let characters make Intuition checks. The referee must decide which characters get to make checks. For example, only the last character in a marching line has a chance to notice a sneak attack from behind.

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

If a character passes the check, he notices something unusual: footsteps behind him, a gun barrel poking around a corner, or anything else appropriate to the situation. The player must decide how to react to this information. If he makes a bad choice, he may still be surprised. For example, a group of adventurers is driving down a dirt road with tall grass on both sides. Suddenly, a flock of flying lizards takes off ahead of the vehicle and flies away. The characters decide the animals were frightened by their Explorer and continue driving. Within moments, a group of rebels hidden in the fields opens fire on the ATV.

Spotting Distance

When characters have an encounter, one factor that will affect whether they can be surprised is how far they can see. A character standing on flat, level ground can see a man-sized object up to 1 km away, but can not see any details about the object. A character can see details at a distance of about .5 km. Binoculars, magnigoggles and telescopic sights will multiply these distances by three. Weather conditions such as fog, rain, blowing dust or heat shimmers can reduce these distances to half or less. A character can see farther if he climbs to a higher elevation, but the distance at which he can see detail does not change with elevation.

INITIATIVE

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

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

Holstered and Slung Weapons. If a character's weapon is in a holster or slung over his shoulder, the character must subtract 3 from his Initiative modifier when rolling for initiative. If the character is rolling initiative for a group, the modifier applies to the entire group.

DECLARATION

All characters must decide what they will do at the start of each turn, and declare their intentions before the first move. Side B must declare first, allowing side A to react to side B's moves.

Declarations should be as realistic and specific as possible. For example, instead of saying, "I will throw a grenade," the player should say, "I will throw a doze grenade at the Yazirian, and then duck back behind the rock wall." Characters must declare how many shots they will fire, what power settings they will use and whether they will fire a burst (see Rate Of Fire, Variable Power Settings and Bursts).

If opposing sides in a fight can not see each other, the referee may ask for declarations before the roll for initiative. This forces players to act without knowing what their opponents will do.

Sighting

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

MOVEMENT

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

Melee Distance. If a character started the turn within 2 meters of an opponent who declared he would attack in melee, the character can not move. If both characters declare they will attack in melee, the character on side B gets to move into his opponent's square.

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

RANGED WEAPONS

Any weapon that can be used to attack someone from a distance is a ranged weapon. In STAR FRONTIERS games, ranged weapons include lasers, gyrojets, needle guns, automatic rifles and pistols and grenades. Bows and arrows, spears and knives also can be used, but are common only on primitive planets.

Ranged Weapon Combat Procedure

1.	The basic chance to hit equals one-half of the firing character's Dexterity, rounded up.		1/2 DEX
2.	Add 10% for each level of skill the character has with that weapon.		+10 per skill level
3.	Add or subtract the appropriate range modifier. The range is reduced by one class if the attacker is using a telescopic sight.	Point Blank Short Medium Long Extreme	0 -10 -20 -40 -80
4.	Subtract movement modifiers. (All movement modifiers except "Stationary" can be applied to both target and attacker.)	Stationary (target only) Walking Running Dodging	+10 0 -10 -20
	If the target is a running animal, use these animal modifiers.	Medium Fast Very Fast	-10 -20 -30
	If the target is a moving vehicle, subtract 10.	Moving Vehicle	-10
	If the attacker is riding in a vehicle, subtract 10. If the vehicle is moving faster than 150 meters per turn, subtract 20	Attacker is in: Slow Vehicle Fast Vehicle	 -10 -20
5.	Add 15 if attacker is standing still and aiming carefully.	Careful Aim	+15
6.	Add 20 if firing a burst.	Firing a Burst	+20
7.	Subtract cover modifier.	Soft Cover Hard Cover	-10 -20
8.	Add or subtract target size modifier	Tiny Small Medium Large Giant	-10 -5 0 +5 +10
9.	Subtract 5 if target prone.	Prone Target	-5
10.	Subtract 10 if attacker's Stamina is reduced to half or less by wounds.	Attacker Wounded	-10
11.	Subtract 10 if using wrong hand.	Using Wrong Hand	-10
12.	Subtract 10 if attacker is firing two weapons.	Firing Two Weapons	-10

Skill Modifiers

Characters get a bonus on their chance to hit if they have been trained to use their weapon. Characters learn weapon skills by spending experience points for them (see SKILLS). Skills for beam, gyrojet, projectile and thrown weapons must be learned separately. A character gains a +10% bonus on his chance to hit for each level of skill he has with the weapon he is using. For example, a character with level 3 beam weapon skill and level 1 gyrojet weapon skill gets +30% to hit with beam weapons (lasers, sonic disruptors, etc.) and +10% to hit with gyrojet rifles and pistols. A character does not need a weapon skill to use a weapon.

Heavy Weapons

Heavy lasers, sonic devastators, recoilless rifles, grenade mortars and rocket launchers are heavy weapons. When a character fires a heavy weapon, he must subtract 1 from his skill level with that type of weapon. A character with no training for that weapon has a -10 penalty.

EXAMPLE: A character has level 3 skill with gyrojet weapons and no other weapon skills. He gets a +20 bonus when firing a grenade mortar or rocket launcher, but has a -10 modifier when firing a heavy laser, sonic devastator or recoilless rifle.

Range

Range modifiers in the Expanded Game are the same as those in the Basic Game. The Expanded Game, however, adds elevation differences to range. If the attacker and his target are at different heights, the range is found by comparing the horizontal distance between them and the difference between their heights. The shorter of these two distances is divided by 2 and added to the other. Their sum is the distance to the target.

EXAMPLE: A Star Law marksman on the ground is trying to shoot a sniper that is on the roof of a building. The marksman is 20 meters from the base of the building, and the building is 50 meters tall. The shorter distance is 20 meters, and half of that is 10 meters. The range to the target is 50 + 10 = 60 meters.

Telescopic Sights. Telescopic sights, called "scopes," are small telescopes that magnify distant targets, making them easier to aim at. Using a scope lets the attacker use the range modifier for the next closer range; for example, extreme range becomes long range. Telescopic sights can not be used at point blank or short range. A character using a scope can fire only one shot per turn.

Careful Aim

A character can get a +15% bonus on his chance to hit if he does not move during the turn and takes only one shot. The character must steady his weapon on some kind of solid surface. If he is shot or hit in melee during the turn, the character loses the bonus. This bonus does not apply to bursts or thrown weapons.

Cover

A character has cover if more than half of his body is hidden by a wall, a rock, a clump of bushes or anything else that can protect him from enemy fire or hide him from his opponent's sight. In the Expanded Game, there are two types of cover: hard and soft. Hard cover will stop or deflect bullets and energy beams. Soft cover hides the character from the enemy, but will not stop enemy fire. Examples of hard and soft cover are listed below.

Hard Cover	Soft Cover
Brick, stone or metal wall	Plastic curtain
Metal vehicle	Darkness
Large tree trunk	Smoke or fog
Hills, sand dunes, rocks	Tall grass

Sometimes the referee must decide whether cover is hard or soft. For example, a wooden wall that is made of heavy logs is hard cover, but a wooden wall made of thin planks is soft cover.

Darkness does not affect an attack if the attacker is using an infrared or light amplification device. Infrared devices allow the user to see through smoke, haze and fog as well.

Bursts

Machineguns and automatic rifles and pistols can fire a burst of 10 bullets in one shot. A burst can be aimed at up to five adjacent characters in an area up to 10 meters wide, or at just one character. Only one die roll is needed to hit all the characters aimed at. If the burst is aimed at one character it causes 5d10 points of damage. If it is aimed at more than one character, it causes 5d10 points of damage plus 1d10 for each additional target. These points are divided as evenly as possible among all the targets. Any leftover points of damage are lost.

EXAMPLE: A character fires a burst from an automatic rifle at a group of five pirates charging toward him. All five are hit, so the player rolls 9d10 for damage. The result is 49 points of damage. These are divided evenly among the pirates, resulting in 9 points of damage to each. The extra 4 points are lost.

Target Size

Size modifiers apply mostly to animals, but the referee can allow bonuses or penalties for other targets if he wants. All of the character races are medium sized. The animal size ratings are described in detail in the section on Creating Creatures.

Prone Targets

A character who is lying on the ground is harder to hit than someone who is standing up, so 5% is subtracted from the chance to hit a prone character. This combines with the soft cover modifier, but not with the hard cover modifier. For example, anyone shooting at a target that is lying prone in tall grass has a -15 modifier to hit. Anyone shooting at a target that is lying prone behind a heavy log has a -20 modifier to hit.

Wounds And Anesthetics

If a character's Stamina has been reduced to one-half or less of his uninjured score, all of the character's attacks have a -10% penalty and the character can fire only one shot per turn. Anesthetic drugs, which reduce pain, will cancel this modifier. One dose of anesthetic lasts five hours.

Firing with the Wrong Hand

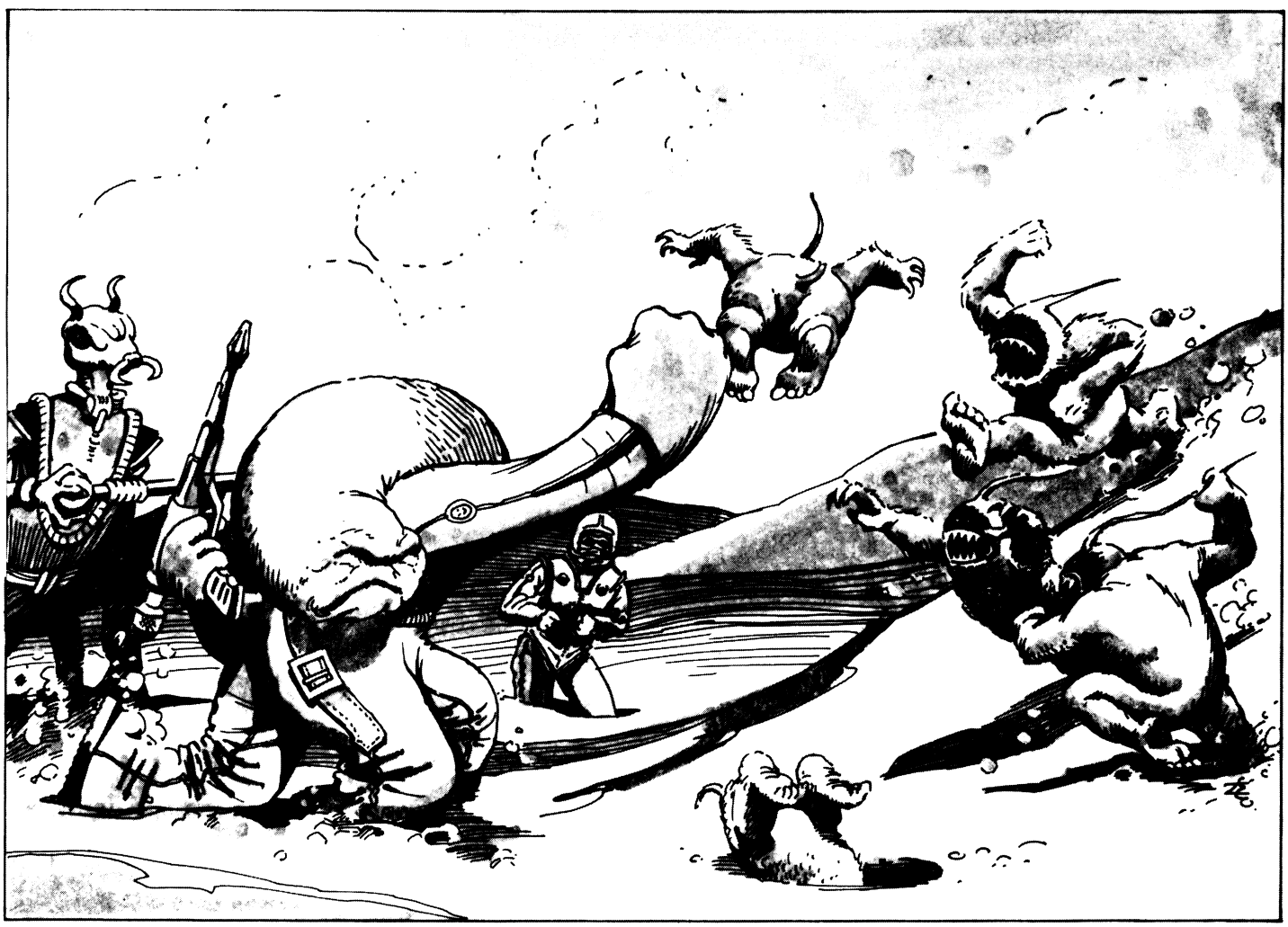
Every player-character race except the Vrusk have "handedness"; either their right or left hand (or paw or pseudopod) is stronger and more coordinated, and is used more often. If a character shoots a pistol with his weaker hand for any reason, the shot has a -10% modifier. Vrusk are ambidextrous and can use either hand with no penalty.

Firing Two Weapons

Characters can fire two pistols at once, but they must take a -10% modifier on each shot. This is in addition to the -10% modifier for shooting with the wrong hand. These guns can be fired at different targets, if the targets are adjacent to each other.

Rate Of Fire

Some weapons can be fired more than once during a turn. (This is different from a burst, which is considered one shot.) Characters must declare how many shots they will fire at the start of the turn. The attacker must roll to hit separately for each shot. The most common weapons and their maximum rates of fire are shown on the table below. Rates of fire for all weapons are shown on the Weapon Table.



Weapon	Rate of Fire (shots per turn)
Automatic Pistol	3 single shots or 1 burst
Automatic Rifle	3 single shots or 1 burst
Electrostunner	1
Gyrojet Pistol	3
Gyrojet Rifle	3
Laser Pistol	2 (1 if energy setting changed)
Laser Rifle	2 (1 if energy setting changed)
Needler Pistol	3
Needler Rifle	3
Sonic Disruptor	1
Sonic Stunner	1
Thrown Weapons (grenades and knives)	1

Opportunity Shots

Characters can fire opportunity shots while their opponents are moving, if the opponent moves through the attacker's field of fire. (Anything in front of a character is in his field of fire.)

A character can fire an opportunity shot at a running or dodging target if the target moves at least 5 meters while in the attacker's sight. A character can fire an opportunity shot at a walking target if the target moves at least 2 meters while in the attacker's sight. Characters can not fire opportunity shots at targets that are not moving.

A character that declared he would fire two shots during the turn can fire only one opportunity shot. A character that declared he would fire three shots during the turn can fire one or two opportunity shots. A character that declared he would fire one shot, and all characters with weapons that have a rate of fire of 1, can not fire opportunity shots.

Area Fire. Characters who are firing more than one shot during the turn can aim at an area instead of an opponent. This area can be no more than 5 meters wide. If an opponent moves through the area, the aiming character can fire opportunity shots at him. This tactic is useful if opponents are hidden at the start of the turn.

Automatic Hits

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

The second type of automatic hit happens when a player rolls 01 through 05 on his roll to hit; a shot always hits on these rolls, no matter what the character's modified chance to hit is. Referees should be careful to prevent their players from abusing this rule, however. If automatic hits are always allowed, it is no harder to shoot an insect at extreme range than it is to shoot a Sathar at extreme range. Some shots are just impossible to make. The referee must use his common sense to judge these situations.

Automatic Misses. Any shot will miss on a d100 roll of 96-00, no matter what the character's chance to hit is. This rule applies even to shots the referee has decided can not miss; the player must roll the dice anyway, and on a roll of 96-00 his weapon has malfunctioned and failed to fire.

Shooting At Targets In Crowds

If a character fires a gun at someone who is standing in a crowd, the target is treated as if it had soft cover (-10 to hit). If the shot misses, there is a 25% chance it will hit someone else. The referee decides who the shot hits. This rule also applies to shots at targets that are in melee and attempts to shoot past someone who is partially obscuring a target.

Ammunition

Players must keep track of their character's ammunition. Weapons that require powerpacks can be operated from powerclips or from power beltpacks or backpacks. Beltpacks and powerpacks can power other equipment besides weapons, however, so players must keep accurate records on their power supply.

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

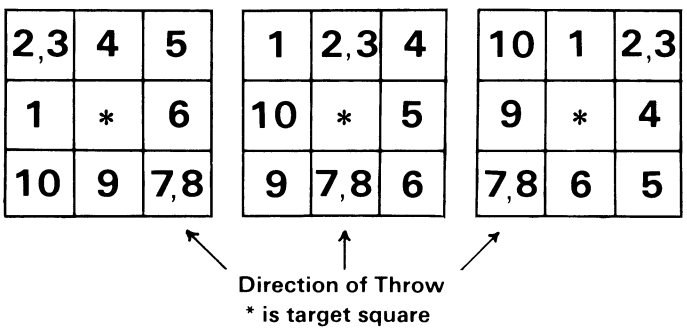
Grenades

Grenades (and other thrown weapons) are treated as ranged weapons when determining hits and misses. A character's chance to hit his target with a grenade equals one-half of his Dexterity score plus 10 × his Thrown Weapons skill level. The only other ranged weapon modifiers that apply to thrown weapons are range, movement, wrong hand and wound modifiers. Other modifiers should be ignored.

Grenade Bounces. When a grenade misses its target, it still goes off somewhere. The player should roll 1d10 and check the Grenade Bounce Diagram to see which direction the grenade rolls.

Range	Bounce
Short	5 meters
Medium	10 meters
Long	15 meters
Extreme	20 meters

Grenade Bounce Diagrams



The distance the grenade bounces depends on how far it was thrown. The table below shows how far grenades will bounce if they are thrown from different ranges:

Explosives

Characters can throw up to 500 grams of explosives as though it was a grenade. Anyone inside the blast radius takes full damage. Anyone within twice the radius of the blast must pass a Reaction Speed check or be stunned for one turn. More information on explosives is given in the Skills section and Equipment section.

Structural Damage

The amount of damage caused by ranged weapons when they are used against doors, walls or other structures is shown below.

Weapon	Structural Damage
Automatic rifle/pistol	5 points per shot
Gyrojet rifle/pistol	10 points per shot
Laser rifle/pistol	5 points per SEU
Needler rifle/pistol	no damage
Fragmentation grenade	15 points (30 if placed instead of thrown.)

The structural points of various doors, walls and vehicles are shown on the table below.

STRUCTURAL POINTS

25 + d10	50 + 2d10	100 + d100	200 + 2d100
Heavy Door	Fortified Door	Safe	Vault
Interior Wall	Exterior Wall	Fortified Wall	
	Light Vehicle	Heavy Vehicle	Armored Vehicle

Doze Grenades. Very large creatures can not be knocked out with only one doze grenade. The number of doze grenades needed to knock out a creature is equal to its current Stamina divided by 50, rounded down (but never less than one). For example, an animal with a Stamina of 120 could be knocked out with two doze grenades. If its Stamina was reduced to 90 by wounds, it could be knocked out with one doze grenade.

Grenade Effects. Grenades affect areas 6 meters in diameter. Every living creature in the area is affected, but damage is rolled separately for each. This means a grenade can seriously injure one character and have very little effect on others.

EXAMPLE: A fragmentation grenade explodes and catches three characters in its blast radius. The grenade causes 8d10 points of damage to each character. The first rolls 40 points, the second rolls 63 points and the third rolls only 17 points.

MELEE

Fighting hand-to-hand or with non-ranged weapons is called melee. Characters must be within 2 meters of each other to engage in melee.

Basic Chance to Hit

Players can use either one-half of their Strength or one-half of their Dexterity, whichever is higher, as their basic chance to hit in melee. A player need not use the same ability all the time.

Melee Procedure

1.	The basic chance to hit equals one-half of the attacking character's Dexterity or Strength (character's choice), rounded up.	1/2 DEX or STR
2.	Add 10% for each level of skill the character has for his attack.	+10% per skill level
3.	Add the weapon modifier, if a weapon is being used (see Melee Weapons Table).	+ weapon modifier
4.	Add 20 if the target is being hit from behind or is stunned.	Attacking from Behind +20 Target is Stunned +20
5.	Add 20 if the attacker is a Yazirian in battle rage.	Battle Rage +20
6.	Add 10 if target is encumbered	Target Encumbered +10
7.	Subtract 10 if the attacker is encumbered.	Attacker Encumbered -10
8.	Subtract 10 if attacker's Stamina is reduced to half or less by wounds.	Attacker Wounded -10
9.	Subtract 15 if the target is defending itself.	Target Defending -15

Number Of Attacks

A character gets one bare-hand attack for each arm-leg pair he has. Humans, Vrusk, Yazirians and Sathars always get to make two attacks. A Dralasite can attack twice if it has four or five limbs, three times if it has six or seven, etc. A character using a weapon in melee gets only one attack per turn.

Damage

The amount of damage a character inflicts with his bare hands (or claws or pseudopods) depends on the character's Strength score. The Punching Table shows the damage caused by characters with different Strengths. This damage is constant.

PUNCHING TABLE

Strength Score	1-20	21-40	41-60	61-80	81-00
Points of Damage	1	2	3	4	5

Knockouts. As in ranged combat, any roll to hit of 01-02 knocks a character unconscious. In additon, an opponent is knocked out if he was hit with a blunt weapon (including bare hands) and the number that was rolled ended with a 0. For example, a character is attacking with a club. He can hit his opponent with a roll of 35 or less. A roll of 01-2, 10, 20 or 30 will knock the opponent unconscious. A character that is knocked out will stay unconscious for d100 turns.

Stunning. Characters can be stunned with sonic stunners and electrostunners. A stunned character can not attack, move or defend himself for as long as he is stunned. Anyone who attacks him gets a +20 modifier to hit.

Melee Weapons

Many different weapons can be used in melee. The most common ones are described on the Melee Weapons Table. The referee can use these as guides if characters use other items as weapons.

The "Damage" column shows how many points of damage the weapon causes. The attacker's normal punching damage is added to the amount rolled. However, characters using shock gloves, sonic knives, sonic swords or stunsticks just roll damage, and do not add their punching score. The numbers under "Modifier" are added to or subtracted from the attacker's chance to hit.

Special Actions

Besides simply hitting an opponent, characters can try to pin him to the ground, take away his weapon or defend themselves from an attack.

Wrestling. A character can try to grab an opponent and pin him down by twisting his arm, throwing a headlock, etc. Wrestling is resolved after movement but before other attacks. The attacker can not use a weapon when wrestling. If the attack succeeds, the character can maintain his hold automatically each turn, and automatically inflict points of damage equal to his punching score each turn. A character can release a hold whenever he wants.

The character who was pinned can not do anything except try to break out of the hold. To do this, he must wrestle his opponent; a successful roll means the character has twisted free, but has not grabbed his opponent.

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

HITTING A PINNED OPPONENT. A character who is being held can be hit by up to two other characters automatically each turn.

Disarming. A character who tries to force his opponent to drop a weapon must make a roll to hit with a -20 modifier. If the attack succeeds, the opponent drops the weapon but does not take any damage. Either character can try to pick up the weapon; doing so requires a d100 roll that is equal to or less than the character's Dexterity score.

Defending. A character who does not attack can defend himself. The player simply declares that he is defending himself, and anyone trying to hit, grapple or disarm him automatically has a -15 modifier on his chance to hit.

Battle Rage

Yazirians have the special ability to work themselves into a fighting fury, gaining a +20 modifier on their chance to hit in melee. A Yazirian must roll a number less than or equal to its battle rage score on d100 to enter battle rage. A Yazirian can try to enter battle rage once per combat.

Skills

There are two skills that apply specifically to melee: martial arts and melee weapons. These are explained in detail in the section on SKILLS.

Number Of Attackers

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

Guns

A character who is involved in melee can shoot a pistol at an opponent that is in melee with him, but can not shoot at anyone that is not involved in the melee. Rifles also can be fired in melee, but there is a -30 modifier to hit.

WEIGHTLESS COMBAT

Whenever a character in freefall attacks with a ranged weapon or in melee, he must make a Reaction Speed check. If he fails the check, the character has lost his balance and is spinning out of control. A spinning character can do nothing until he regains control.

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

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

FIGHTING ANIMALS AND ROBOTS

Animals

Combat with animals usually will start with ranged combat. If an animal has a special ability that lets it attack from a distance, it follows normal ranged combat rules. If the animal is still alive when it reaches melee distance, the normal melee rules are used. All animals are given an attack number, which is their basic chance to hit in melee or ranged combat.

Robots

A robot's basic chance to hit is 30% plus 10 × the robot's level. This number is used in both ranged combat and melee. A robot's Initiative modifier is its level plus three. Other modifiers apply as usual.

Remote weapon systems usually are controlled by computers using Robot Management programs. They have a basic chance to hit of 30%, plus 10 × the program's level. Their Initiative modifier is their level plus three.

More details on robots in combat is given under EQUIPMENT: Robots.

Damage lists the amount of damage the weapon causes.
Modifier is the number that is added to or subtracted from the attacker's chance to hit.
Ammo and *Power* show what type of ammunition or energy the weapon uses.
SEU lists the number of standard energy units used in one attack (if the weapon uses energy).
Rate is the maximum number of shots the weapon can fire in one turn. Numbers in parenthesis indicate a burst. 1/2 means the weapon can be fired once every second turn.
Defense indicates what sort of suit, screen or action will protect the target from damage.
The ranges *(PB, Short, Medium, Long, Extreme)* are in meters.
Mass is the weapon's weight in kilograms.
Cost is in Credits, and does not include ammunition.

MELEE WEAPONS

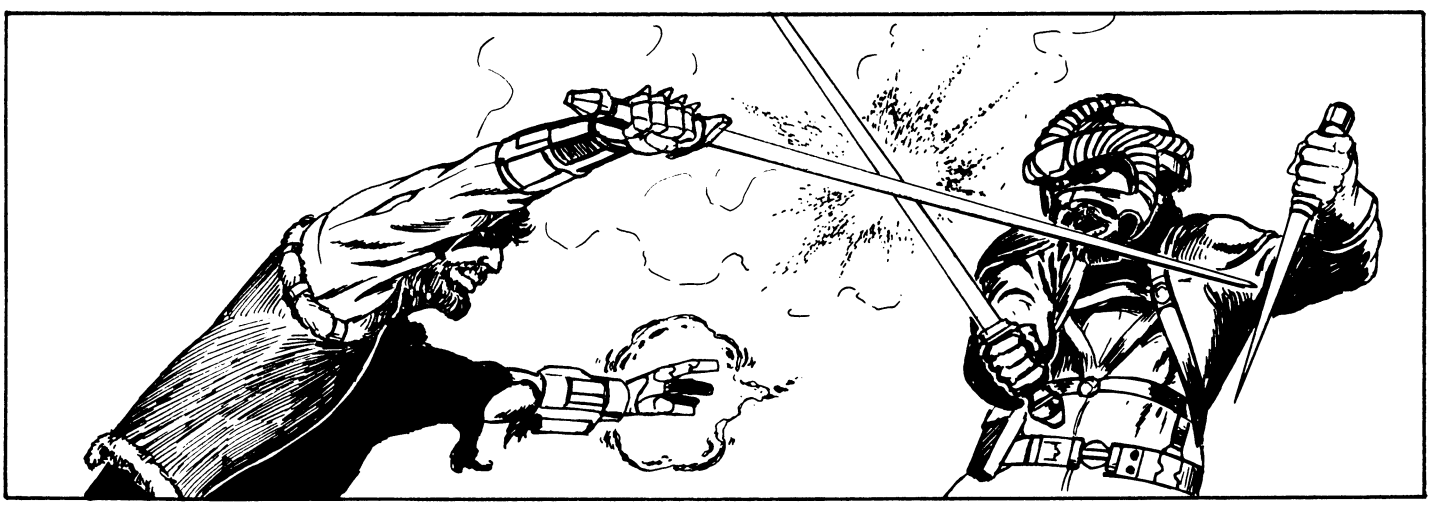
Weapon	Damage	Modifier	Defense	Power	SEU Use	Mass	Cost
Axe	2d10	+5	Inertia			1	15
Bottle/Mug	1d5	+0	Inertia			1	
Brass Knuckles	1d10	+0	Inertia				10
Chain/Whip	1d10	-5	Inertia			1	20
Chair	1d10	-15	Inertia			1	
Club	1d10	-5	Inertia				
Electric Sword	4d10 or stun*	+10	Gauss/A-S	20 SEU clip	2/hit	2	150
Knife	1d10	+5	Inertia				10
Nightstick	2d10	+5	Inertia			1	20
Pistol Butt	1d10	-10	Inertia				
Polearm	4d10	-10	Inertia			4	40
Rifle Butt	2d10	-5	Inertia				
Shock Gloves	2d10	+0	Gauss/A-S	powerpack	2/hit		50
Sonic Knife	3d10	+10	Sonic	20 SEU clip	1/hit	1	50
Sonic Sword	5d10	+15	Sonic	20 SEU clip	2/hit	1	300
Spear	2d10	+15	Inertia			1	
Spray Hypo	special**	-20	STA check			1	10
Stunstick	3d10 or stun*	+5	Gauss/A-S	20 SEU clip	2/hit	1	75
Sword	3d10	+10	Inertia			2	30
Vibroknife	2d10	+5	Inertia	20 SEU clip	1/hit	1	25

* If set on stun, the target is stunned for d100 turns unless he rolls his current Stamina or less on d100. Stuns have no effect on anyone with an anti-shock implant or a gauss screen.
** The effect depends on the drug used; see Skills; Medkit.

WEAPON TABLE

Weapon Type	Damage	Ammo	SEU	Rate	Defense	PB	Short	Medium	Long	Extreme
Beam Weapons										
Electrostunner	4d10 or stun*	20 SEU clip	2	1	Gauss/A-S	0-5	11-15	—	—	
Laser Pistol	1d10 per SEU	20 SEU clip	1-10	2	Albedo	0-5	6-20	21-50	51-100	101-200
Laser Rifle	1d10 per SEU	20 SEU clip	1-20	2	Albedo	0-10	11-40	41-100	101-200	201-400
Sonic Disruptor	6d10/4d10/ 2d10/1d10	20 SEU clip	4	1	Sonic	0-2	3-10	11-20	21-40	—
Sonic Stunner	stun*	20 SEU clip	2	1	Sonic/A-S	0-3	4-10	11-20	21-30	31-50
Heavy Laser	1d10 per SEU	100 SEU pack	5-20	1	Albedo	——	0-100	101-500	501-1km	1001-2km
Sonic Devastator	20d10/15d10 10d10/5d10	100 SEU pack	10	1	Sonic	0-5	6-25	26-50	51-100	——
Projectile Weapons										
Automatic Rifle	1d10/5d10	20 rounds	——	3(1)	Inertia	0-10	11-40	41-100	101-150	151-300
Automatic Pistol	1d10/5d10	20 rounds	——	3(1)	Inertia	0-5	6-15	16-30	31-60	61-150
Needler Pistol	2d10/1d10 + sleep*	10 shots	——	3	Inertia	0-5	6-10	11-20	21-40	41-100
Needler Rifle	3d10/1d10 + sleep*	10 shots	——	3	Inertia	0-10	11-20	21-40	41-75	76-150
Machine Gun	10d10	10 bursts	——	1	Inertia	——	0-70	71-200	201-500	501-1000
Recoilless Rifle	12d10	1 shell	——	1/2	Inertia	——	0-150	151-1km	1001-2km	2001-3km
Gyrojet Weapons										
Gyrojet Pistol	2d10	10 rounds	——	3	Inertia	——	0-5	6-50	51-100	101-150
Gyrojet Rifle	3d10	10 rounds	——	3	Inertia	——	0-5	6-75	76-150	151-300
Grenade Rifle	as grenade	1 bullet	——	1/2	RS check	——	0-25	26-50	51-100	101-200
Grenade Mortar	as grenade	1 shell	——	1/2	RS check	——	100-200	201-500	501-1000	1001-2km
Rocket Launcher	15d10	1 rocket	——	1/2	Inertia	——	0-70	71-200	201-500	501-1000
Grenades										
Dose Grenade	Sleep	——	——	1	STA check	0-5	6-10	11-15	16-25	26-50
Frag. Grenade	8d10	——	——	1	RS check	0-5	6-10	11-15	16-25	26-50
Incendiary Grenade	4d10 +1d10 × 3 turns	——	——	1	RS check	0-5	6-10	11-15	16-15	26-60
Poison Grenade	S5/T10	——	——	1	STA check	0-5	6-10	11-15	16-25	26-60
Smoke Grenade	-10 to hit	——	——	1	IR**	0-5	6-10	11-15	16-25	26-60
Tangler Grenade	entanglement	——	——	1	RS check	0-5	6-10	11-15	16-25	26-60
Archaic Weapons										
Axe	2d10	——	——	1	Inertia	0-5	6-10	11-15	16-20	20-25
Bow	1d10	1 arrow	——	1	Inertia	0-10	11-30	31-75	76-150	151-300
Knife	1d10	——	——	1	Inertia	0-5	6-10	11-15	16-20	20-25
Musket	1d10	1 shot	——	1	Inertia	0-5	6-15	16-40	41-70	71-100
Spear	2d10	——	——	1	Inertia	0-5	6-10	11-20	21-30	31-40

*Roll current Stamina or less to avoid sleep or stun. **Infra-red goggles will allow the wearer to see through smoke.



DAMAGE

Whenever a character is hit in ranged combat or melee, the character suffers damage. The amount of damage caused depends on the type of attack. The Ranged Weapons and Melee Weapons tables show how much damage each weapon causes.

Damage reduces a character's Stamina. If a character's Stamina score is reduced to zero or below, the character is dead. Defensive suits and screens can protect characters from injuries, and a freeze field or staydose injection will preserve a dead character's body so it can be revived at a medical complex.

Shock and Unconsciousness. Whenever the roll to hit in combat is 01-02, the target is immediately knocked unconscious for d100 turns. Stimdose can awaken the character sooner.

Variable Power Settings. Laser pistols, laser rifles and heavy lasers can be adjusted to fire shots that cause from 1 to 200 points of damage. Players can change the setting at the beginning of every turn. More information on variable power settings is included in the descriptions of laser weapons in the Equipment section.

Burns. Acids, fire and extreme heat cause burns, which are very painful. If a character suffers damage from burns that is more than half his Stamina score, the character is completely incapacitated and unable to do anything until treated at a hospital. Wounds caused by lasers are not burns.

Avoidance Rolls

Characters can avoid or reduce the effects of some weapons by leaping or twisting away from the attack, or by resisting its effects. When a character is attacked with one of the weapons listed below, he gets to make an avoidance roll on d100. If the result is equal to or less than the indicated ability score, the character has avoided or resisted the attack.

Weapon	Avoidance Roll	Result
electrostunner	current STA or less	no effect
sonic stunner	current STA or less	no effect
stunstick	current STA or less	no effect
anesthetic needles	current STA or less	no effect
doze grenade	current STA or less	no effect
tangler grenade	RS or less	no effect
fragmentation grenade	RS or less	½ damage
incendiary grenade	RS or less	½ damage

A character who passes an avoidance check against a fragmentation, incendiary or tangler grenade must move 3 meters to get out of the blast area. If the character has nowhere to move to, he can not try to avoid the blast. A character can try to avoid only one grenade per turn.

Defenses

Two types of defensive armor are available in STAR FRONTIERS games: suits and powerscreens. Only one suit and one screen can be worn at the same time. Each suit or screen protects the wearer from one type of weapon. The effects of these suits and screens are summarized below. (They are described in more detail in the Equipment section.)

Albedo Suit. An albedo suit can absorb up to 100 points of laser damage. When it is hit by a laser, the damage is subtracted from the suit's total of 100 points. The suit is destroyed and does not protect the wearer after it has absorbed 100 points of damage.

Albedo Screen. Like an albedo suit, the screen absorbs laser beams. Absorbing a laser beam uses a number of SEU equal to 1/5 the number of damage points caused by the beam, rounded up. For example, absorbing a beam that caused 11 damage points would use 3 SEU.

Skeinsuit. Skeinsuits absorb one-half of the damage caused by projectile and gyrojet weapons, fragmentation grenades, explosives and melee weapons. The suit is destroyed when it has absorbed 50 points of damage.

Inertia Screen. Inertia screens do the same thing skeinsuits do. The screen uses 2 SEU every time it is hit.

Gauss Screen. A gauss screen absorbs all the damage caused by electrostunners, shock gloves, stunsticks and other electrical attacks. It uses 2 SEU every time it is hit.

Sonic Screen. Sonic screens act as sound barriers, absorbing all sound that hits the screen. They absorb all damage from sonic stunners and disruptors. Absorbing a hit uses 2 SEU, and the screen itself uses 1 SEU every minute it is on.

Recovering From Wounds

Wounds heal naturally at a rate of 1 point for every 20 hours the wounded character spends resting. Resting means doing nothing more strenuous than taking short walks. A hospital can heal up to 20 Stamina points per day, at a cost of 1 Credit per Stamina point healed, plus 50 Cr per day.

Biocort. Biocortizone is a healing drug. An injection of biocort heals 10 points of damage immediately, when it is given by a medic. (Biocort has no effect if given by a non-medic.) Only one dose of biocort can be given in a 20-hour period; additonal doses have no effect unless given during surgery.

Field Surgery. A medic can perform minor or major surgery on a wounded character to heal more than 10 points of damage. Surgery is described in detail under SKILLS:Medical.

Stimdose. Stimdose is a stimulant. If given by a medic to an unconscious character, the character will wake up immediately.

In the Expanded Game, a stimdose will restore 10 Stamina points if the points were lost to poison, disease or infection. These 10 points are restored even if the character is unconscious. If the character's Stamina has been reduced to -10 or less, however, the stimdose will not save him, because only one dose can be given effectively in a 20-hour period. The stimdose will not restore Stamina points unless the poison, disease or infection has been neutralized or cured with the proper drug, or has worn off.

Life-Saving Drugs and Equipment

A character whose Stamina has been reduced to 0 or less is dead, but he can be revived if his Stamina has not gone below -30. The body can be preserved with drugs or a freeze field, and revived at a hospital.

Staydose. An injection of staydose will bring a dead character back to life, but will slow down the body's functions so it can survive with 0 or fewer Stamina points. Staydose must be given within one minute (10 turns) of death or it will not work. A staydose injection will keep a character alive for 20 hours. After 20 hours, the body can not be revived and further injections will have no effect. Only a medic can administer staydose effectively.

Freeze Field. A freeze field is a device that places a body in stasis, a sort of suspended animation. The device is fastened directly to the body. Only medics are trained to activate freeze fields correctly.

A freeze field must be activated within two minutes of death, or the body can not be revived. Activiating the field takes five turns. Each freeze field device contains enough power to operate for 200 hours. If the power runs out, the body can not be revivied.

Freeze fields can be removed safely only at hospitals. A hospital charges 200 Credits to remove the field. The character then must pay normal costs to be healed.

Biocort. Biocort can be used to bring a character's Stamina score back above 0 if his score was not reduced below -9.

Field Surgery. Field surgery can save a character whose Stamina was not reduced below -30 if a staydose was used to preserve the character; surgery will not help a dead character.

VEHICLES and VEHICLE COMBAT

VEHICLE DESCRIPTIONS

The following standard vehicles are available on STAR FRONTIERS worlds.

Ground Car

Cost: 5,000 Cr (rental — 50 Cr plus 50 Cr/day)
Top/Cruise Speed: 100 kph/60 kph
Passengers: 6
Cargo Limit: 150 kg, 1 cubic meter

A ground car is a wheeled vehicle similar to cars in use today, except it runs on a parabattery instead of gasoline. Because ground cars run in contact with the ground, they are very maneuverable. A ground vehicle can cross almost any type of terrain if it has enough ground clearance. However, they are not as fast as hover vehicles on level ground or roads.

Ground Transport

Cost: 15,000 Cr (rental — 75 Cr plus 100 Cr/day)
Top/Cruise Speed: 75 kph/60 kph
Passengers: 3
Cargo Limit: 10,000 kg, 30 cubic meter

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

Ground Cycle

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

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

Hover Car

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

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

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

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

Hovercycle

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

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

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

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

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

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.

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.

GROUND VEHICLE MOVEMENT

Speeds

Vehicle speeds are given in meters per turn (meters/turn). To find out how many map spaces a vehicle moves in one turn, divide its speed in meters/turn by the size of a square on the game map. For example, a skimmer traveling at 50 meters/turn on a map with 5-meter squares will move 10 squares per turn.

Conversions from meters/turn to kilometers/hour and miles/hour are shown on the Vehicle Movement Table.

VEHICLE MOVEMENT TABLE

Meters/turn	kph	mph	Meters/turn	kph	mph
5	3	2	90	54	34
10	6	4	100	60	38
20	12	8	125	75	47
30	18	11	150	90	56
40	24	15	175	105	66
50	30	19	200	120	75
60	36	23	250	150	94
70	42	26	300	180	112
80	48	30	350	210	131

Acceleration

A driver can increase the speed of his vehicle at the start of every game turn. To do this, the player decides how much faster he wants to move, and adds this number of meters/turn to his current speed. There is a limit to how much a vehicle's speed can be increased in one turn. This limit is the vehicle's acceleration rate. The Vehicle Data Table shows acceleration rates for all the ground vehicles in meters/turn.

EXAMPLE: During its last move, a skimmer traveled 40 meters/turn. Its acceleration rate is 80 meters/turn. At the beginning of its next move, the driver of the skimmer can increase its speed to 120 meters/turn (40 + 80 = 120).

Deceleration

A driver can slow down his vehicle at the start of each game turn. To do this, he subtracts the amount he is decelerating from his current speed; the result is his speed for this turn. If the result is 0, the vehicle has stopped and it does not move this turn. The amount a vehicle can slow down in one turn is limited by its deceleration rate. Deceleration rates for ground vehicles are shown on the Vehicle Data Table.

Emergency Stopping. A vehicle can come to a complete stop from any speed in one turn by making an emergency stop. The vehicle moves one-half of its starting speed. At the end of the turn its speed is 0. The driver must make a Reaction Speed check to keep the vehicle under control. If he fails the check, he loses control; see Crashes, below.

Maximum Speed

No matter what its acceleration is, a vehicle can not move faster than its maximum speed. Maximum speeds are listed on the Vehicle Data Table.

Backing Up

A vehicle can drive backward at up to 50 meters/turn. A vehicle that is moving forward must come to a complete stop before moving in reverse. A vehicle's acceleration rate in reverse is one-half its normal acceleration.

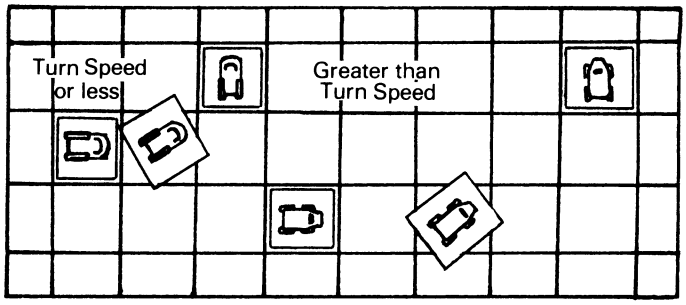
Turn Speed

The Vehicle Data Table shows turn speeds for the ground vehicles. A vehicle can turn 45 degrees to the right or left in every 5-meter square it enters if its speed in meters/turn is equal to or less than its turn speed. If the vehicle is traveling faster than its turn speed, it must move straight at least 10 meters after making a 45 degree turn before it can turn again. This information is summarized on the table below. See the diagram for examples.

Vehicle Traveling at	Distance Between Turns
Turn Speed or less	5 meters
Greater than Turn Speed	10 meters

Straight movement from the previous turn can be counted toward these requirements.

A driver can turn a vehicle more sharply than indicated above, but risks losing control or crashing; see Short Corners.



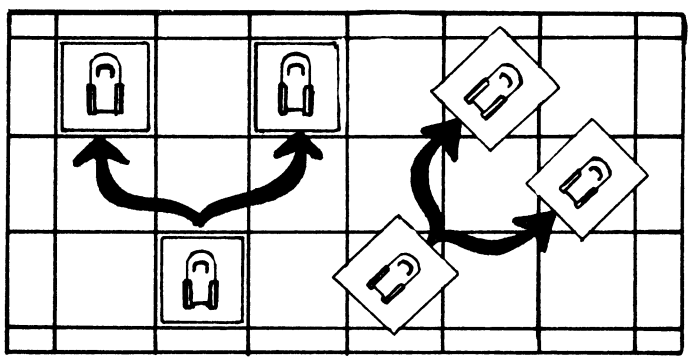
VEHICLE DATA TABLE

Vehicle	Accel. (m/turn)	Decel. (m/turn)	Top Speed (m/turn)	Turn Speed (m/turn)
Ground Car	60	40	175	80
Ground Transport	40	30	125	50
Ground Cycle	100	40	200	100
Hover Car	80	40	250	70
Hover Transport	60	30	250	40
Hover Cycle	100	40	175	90
Explorer	60	40	150	100

Special Maneuvers

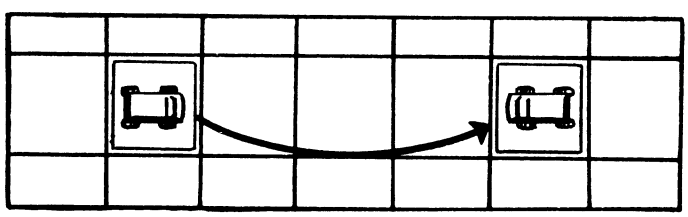
Besides driving straight and turning corners, vehicles, can perform special maneuvers. These include slips, pivots, skid turns, bumps and stunts.

Slipping. Slipping is similar to "changing lanes"; it allows a vehicle to swerve to the right or left without changing its direction of travel. Any type of vehicle can slip. A slipping vehicle moves 10 meters ahead and 5 meters to either side. This counts as only 10 meters of movement. A vehicle can not turn while slipping. A vehicle can slip once for every 10 meters it moves.



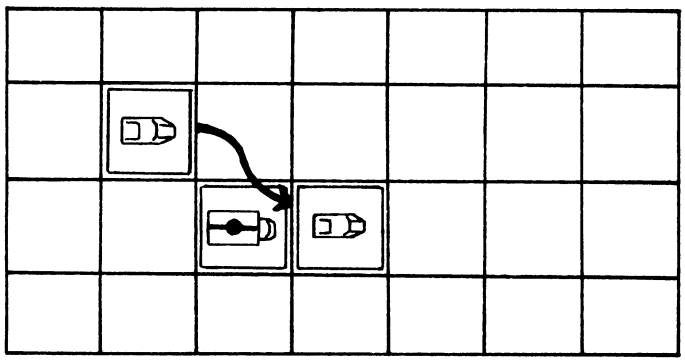
Pivot. A pivot is a turn of up to 360 degrees performed in one spot. Only hover vehicles and Explorers can pivot. A vehicle must be stationary at the beginning of the turn to pivot. The pivoting vehicle stays in the same square, and the driver can rotate it so it points in any direction.

Skid Turns. A skid turn is done by slamming on the brakes while turning so the vehicle skids around 180 degrees. Only ground cars, ground cycles and Explorers can perform skid turns. The vehicle must be traveling from 60 to 80 meters/turn. It actually will move only 20 meters during the turn, and have a speed of 0 at the start of the next turn.



The driver of the vehicle rolls percentile dice. If the result is less than or equal to his Reaction Speed, the driver performs the skid turn safely. If the result is higher than the driver's Reaction Speed, the vehicle will point in a random direction when it stops skidding. When this happens, move the vehicle as if it had skidded successfully. Now roll 1d10 and turn the vehicle 45 degrees clockwise a number of times equal to the number rolled.

Bumping. A driver can try to make another vehicle crash by bumping it. In order to bump, the driver or his team must have initiative for the turn. The driver must slip directly in front of the other vehicle. Both drivers then make Reaction Speed checks. The driver who performed the slip makes a normal check, but the driver whose vehicle was bumped has a modifier of -15. If either driver fails the check, he loses control of his vehicle (see Crashes).



Stunts. Drivers can perform other stunts, such as jumping their vehicles over bridges, at the referee's discretion. Things to consider when setting up a stunt are the type of vehicle being used, the amount of open space the vehicle has to work with, and the vehicle's condition and cargo.

Short Corners

A driver can try to turn his vehicle tighter than its speed allows, but risks losing control of the vehicle and crashing.

A driver shortens a corner if he tries to turn 5 meters before he should. For example, a ground cycle has a turning speed of 100 meters/turn. If the cycle is traveling 150 meters/turn, it must travel straight 10 meters after making a turn before it can turn again. If the driver tries to make the second 45 degree turn after traveling straight only 5 meters, he is shortening the corner by 5 meters.

Whenever a driver shortens a corner, the player must roll d100. If the result is less than or equal to the driver's Reaction Speed, the driver makes the turn safely. If the result is higher than the driver's Reaction Speed, the driver loses control during the turn (see Crashes).

CRASHES

Losing Control

When a driver loses control of his vehicle, the player must roll d100 and check the Control Table to see what happens to his vehicle. The die roll is modified by adding the vehicle's speed in meters/turn to the result.

CONTROL TABLE

Die Roll	Result
02- 79	Reduce Speed 20 meters/turn
80-139	Reduce Speed 50 meters/turn
140-199	Skid
200-259	Spin
260-349	Roll
350-450	Roll and Burn

Explanation of Results

REDUCE SPEED. The vehicle immediately reduces its speed by the indicated amount. If this is more than half of the vehicle's current speed, the vehicle slows down to one-half its current speed. The vehicle finishes the move at this new speed.

SKID. The vehicle is skidding out of control. Divide its speed in meters per turn by 10, rounding fractions up. Move the vehicle this number of meters in the direction it was moving before it went out of control. If the vehicle skids into a building or other obstacle, treat it as a collision (see Collisions). Otherwise, the vehicle continues moving from its new position.

SPIN. The vehicle is skidding out of control and spinning. Divide its remaining movement by two. Move it that many meters in the direction it was traveling before it started skidding. Now roll 1d10 and turn the vehicle 45 degrees clockwise a number of times equal to the number on the die. On the next turn the vehicle will skid to a stop. Move it one-half of its speed in the direction it was traveling before it went out of control and roll 1d10 again to determine how much it spins.

ROLL. The vehicle is rolling out of control. Treat this the same as a spin, but do not roll 1d10 to determine the vehicle's facing. Instead, each passenger in the vehicle suffers 1d10 points of damage. When the vehicle stops rolling, roll 1d10; if the result is 1, 2 or 3, the vehicle is right-side-up. Otherwise it is on its side or top. The vehicle will run again in 1d10 turns if it was traveling at its turn speed or less.

ROLL AND BURN. This is the same as a roll, but the vehicle is burning also. Each passenger suffers an additional 1d10 damage from the fire at the start of each turn he is in the vehicle. A character can get out of the vehicle in one turn if it has stopped rolling. If a character tries to get out of the vehicle while it is rolling, he must make a Reaction Speed check. If he passes the check, he has escaped from the vehicle. If he fails the check, he has not gotten away from the vehicle and he suffers an additional 1d10 damage immediately.

Collisions

If a moving vehicle hits a building, rock, other vehicle or obstacle of any type, it has had a collision. The vehicle stops moving immediately.

Damage to Vehicles. If the vehicle was traveling faster than its turn speed, it will not run again without extensive repairs. If the vehicle was traveling at its turn speed or slower, it can be driven again after 1d10 turns. However, its acceleration and turn speed are reduced by 20 meters/turn.

Injury to Passengers. When a vehicle crashes, divide its speed in meters/turn by 20, rounding fractions down. The result is the number of d10 that are rolled to determine how many points of damage each character takes. Add 2 points to each die result if the character was riding a ground or hover cycle, and subtract 2 from each die if the character was riding in an Explorer (no die roll can be modified below 0). This information is summarized on the table below.

CRASH INJURIES

Per 20 meters/turn of vehicle's speed	1d10
Riding on ground cycle or hover cycle	+2 per d10
Riding in Explorer	-2 per d10

ARMOR. Skeinsuits and inertia screens will absorb half of the damage a character suffers in a crash.

Crashing Through Obstacles. If characters try to drive through a barricade or obstacle, the referee must use his discretion to decide how badly the vehicle is damaged, whether it keeps running, and whether the passengers are hurt. A vehicle may be able to smash through obstacles that are less solid than concrete posts or parked vehicles.

VEHICLE COMBAT

This combat section covers only personal weapons fired from or at vehicles. Vehicle-mounted weapons are not covered in this set of rules.

Firing From Vehicles

A character who fires a weapon from a moving vehicle has a -10 modifier to hit. If the vehicle is moving faster than 150 meters/turn, the modifier is -20.

Shooting At Passengers

A character can shoot at a passenger inside a vehicle. There is a -20 modifier because the passenger has hard cover, and a -10 modifier if the vehicle is moving. Needlers can injure passengers only if the vehicle's windows or top are open.

Firing At Vehicles

If a character fires a weapon at a moving vehicle, he has a -10 modifier to hit. This modifier does not apply if the vehicle is moving directly toward or directly away from the firing character. Needlers and gas grenades have no effect on vehicles.

Damaging Vehicles. Whenever a vehicle is hit by gunfire, an exploding grenade or a thrown explosive, the attacking character must roll 2d10 on the Vehicle Damage Table. The number of dice of damage caused by the attack is added to the result. This number is modified by the type of vehicle. A separate roll is made for each successful attack.

VEHICLE DAMAGE TABLE

Die Roll + Damage	Effect
2-19	No Effect
20	Turn Speed -15
21	Acceleration -20
22	Top Speed -30
23	Steering Jammed Straight
24	Steering Jammed Left
25	Steering Jammed Right
26	Speed -20/Turn
27	Spin
28	Vehicle Burning
29	Roll
30+	Roll and Burn

Modifiers:

-- Target is ground or hover cycle	+2
-- Target is Explorer	-2

Explanation Of Results

TURN SPEED -15/ACCELERATION -20/TOP SPEED -30. The vehicle's turn speed, acceleration or top speed is reduced by the indicated number of meters/turn.

STEERING JAMMED STRAIGHT/LEFT/RIGHT. The vehicle's steering mechanism has been jammed. If straight, the vehicle can not turn. If right or left, the vehicle must turn 45 degrees in the indicated direction after each 20 meters of travel. For example, a skimmer traveling at 80 meters/turn with its controls jammed in a right turn must turn 45 degrees to the right after traveling 20, 40, 60 and 80 meters during its next move. The skimmer can decelerate or accelerate, but can not change its direction.

SPEED -20/TURN. The vehicle must reduce its speed at least 20 meters/turn until it is stopped. It can decelerate more than this if the driver wants, but it can not accelerate.

SPIN. See Control Table results.

VEHICLE BURNING. The vehicle has caught fire. Each passenger will suffer 1d10 points of damage at the start of every turn they are in the vehicle.

ROLL. See Control Table results.

ROLL AND BURN. See Control Table results.

Example: BliCluet the Dralasite is shooting its laser pistol at a street punk that has just stolen BliCluet's hover cycle. Its Dexterity is modified by -10 because the target is a moving vehicle, and by -20 because the cycle is at medium range. BliCluet has a modified Dexterity of 15 for this shot. One of its two shots hits the cycle. BliCluet had the laser set for 7d10 damage. The player rolls 2d10 and gets a 16. Adding 7 for the damage and 2 because the target was a cycle gives a modified result of 25; the cycle's steering is jammed to the right.

FLYING MOVEMENT

Characters can fly using glijets, jetcopters and aircars. The movement rules for these vehicles are different than those for ground vehicles.

Glijets

A glijet is a combination rocketpack and hang-glider. The rocketpack is used to get the wearer up into the air. The chemical fuel tank holds enough fuel to burn for 20 turns (two minutes). A character can climb 50 meters straight up every turn he burns fuel. The rocket can be turned off at any time. When it is shut off, the wearer can open the collapsible wings and glide. The rocket usually is shut off when gliding, but it can be left on to increase speed.

Speed and Distance. If there is no wind, the wearer can glide 5 meters horizontally for each meter he drops vertically. A gliding character drops 10 meters/turn, with or without using the rocket. If the rocket is used in level flight, the speed increases to 100 kph. Characters can travel much farther and stay aloft much longer if there is wind or if they are riding on rising air currents. This is subject to the referee's discretion, but favorable winds and air currents can multiply the distance traveled and the time spent aloft by as much as 10.

Landing. A character that does not use the rocket to land must pass a Dexterity check in order to land on target. If he fails the check, he misses his target square by 2d10 meters in a random direction.

Tactical Movement. A character that is gliding with the rocket off can make one 45 degree turn per game turn. Using the rocket allows the character to turn up to three times at any point in his move.



Jetcopters and Aircars

Tactical Movement. Jetcopters and aircars can make up to six 45 degree turns in one game turn. These turns can be made at any point in the vehicle's move. Aircars and jetcopters can accelerate or decelerate up to 100 meters/turn each turn. If they are stopped, these vehicles can hover in place and turn to face any direction. They can increase or decrease their altitude by 20 meters/turn.

When scouting, jetcopters and aircars fly at or above the level of the treetops, 50 to 100 meters above the ground. To stay out of sight they can fly very close to the ground, following the contours of the hills and valleys. This is called Nap Of the Earth (NOE) flying. NOE flying limits a jetcopter to its cruising speed and an aircar to 100 kph (175 meters/turn).

Aerial Combat

The following modifiers should be used when flying vehicles are involved in combat.

Attacker is using glijet or riding in moving jetcopter or aircar	-20
Attacker is riding in jetcopter or aircar that is hovering	-10
Target is using glijet or riding in moving aircar or jetcopter	-10
Target is hovering jetcopter or aircar	0

Other modifiers are used when they apply. Jetcopter passengers can not shoot unless the side doors are open. Aircar passengers can not shoot unless the canopy is open. This exposes the passengers and the pilot to fire, and reduces the aircar's speed to 80 meters/turn.

Damaging Glijets. The only way to shoot down a glijet is to knock out or kill the user. Shooting at the wings has no effect.

Damaging Jetcopters and Aircars. When a shot hits a jetcopter or aircar, the attacker rolls 2d10 and adds the number of dice of damage caused by the attack. This number is found on the Flying Vehicle Damage table.

Die Roll + Damage	Effect
2-20	No Effect
21-24	Acceleration -30
25-28	Turns -2
29-31	Forced Landing
32-34	Loss of Control
35 +	Vehicle Burning

Explanation of Results

ACCELERATION -30. The vehicle's engines were damaged, reducing its acceleration by 30 meters/turn.

TURNS -2. The vehicle's control and steering equipment was damaged, reducing the number of turns it can make per game turn by two.

FORCED LANDING. The vehicle's fuel tank or parabattery was hit, leaving it with enough fuel to fly for 10 more minutes (100 turns). If the vehicle does not land within 10 minutes, it will crash.

LOSS OF CONTROL. The cockpit was damaged by the attack. The pilot must pass a Reaction Speed check to keep the vehicle under control. If he fails the check, the vehicle immediately loses d100 meters of altitude. If the vehicle loses more altitude than it had, it crashes.

VEHICLE BURNING. The vehicle is out of control and burning. It will crash in two turns. Characters can jump from the vehicle (see Movement: Jumping) or use a parawing. A parawing is a small, emergency glider, similar to a glijet with no rocket. A parawing will not work if the character was less than 10 meters above the ground when he jumped.

Crashing

Passengers in a vehicle that crashes suffer 1d10 points of damage for every 10 meters the vehicle fell, plus 1d10 points of damage for every 20 meters/turn it was traveling. This damage is doubled if the character is not strapped into a seat. When dividing the vehicle's altitude by 10 and speed by 20, round fractions down. If the vehicle is burning, the character suffers an additional 1d10 points of damage at the start of every turn he is in the vehicle. The crashed vehicle will not fly again without extensive repairs.

EXAMPLE: A jetcopter is traveling 75 meters above the ground at 30 meters/turn when an attack damages the cockpit. The pilot fails his Reaction Speed check, so the copter drops d100 meters. The die roll is 83, meaning the vehicle drops 83 meters. This is more than its altitude, so it crashes. One passenger jumps using his parawing, but the pilot does not have one. When the copter hits the ground he suffers 7d10 damage because it fell 75 meters and another 1d10 because it was traveling 30 meters/turn.

OTHER VEHICLES

Many other means of transportation besides those described above are available in STAR FRONTIERS games. The systems and vehicles listed below will not be used in combat very often, but players may find ways to work them into their adventures.

Public Transportation

Monorails are the most common mass transit systems on Frontier worlds. Monorail cars can hold up to six passengers and travel at 70 to 100 meters/turn. Monorail passengers usually pay 1 CR per day for an unlimited number of rides. Occasionally, monorails are built underground and called subways.

Cabs of many types are common. Ground cars, skimmers and even cycles are used as cabs. Some are operated by drivers while others are piloted by robots or computers. A typical price is 2 Cr for the first km traveled and 1 Cr for each km after that.

Moving Walkways, also called peoplemovers or sliders, are sidewalks that are built like conveyor belts. A person simply steps onto the slider and it carries him, her or it along at 10 meters/turn. Using a slider does not cost anything.

Flyers

Super-Sonic Transports, or SSTs, are large jet-powered aircraft capable of flying at very high altitudes at several times the speed of sound (sound travels 1,988 meters/turn). They are used as luxury passenger planes flying between large cities, as large cargo haulers supplying cities under construction, etc.

Orbital shuttles, often called orbiters, are a cross between an airplane and a space ship. They are powerful enough to fly into orbit around a planet, and sturdy enough to re-enter the atmosphere and land on the surface. They are commonly used to carry supplies and passengers to orbiting space stations and spaceports. An orbiter can reach an orbiting space station in one to two hours.

Water Vehicles

Ships of many varieties are found throughout the Frontier. Players can find anything from three-masted sailing ships to luxury liners and supertankers. Hovercraft are used commonly in areas where the sea is relatively calm. Skimmers can be used over water if the waves are not more than 40 cm high.

Submarines are used on worlds where the seas are very rough, covered with ice or otherwise unsuited to surface travel. They are common around underwater cities and sea-bottom mines.

Animals

Riding Animals and beasts of burden are used on many planets where the local technology is not advanced enough to build other vehicles. They also are used to get into areas that are too rough for ground vehicles, or where their natural abilities to sense water or danger are needed more than a vehicle's speed and reliability.

CREATING CREATURES

During an adventure, creatures as well as intelligent alien races may be encountered. Because there is such a great variety of creatures on one planet and so many different worlds to adventure on, it is impractical to give a list of all known creatures. The referee must create the creatures in his adventures.

When creating creatures for STAR FRONTIERS adventures, the referee should give each creature a purpose in the adventure, and should have a reason for designing the creature in the form he gives it. Referees may find a basic reference book on zoology or biology a helpful source for making believable creatures.

A step-by-step procedure is given below to help the referee create new creatures.

1. What is the Creature's Purpose?

The referee should decide why the creature is needed in the adventure. Is it to fight the player characters? To mislead them? To be a nuisance to them? To give them important information? To give them a mystery to be solved? Or to set the stage for future encounters? Knowing a creature's purpose will make it easier for the referee to fill in the details about a creature.

When deciding on a purpose for a creature, the referee should consider these other questions:

— Where does the creature live, and where is its lair?
— What lifeform is the creature? (bird, reptile, worm, etc.)
— How does the creature live? Does it have any special habits? (living alone, moving only at night, hanging upside down, shrieking at strangers, etc.)
— Does the creature have any special weaknesses? (poor vision, slow movement, powerful natural enemies, etc.)

2. What Type of Creature Is It?

A creature's type is determined by its size, what it eats and how it obtains its food. Eating habits can divide animals into three basic groups: herbivores (plant eaters), carnivores (meat eaters) and omnivores (plant and meat eaters). After placing the animal in one of these groups, the referee should decide what specific foods it eats and how it gets this food. For example, a creature might eat small rodents that it digs out of the ground with sharp claws.

HERBIVORES are normally timid, but will protect themselves if they are attacked. They usually are adapted to avoid or repel attackers. Some, like bulls, may even counterattack. Herbivores obtain their food by grazing, harvesting, digging, filter-feeding or growing their own.

CARNIVORES may eat any type of meat, but usually prefer only one kind, such as fish or insects. They almost always have effective natural weapons, such as claws, fangs or poisons. These natural weapons make them more dangerous than most herbivores. They may catch their food by hunting, pouncing, or luring prey into traps.

OMNIVORES may or may not be dangerous, but they usually are curious. Many have natural weapons, but these are often less effective than the carnivores' and are used mostly for catching small prey and discouraging predators. Omnivores usually obtain their food by foraging, hunting and scavenging. Most intelligent life forms are omnivores.

Size. A creature's size effects how dangerous the creature is. For game purposes, creatures are divided into five different size groups —tiny, small, medium, large and giant.

TINY creatures weigh less than 5 kilograms. They can be up to 25 centimeters long.

SMALL creatures weigh from 5 to 20 kilograms and may be 25 centimeters to 1 meter long.

MEDIUM creatures weigh from 20 to 200 kilograms and are between 2 and 5 meters long.

LARGE creatures weigh from 200 to 1,500 kilograms and are between 2 and 5 meters long.

GIANT creatures weigh more than 1,500 kilograms and are more than 5 meters long.

If the referee wants to create creatures that do not fit into these general categories, such as parasites, waste feeders and energy creatures, he should try to answer the same questions about these creatures that he would for regular creatures.

Examples of Creature Types.

HERBIVORES: rabbits, squirrels, small fish, sloths, sparrows, goats, deer, kangaroos, horses, cattle, camels, tortoises, moths, elephants, hippopotomuses and brontosaurs.

CARNIVORES: frogs, piranhas, shrews, owls, rattlesnakes, wolves, seals, tigers, sharks, crocodiles, tyrannosaurs, squids, spiders and sperm whales.

OMNIVORES: ants, armadillos, porcupines, rats, monkeys, crows, turtles, pigs, chimpanzees, ostriches, bears and whales.

3. How Many of These Creatures are Found Together?

The referee should decide whether the creatures travel alone or in groups. The number in a group depends on the type of creature and the amount of food each needs. Large carnivores usually hunt alone or in small groups, while herbivores tend to travel in herds for protection. The referee can control the effect the creatures have in the adventure by adjusting the number of creatures in a group. A small carnivore is not much of a challenge, but a pack of 100 small carnivores is.

4. How Fast is the Creature?

The referee must decide how fast a creature is and how it moves. Movement is a very important part of combat. Creatures are specially adapted for maximum speed in their native terrain and are not affected by terrain movement modifiers. There are five categories of movement for creatures: very slow, slow, medium, fast and very fast. Player characters fit in the slow category.

VERY SLOW movement is 15 meters/turn or less. The average very slow speed is 10 meters/turn.

SLOW movement is 16 to 45 meters/turn. The average slow speed is 30 meters/turn.

MEDIUM movement is 16 to 75 meters/turn. The average medium speed is 60 meters/turn.

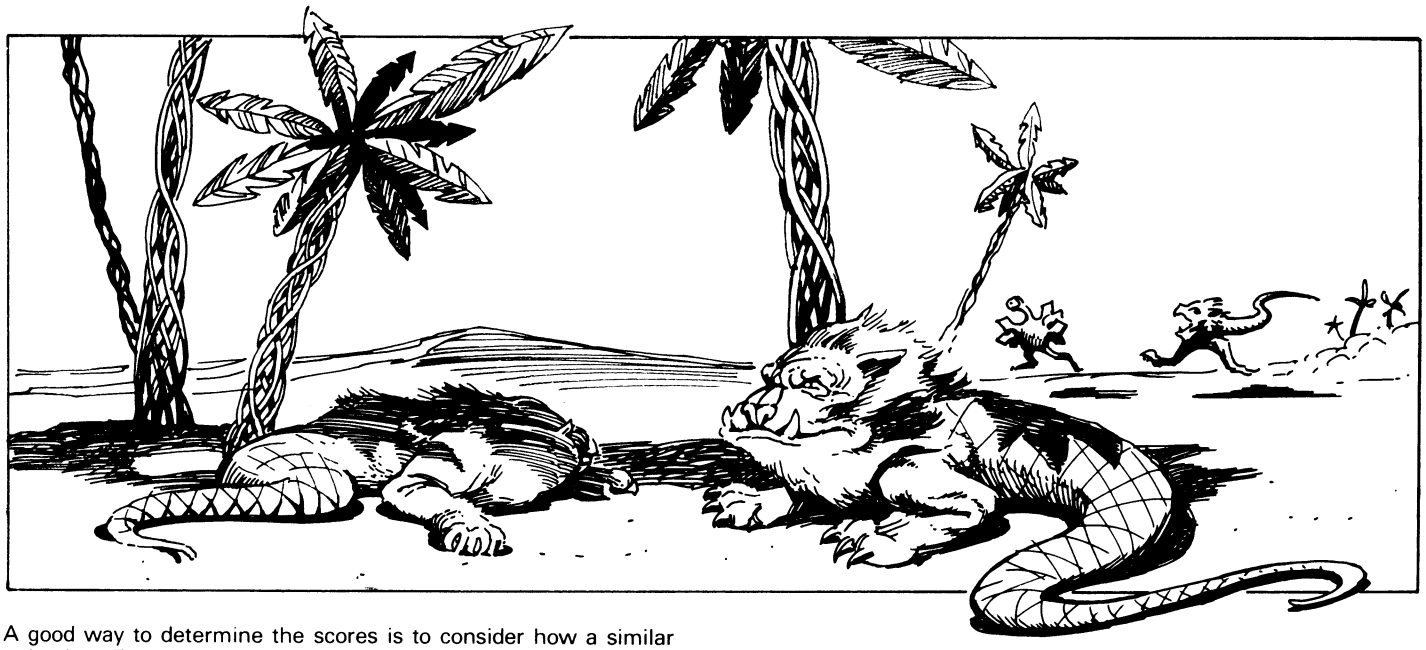
FAST movement is 76 to 105 meters/turn. The average fast speed is 90 meters/turn.

VERY FAST movement is more than 105 meters/turn. The average fast speed is 120 meters/turn.

The referee should decide how the creature moves and whether it has any special way to move. For example, a creature might have wings, fins, a prehensile tail or many legs, allowing it to fly, swim, swing through trees or burrow into the ground. The referee also should note any limits on a creature's movement. For example, some creatures might spend their entire lives in one spot, waiting for their prey to come to them.

5. What Are the Creature's Ability Scores?

The referee must choose the creature's ability scores. Only three of the scores used by characters are needed for creatures: Stamina, Reaction Speed and the Initiative modifier. When selecting ability scores, the referee should be sure they fit the purpose of the creature.



A good way to determine the scores is to consider how a similar animal on Earth compares to a Human. Intelligent alien creatures should be treated as non-player characters. The referee should assign scores for all eight of their abilities and for any special abilities.

6. How Does the Creature Attack?

The referee should decide how the creature attacks, what its chance to hit is and how much damage it causes. If the creature has an unusal attack, the referee must decide its effects.

When deciding how a creature attacks, the referee should consider the creature's type and its purpose. In general, carnivores attack to kill, herbivores attack to protect themselves and omnivores attack for both reasons. Carnivores can have claws, teeth, horns and other offensive weapons. Herbivores are more likely to have weapons like quills, repulsive odors or horns.

Most creatures can attack only one target, so the amount of damage a creature causes should be a combination of all its attacks. The referee should consider an animal's size, type and purpose in the adventure when deciding how much damage it causes.

The referee must give the creature a basic chance to hit, called its Attack score. This value should depend on the creature's speed, size and purpose, and also on the abilities of the player characters. A creature's Attack score should never be greater than 100. If the creature can attack several targets at once, this number is used for all attacks.

If the creature has any unusual attacks the referee should record what their effects and limitations are. Unusual attacks include poison, acid, shooting darts and electric shocks. If an attack shoots something, the referee must assign ranges to the attack.

7. How Does the Creature Defend Itself?

The referee should decide whether the creature has any defenses and how they affect combat. Defenses should fit the creature's type and purpose. Defenses are designed to escape or discourage attackers or protect the creature from damage, and are often adapted to the terrain the creature lives in. Some examples are bounding away from attackers, natural camouflage, a thick hide or a protective shell.

8. Does the Creature Have Any Special Abilities?

The referee must decide if the creature has any special abilities or adaptations to the terrain, and their effects in the game. Some examples of special abilities are glowing in the dark, spinning webs, making honey, building crude bridges or homes, changing color or shape, etc. Special adaptations include fur to keep warm in winter, fins to keep cool in the desert, etc. Special abilities make creatures interesting and alien, but referees should not make them too common or players will come to expect them.

9. What Does the Creature Look Like?

The referee should decide what the creature looks like. The answers to the earlier questions will help determine the creature's appearance.

How to Create A New Creature (Summary)

1. What is the purpose of the creature in the adventure?
2. What type of creature is it?
3. How many of these creatures are usually found together?
4. How fast is the creature?
5. What are the creature's ability scores?
6. How does the creature attack?
7. How does the creature defend itself?
8. Does the creature have any special abilities?
9. What does the creature look like?

CREATURE REACTIONS

A creature's reaction to a character depends on the creature's temperament and what the character does. The creature may be naturally timid, curious or aggressive; it may be hungry, or it might have just eaten. A character can affect the creature's reaction by ignoring it, coaxing it with food, or frightening it with fire, loud noises or flashes of light. The referee must use his judgement in these cases, but several things to consider are outlined below.

Intelligence. Intelligent creatures will not be frightened by a burning torch, clanging frying pans, etc. Creatures with low intelligence, however, might be easily startled or frightened away by these actions.

Experience. A creature is less likely to be afraid of something it has seen before, unless the previous experience was very painful or frightening.

Size. Large creatures often are harder to frighten then small ones.

Type. Carnivores tend to be more aggressive and harder to frighten than herbivores, which tend to be timid. Omnivores tend to be curious.

Temperament. If a creature is naturally aggressive, it may attack creatures much larger than itself with very little fear. Timid creatures try to avoid fighting whenever they can.

Motivation. Any creature that fights has a reason for fighting. Even naturally shy and weak creatures may fight savagely to defend their lair, their territory or their young. Creatures that are cornered or wounded, sensing that they must fight or die, often fight ferociously and without fear.

CREATURE DESCRIPTIONS

After a referee designs a creature, he should write the information about it in a standard format. The information should be listed in the following order.

TYPE: the creature's size and eating habits.
NUMBER: the number of creatures usually found together.
MOVE: the creature's movement category. The referee can include the actual rate per turn. If the creature can be ridden, its rate per hour should also be included.
IM/RS: the creature's Initiative Modifier and Reaction Speed.
STAMINA: the creature's Stamina points
ATTACK: the creature's base chance to hit.
DAMAGE: the number of dice that are rolled to determine damage when the creature attacks.
SPECIAL ATTACKS: a brief note on the effects of special attacks and ranged attacks. More detail is given in the description.
SPECIAL DEFENSES: brief note on special defenses. More detail is given in the description.
NATIVE WORLD: the planet where the creature is found and the terrain it normally inhabits.
DESCRIPTION: a brief description of the creature and notes on habits. Includes how the creature moves, an explanation of its attacks, and any special abilities or defenses.

AVERAGE CREATURES

Average values and ranges for each of the standard creature types are listed below. When a range is listed, the referee should choose a number in that range. The referee can use these tables when he needs a new creature quickly. The scores can be used as they are listed, or modified to produce creatures with above or below average statistics. Special Attacks, Defenses and Abilities are not listed. These are left to the imagination of the referee.

Herbivores

TYPE:	Tiny	Small	Medium	Large	Giant
NUMBER:	1-100	1-20	10-100	1-20	1-10
MOVE:	Medium	Fast	Very fast	Fast	Slow
IM/RS:	8/75	7/65	6/55	5/45	4/35
STAMINA:	1-10	5-20	20-100	50-150	100-300
ATTACK:	*30*	*35*	*40*	*45*	*50*
DAMAGE:	1d2	1d5	1-2d10	1-3d10	2-6d10

Carnivores

TYPE	Tiny	Small	Medium	Large	Giant
NUMBER:	1-50	1-20	1-10	1-5	1-2
MOVE:	Fast	Fast	Medium	Medium	Medium
IM/RS:	7/65	6/60	6/55	5/50	5/45
STAMINA:	1-10	10-20	20-120	75-200	100-400
ATTACK:	*55*	*65*	*75*	*65*	*55*
DAMAGE:	1d5	1d10	1-3d10	2-5d10	3-10d10

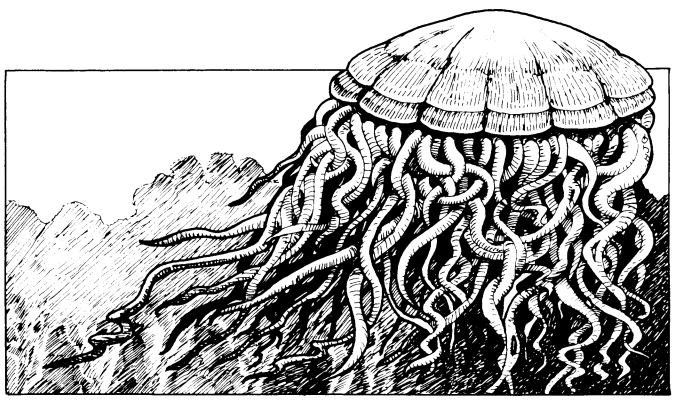
Omnivores

TYPE:	Tiny	Small	Medium	Large	Giant
NUMBER:	1-20	1-10	1-5	1-5	1-3
MOVE:	Medium	Medium	Slow	Slow	Slow
IM/RS:	7/70	6/60	5/50	5/45	4/40
STAMINA:	1-10	5-20	20-100	50-150	150-300
ATTACK:	*45*	*50*	*55*	*60*	*65*
DAMAGE:	1d5	1d10	1-2d10	1-5d10	2-8d10

SAMPLE CREATURES

All of the following creatures are found on the planet Volturnus, the setting for the module enclosed with the game.

Strangler Chutes



TYPE:	Large Herbivore
NUMBER:	5-20
MOVE:	Slow (10 meters/turn on ground) or Windspeed (in air)
IM/RS:	3/25
STAMINA:	150
ATTACK:	None
DAMAGE:	3 points/turn
SPECIAL ATTACK:	Accidental attack (See below)
SPECIAL DEFENSE:	Electrical shock stuns for 1d10 turns if touched
NATIVE WORLD	Volturnus - wooded areas

DESCRIPTION: Strangler chutes look like giant jellyfish floating in the air. They are 10 meters wide, but weigh only 50 kilograms. They move by rising on warm air and drifting through the skies. They communicate with each other by changing colors, and see with many eyespots located along the edge of their canopy.

Strangler chutes eat the leaves of trees by draping their bodies across the branches and releasing digestive fluids. Animals caught inside the chute automatically take three points of damage each turn. If a character is in or underneath a tree when a strangler chute lands on it, he must make a Reaction Speed check to escape. The body and tentacles of a strangler chute are electrified and any character that touches one must pass a Reaction Speed check or be stunned for 1d10 turns. If characters use ranged weapons to attack a chute that has entangled a companion, there is a 20% chance that any hit on the chute will cause equal damage to the trapped character.

Army Rats

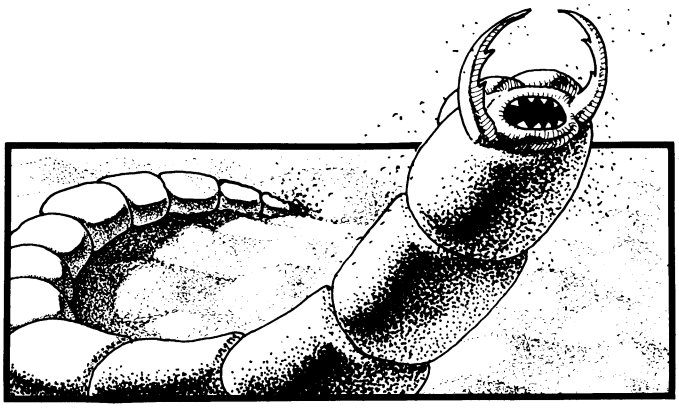


TYPE:	Small Carnivore
NUMBER:	2-20 per character; 1,000 or more in a pack
MOVE:	Fast (90 meters/turn)
IM/RS:	6/60
STAMINA:	5
ATTACK:	*40*
DAMAGE:	1d5 bite + disease
SPECIAL ATTACK:	None
SPECIAL DEFENSE:	None
NATIVE WORLD:	Volturnus - mountains

DESCRIPTION: Army rats are furry brown creatures that resemble large rats. They have powerful hind legs and can leap up to 1 meter to attack. Army rats swarm in packs of 1,000 or more, and will attack any animal in their path. They are cunning and attack in waves, some sprinting after prey while others follow at a loping stride. When one wave of sprinters falters, another wave takes their place until the prey finally tires. A medium-sized creature caught by a swarm will be attacked by 2-20 army rats, while the rest pass by seeking other food.

Any creature bitten by an army rat has a 50% chance of being infected by a disease that attacks the central nervous system. A creature only needs to roll once per encounter with army rats. Unless a victim is given a dose of Antibody Plus within 12 hours, he will become hostile and paranoid and might even attack or desert his companions. Every 20 hours after being bitten the victim can make a Stamina check. If the character succeeds, he has recovered. If not, another 20 hours must pass before the victim can try again.

Funnel Worm



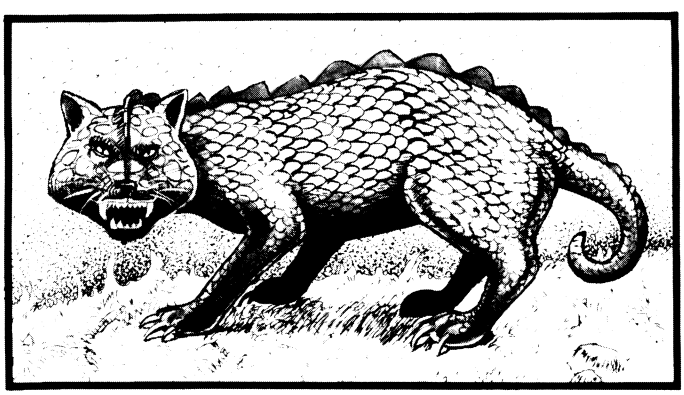
TYPE:	Giant Carnivore
NUMBER:	1
MOVE:	Slow
IM/RS:	4/35
STAMINA:	200
ATTACK:	*45* (on surface)
DAMAGE:	3d10 bite
SPECIAL ATTACK:	Automatic hit if prey falls in funnel
SPECIAL DEFENSE:	Will not be noticed unless it attacks
NATIVE WORLD:	Volturnus - desert

DESCRIPTION: The funnel worm is a burrowing creature 5 to 7 meters long, with a segmented body and two large compound eyes which are also pressure-sensing organs. It has a pair of large mandibles and its mouth is filled with a ring of sharp teeth.

Funnel worms are solitary creatures. They lurk 5 to 10 meters beneath the surface waiting for prey to pass overhead. When it senses the vibrations of a creature passing, it quickly expands its body, swallowing the sand and forming a 10-meter-wide funnel of sand. The prey slides down the funnel into the worm's mouth. Any creature caught in the funnel must make a Reaction Speed check to leap aside. If the check is failed the creature will slide down the funnel and into the funnel worm's mouth in 2 turns. The funnel worm can automatically bite anything that falls into its mouth, causing 3d10 points of damage per turn to each victim until it dies. A funnel worm's mouth is wide enough to hold and bite up to three medium-sized creatures at once. Characters can be rescued if someone throws them a rope and pulls them out.

While in its burrow, a funnel worm can not be attacked by most weapons. Grenades and explosives are the most effective means of attack. They hit automatically when rolled down the funnel, but cause only half damage. The funnel worm will burrow to the surface and attack if it is wounded. A funnel worm's Attack score is 45 when out of its burrow.

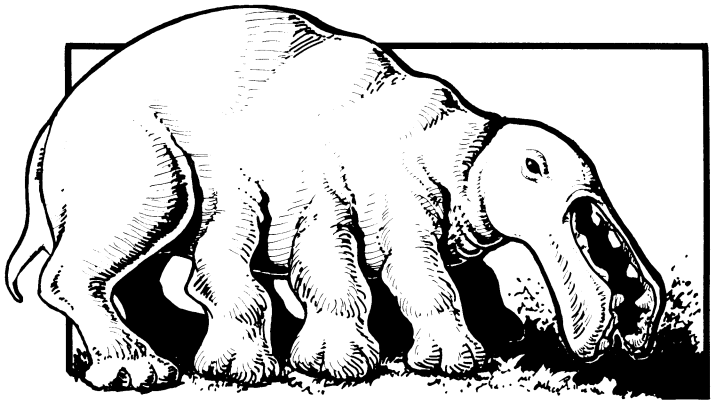
Megasaurus



TYPE:	Giant Carnivore
NUMBER:	1
MOVE:	Fast (90 meters/turn)
IM/RS:	5/45
STAMINA:	350
ATTACK:	*50*
DAMAGE:	7d10 bite and claws
SPECIAL ATTACK:	None
SPECIAL DEFENSE:	None
NATIVE WORLD:	Volturnus - dry plains, swamp

DESCRIPTION: A megasaurus is 10 meters long and stands 5 meters high at the shoulders. It looks like a giant reptilian cat with a thick tail. It has huge claws and a massive mouth filled with sharp teeth, and can leap up to 50 meters to attack.

Land Whale

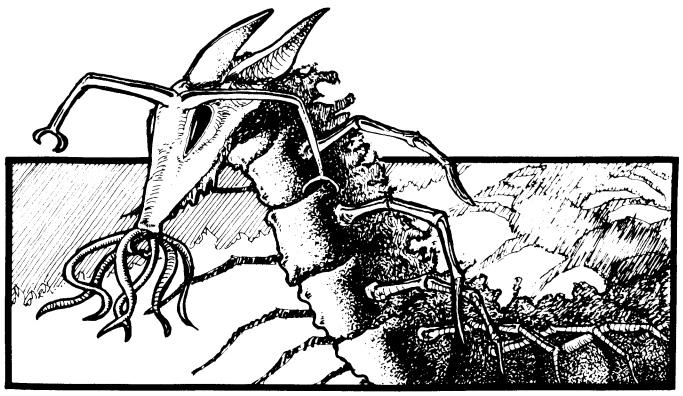


TYPE:	Giant Omnivore
NUMBER:	1
MOVE:	Medium
IM/RS:	3/25
STAMINA:	300
ATTACK:	*65*
DAMAGE:	1d10 bite
SPECIAL ATTACK:	A successful bite will swallow prey; a swallowed victim can not attack
SPECIAL DEFENSE:	None
NATIVE WORLD:	Volturnus - dry plains

DESCRIPTION: A land whale looks like a 10-meter-long whale with eight short legs. Its jaws are hinged sideways. A land whale will swallow anything in its path, moving until its large mouth is full before stopping to digest the food. Land whales travel alone. They can move swiftly, but start slowly. They can start moving at a speed of 10 meters/turn, and can accelerate 10 meters/turn until they reach their top speed of 60 meters/turn.

A character bitten by a land whale must roll his Reaction Speed or less to avoid being swallowed. A swallowed character will automatically take 1d10 points of damage each turn until cut out of the land whale.

Slither (Sathar Attack Monster)



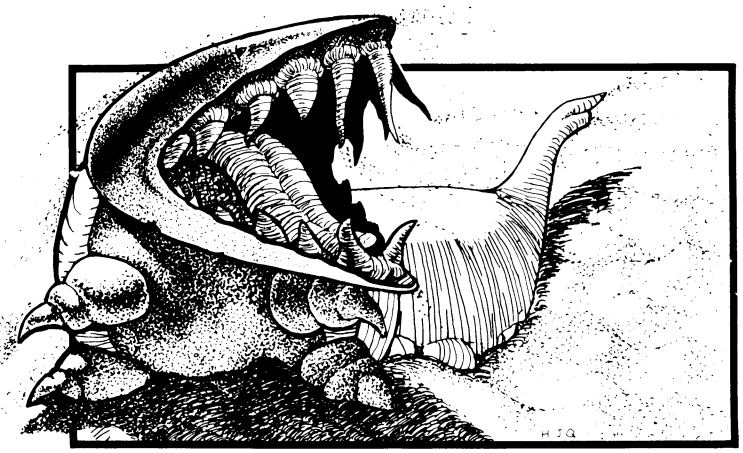
TYPE:	Giant Carnivore
NUMBER:	1
MOVE:	Slow (10 meters/turn)
IM/RS:	5/45
STAMINA:	400
ATTACK:	*30*
DAMAGE:	6d10 tentacles and bite
SPECIAL ATTACK:	Camouflage may surprise victims Can attack two creatures at once
SPECIAL DEFENSE:	None
NATIVE WORLD:	None - salt flats and near water

DESCRIPTION: A slither is 20 meters long and 2 meters wide. It resembles a giant-sized cross between a worm and a centipede. It is part plant and part animal; plants grow from its back, providing camouflage and some nourishment from photosynthesis. It can only see moving objects, but can sense salt and water. One often lurks near pools of water or salt licks, waiting for prey.

When lying still, a Slither is often mistaken for a mound of plants, allowing it to attack with surprise. Its gnashing, grinding mandibles are surrounded by 2-meter-long tentacles. Slithers also secrete an oily fluid that causes burns on touch. They attack by lashing out with their tentacles, by biting with their jaws and by coiling around prey and burning it with their secretions. They must re-coil and make a new attack roll each turn to coil about prey. A slither can attack two creatures on the same turn, one with its tentacles and bite and the other by coiling around it. This makes them very deadly in combat.

Slithers are Sathar attack monsters. The Sathar, in their efforts to destroy peaceful worlds, have genetically altered a number of creatures into "monsters" which they set free on various worlds. Slithers and other Sathar attack monsters can be encountered on many different planets.

Sand Shark

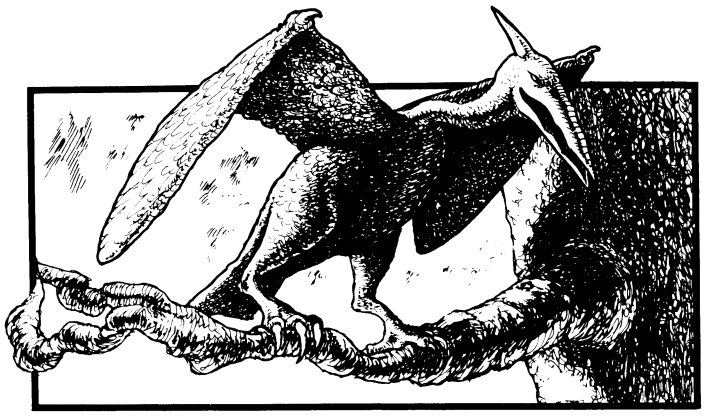


TYPE:	Large Carnivore
NUMBER:	1-2
MOVE:	Medium
IM/RS:	5/50
STAMINA:	80
ATTACK:	*50*
DAMAGE:	2d10 bite
SPECIAL ATTACK:	None
SPECIAL DEFENSE:	Immune to needler weapons Has hard cover when attacking from burrow
NATIVE WORLD:	Volturnus - deserts

DESCRIPTION: The sand shark is a burrowing creature. It is 3 meters long, has a wedge-shaped head, thick, abrasive, leathery hide and twelve pairs of short legs. A sand shark has no eyes; it detects things by vibration, and smells through two rows of sensory organs and two sensory pits in the head. A sand shark burrows just beneath the surface of the sand, leaving a telltale ripple in its wake. Only explosives will affect it when it is beneath the sand, and they cause only half-damage. It reveals itself when it erupts at the feet of its target to attack. It attacks by biting. Its large mouth is filled with three rows of jagged teeth.

The sand shark can cross rocky areas by slithering across the surface, but its movement rate is reduced to Slow.

Winged Rippers

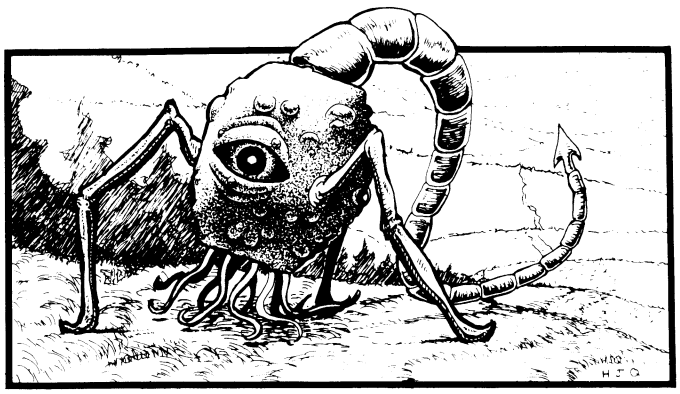


TYPE:	Small Carnivore (scavenger)
NUMBER:	4-40
MOVE:	Fast
IM/RS:	6/55
STAMINA:	30
ATTACK:	*60*
DAMAGE:	1d5 beak
SPECIAL ATTACK:	None
SPECIAL DEFENSE:	None
NATIVE WORLD:	Volturnus - all terrains

DESCRIPTION: Winged rippers are scavenger birds that gather in great numbers around any carrion. A ripper looks like a cross between a vulture and a hummingbird. Their brownish-gray feathers look tattered, and have a distinct odor of decay.

Winged rippers are impatient and may attack small animals or sick or injured creatures. A large number of winged rippers (more than 20) may attack healthy creatures of man-size or larger. When they attack, the entire flock swoops at the intended victim. As they pass, 1d10 of the creatures will slash with their razor-sharp beaks. Winged rippers are basically cowardly, however, and if more than one-tenth of the flock is killed, all the rest will flee.

Queequeg

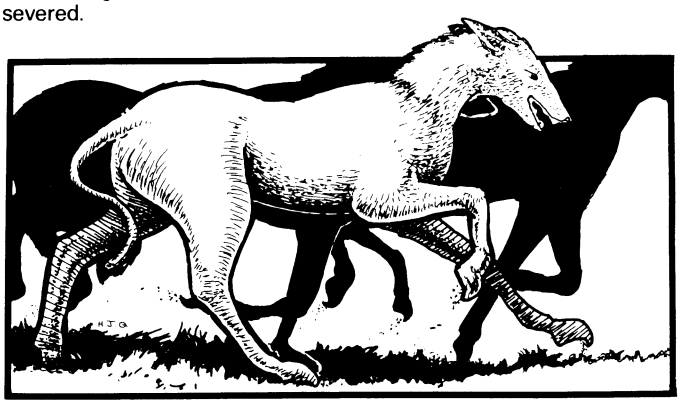


TYPE:	Large Carnivore
NUMBER:	1-5
MOVE:	Fast (90 meters/turn)
IM/RS:	6/60
STAMINA:	180
ATTACK:	*50*
DAMAGE:	3d10 harpoon
SPECIAL ATTACK:	Harpoon can strike victim up to 5 meters away.
SPECIAL DEFENSE:	Chitinous exoskeleton acts as skeinsuit, reducing damage from non-energy attacks by half
NATIVE WORLD:	Volturnus - forest

DESCRIPTION: Queequegs have barrel-shaped bodies with three jointed legs arranged like a tripod, and three eyes spaced evenly around the body so it can see all directions at once. They have a hard exoskeleton that matches the color of the plants where they live, providing a natural camouflage. Its mouth is in its underbelly, surrounded by small tentacles. A single 5-meter-long tentacle grows from the top of the body. The long tentacle tapers to a point with a razor-sharp barb.

The queequeg attacks by whipping this tentacle at its prey like a harpoon. Once the tentacle hits a target the sharp barb makes it difficult to pull out. The queequeg then pulls the victim to its mouth in one turn, and holds the prey with the filaments while devouring it. A character that is being eaten automatically takes 2d10 points of damage each turn until rescued. The victim can not fight back once he is held in the small tentacles. If characters attack the harpoon tentacle and cause 20 points of damage, the tentacle is severed.

Tomar's Horses



TYPE	Large Omnivore
NUMBER:	1-100
MOVE:	Fast (90 meters/turn) (25 km/hour)
IM/RS:	6/60
STAMINA:	120
ATTACK:	*40*
DAMAGE:	3d10 bite and hooves
SPECIAL ATTACK:	Stampede Attack score 70, 8d10 damage
SPECIAL DEFENSE:	None
NATIVE WORLD:	Volturnus - dry plains

DESCRIPTION: Tomar's horses look like a cross between a horse and a jackal. They stand 1.6 meters tall at the shoulder and weigh about 400 kilograms. Tomar's horses eat seeds, nuts, grains, berries and meat. They will eat carrion, but prefer fresh meat.

Tomar's horses are cunning. They may stalk their prey, taking advantage of cover to hide their approach. They try to herd their prey into traps so it can not escape. Individual Tomar's horses attack by pawing with their hooked hooves and biting.

A herd of Tomar's horses can attack by stampeding and trampling its prey. When a hungry herd sights prey it will charge the creatures and attempt to trample them. Their Attack score for a stampede attack is 70. Characters are safe from a stampede if they find hard cover to hide behind. If no cover is available, the character can try to stun or kill one of the lead animals and hide behind its body. There is a 75% chance the herd will charge again if the prey survived the first stampede. If more than one horse was killed in a stampede, there is only a 25% chance they will attack again. A trampled character takes 8d10 points of damage.

EQUIPMENT

WEAPONS

Weapon	Cost (Cr)	Mass (kg)
Beam Weapons		
Elestrostunner	500	1
Laser Pistol	600	1
Laser Rifle	800	3
Sonic Disruptor	700	4
Sonic Stunner	500	1
Heavy Laser	6,000	20
Sonic Devastator	5,000	15
Projectile Weapons		
Automatic Pistol	200	2
Automatic Rifle	300	4
Needler Pistol	200	1
Needler Rifle	400	3
Machine Gun	2,000	20
Recoilless Rifle	4,000	20
Gyrojet Weapons		
Gyrojet Pistol	200	1
Gyrojet Rifle	300	4
Grenade Rifle	700	4
Grenade Mortar	2,000	15
Rocket Launcher	5,000	15
Grenades		
Doze Grenade	10	—
Fragmentation Grenade	20	—
Incendiary Grenade	20	—
Poison Grenade	30	—
Smoke Grenade	10	—
Tangler Grenade	25	—
Archaic Weapons		
Axe	15	1
Bow	50	—
Knife	10	—
Musket	100	2
Spear	20	1
Melee Weapons		
Brass Knuckles	10	1
Electric Sword	150	2
Nightstick	20	1
Polearm	40	4
Shock Gloves	50	1
Sonic Knife	50	1
Sonic Sword	300	1
Stunstick	75	1
Sword	30	2
Vibroknife	25	1
Whip	20	1

Ammunition

Type of Ammunition	Cost (Cr)	Mass (kg)	Energy/Rounds
Beam Weapon Ammunition			
Powerclip	100	—	20 SEU
Power Beltpack	250	4	50 SEU
Power Backpack	500	10	100 SEU
Gyrojet Ammunition			
Pistol Jetclip	10	—	10 rounds
Rifle Jetclip	20	—	10 rounds
Grenade Bullet	3	—	1 round
Grenade Shell	8	—	1 round
Rocket	15	4	1 round
Projectile Weapon Ammunition			
Bistol Bulletclip	2	—	20 rounds
Rifle Bulletclip	5		20 rounds
Pistol Needleclip	10	—	10 rounds
Rifle Needleclip	20	—	10 rounds
Machine Gun Belt	50	4	200 rounds
Recoilless Shell	10	1	1 round
Archaic Weapon Ammunition			
Arrow	2	-	20 arrows
Powder and Shot	10	1	20 rounds

DEFENSES

Type of Defense	Cost (Cr)	Mass (kg)	Energy	Def. Against
Power Screens				
Albedo Screen	2,000	2	1 SEU/min	lasers
Gauss Screen	1,000	2	2 SEU/Hit	electric stun
Holo Screen	1,000	2	1 SEU/min	
Inertia Screen	2,000	3	2 SEU/hit	ballistic melee
Sonic Screen	2,000	2	1 SEU/min 2 SEU/hit	sonic
Defense Suits				
Albedo Suit	500	1	100 points	laser
Military Skeinsuit	300	1	50 points	ballistic/melee
Civilian Skeinsuit	500	1	50 points	ballistic/melee

TOOLKITS

Toolkit or Refill	Cost (Cr)	Mass (kg)
Techkit	500	12
Robcomkit	500	10
Medkit	500	10
Antibody Plus	5	—
Antitox	5	—
Biocort	10	—
Omnimycin	5	—
Staydose	5	—
Stimdose	5	—
Telol	10	—
Envirokit	500	10

ROBOTS

ROBOTIC DESIGN COST TABLE

Body Types		Levels	
Standard	2,000 Cr	Level 1	200 Cr
Heavy Duty	5,000 Cr	Level 2	500 Cr
Anthropomorphic	3,000 Cr	Level 3	1,000 Cr
		Level 4	2,000 Cr
		Level 5	4,000 Cr
		Level 6	8,000 Cr

Extra Limbs		Special Programs	
Standard Pair	800 Cr	Restrain (2)	500 Cr
Heavy Duty Pair	12,00 Cr	Self Defense (2)	500 Cr
Anthropomorphic Pair	1,000 Cr	Attack/Defense (2)	1,000 Cr
		Search&Destroy (4)	3,000 Cr
		Computer Link (4)	4,000 Cr
Altered Movement Modes		Security Lock (1)	500 Cr
Hover	2,000 Cr		
Rotor	5,000 Cr		
Rocket	10,000 Cr		

The number in parenthesis under special programs indicates the minimum level of a robot that can use that program.

Robots can use all the weapons and defenses that characters can use. Any piece of miscellaneous equipment marked with an (r) also can be added to a robot for the cost of the equipment plus a 10% installation fee.

STANDARD ROBOT COST TABLE

Type of Robot	Cost Per Level (Cr)					
	1	2	3	4	5	6
Maintenance Robot	2,200	2,500	3,000	4,000	—	—
Heavy Duty Robot	5,200	5,500	6000	7,000	—	—
Combat Robot	—	3,500	4,000	5,000	—	—
Security Robot	—	3,500	4,000	5,000	7,000	11,000
Service Robot	—	—	4,000	5,000	7,000	11,000
Cybernetic Robot	—	—	—	5,000	7,000	11,000
Warbot	—	—	—	—	12,000	16,000
Robot Brain	—	—	—	—	—	17,000

PARABATTERIES AND POWER GENERATORS

Battery	SEUs	Cost (Cr)	Mass (kg)
Parabattery type 1	500	600	25
Parabattery type 2	1,000	1,200	50
Parabattery type 3	2,000	2,300	100
Parabattery type 4	4,000	4,500	200

Generator	SEUs/hour	Cost (Cr)	Maintenance
Generator type 1	500	10,000	100 Cr/day
Generator type 2	1,000	20,000	200 Cr/day
Generator type 3	2,000	40,000	400 Cr/day
Generator type 4	4,000	80,000	800 Cr/day

COMPUTERS

Level	Function Points	Mass (kg)
1	1-10	3
2	11-30	8
3	31-80	20
4	81-200	100
5	201-500	300
6	501+	800+

Computer Programs

Program	Function Points for Levels						Cost
	1	2	3	4	5	6	
Analysis	1	2	4	8	16	32	
Bureaucracy	2	4	8	16	32	64	
Commerce	3	6	12	24	48	96	
Communication	3	6	12	24	48	96	cost =
Computer Security	2	4	8	16	32	64	# of
Industry	3	6	12	24	48	96	function
Information Storage	2	4	8	16	32	64	points
Installation Security	3	6	12	24	48	96	x
Language	1	2	4	8	16	32	1,000 Cr
Law Enforcement	4	8	16	32	64	128	
Life Support	4	8	16	32	64	128	
Maintenance	2	4	8	16	32	64	
Robot Management	2	4	8	16	32	64	
Transportation	3	6	12	24	48	96	

MISCELLANEOUS EQUIPMENT

Item	Cost (Cr)	Mass (kg)
Allweather Blanket	20	—
Anti-Shock Implant (r)	2,000	—
Chronocom (r)	100	—
Compass (r)	10	—
Everflame	5	—
Exoskeleton*	2,000	5
Flashlight	5	—
Freeze Field	1,200	4
Gas Mask	30	—
Holoflare	5	1
Infra-red Goggles (r)	300	—
Infra-red Jammer* (r)	500	1
Life Jacket	10	1
Machete	30	3
Magnigoggles (r)	200	—
Parawing	200	3
Poly-vox	1,500	1
Radiophone (r)	500	4
Rope	2	1
Solvaway	10	—
Standard Equipment Pack	150	1
Subspace Radio	20,000	100
Sungoggles	2	—
Survival Rations	2	—
Tornadium D-19	50	1
Toxy-Rad Gauge (r)	20	—
Variable Timer	5	—
Vitasalt Pills	1	—
Water Pack	4	4

* This item must be plugged into a powerpack to operate. It uses 1 SEU/minute while in operation.

(r) This item can be added to a robot at its cost plus a 10% installation fee.

WEAPON DESCRIPTIONS

Beam Weapons

Electrostunner. An electrostunner looks like a large pistol. It is a short-range weapon. It fires an arc of electrons that looks like a lightning flash. It is commonly called a zapgun because of the noise it makes when fired. An electrostunner has two settings, stun and blast. A blast causes 4d10 points of damage. A stun can knock a creature unconscious for d100 turns. Anyone hit by a stun beam can resist the stun by rolling a number less than or equal to its current Stamina. A zapgun uses two SEU per shot. It holds a 20 SEU clip, but can also be connected to a beltpack or powerpack with a 1.5 meter powercord. A gauss screen will block the electrostunner's beam. An anti-shock implant will nullify a stun but not a blast.

Laser Pistol. A laser pistol is a large handgun. It fires a pulse of bright light. Laser pistols are commonly called blasters. A laser pistol has a dial that can be set from 1 to 10 to control how many SEU are fired by each shot. Each SEU fired causes 1d10 points of damage. For example, when the dial is set at 3, the shot uses 3 SEU and causes 3d10 points of damage. Players must tell the referee what setting they are using before rolling the dice to see if the shot hits. Laser pistols use 20 SEU clips but can be attached to beltpacks or powerpacks. An albedo suit or screen halves the damage from lasers.

Laser Rifle. A laser rifle is a rifle-sized version of a laser pistol. It has a longer range and the SEU dial can be set from 1 to 20 instead of 1 to 10.

Sonic Disruptor. A sonic disruptor is a type of rifle. It is commonly called a disruptor. A sonic disruptor generates a focused sound beam. The damage it causes depends on the range. At closer ranges, it causes more damage. It causes 6d10 at point blank range, 4d10 at short range, 2d10 at medium range, and 1d10 at long range. It has no extreme range. It uses a 20 SEU clip but can also be attached to a beltpack or powerpack. A disruptor uses 4 SEU per shot. Only a sonic screen can stop its deadly beam.

Sonic Stunner. A sonic stunner is a type of pistol. It is commonly called a stunner. It will stun a victim for d100 turns. The victim can avoid the effect of the hit by rolling his current Stamina or lower. One shot uses two SEU. It uses a 20 SEU clip, but can be attached to a beltpack or a powerpack. A target with an anti-shock implant can not be stunned. Otherwise, only a sonic screen can stop the stunner's sound beam.

Heavy Laser. A heavy laser is about the size of a machine gun. It must be mounted on a tripod or a swival mount to be fired. It has longer range than a laser rifle, and a minimum SEU setting of 5. Otherwise it operates the same as the laser rifle.

Sonic Devastator. A sonic devastator is a heavy weapon that must be mounted on a tripod or a swival mount to be fired. Except for its greater range and damage, the sonic devastor operates just like the sonic disruptor.

Projectile Weapons

Automatic Pistol. An automatic pistol is a refined version of the submachine gun. It looks like a heavy pistol, with a folding metal wire stock. The gun can be fired like a pistol when the stock is folded, or fired from the shoulder when the stock is extended. An automatic pistol can be set to fire single shots or bursts. Up to three single shots or one burst can be fired in a turn. A single shot causes 1d10 points of damage. A burst fires 10 bullets, and has a +20 modifier to hit. It can be aimed at up to five adjacent targets in a 10-meter wide area. A burst causes 5d10 points of damage, plus 1d10 for every additional target after the first. Only one roll is needed to hit all the targets, but any negative modifiers that could apply to one target apply to the entire group. For example, if one target has soft cover, all of them are considered to have soft cover. The damage from a burst is divided as evenly as possible between all the targets. Skeinsuits and inertia screens reduce bullet damage by half. If a skeinsuit and an inertia screen are used together, damage is reduced to one-fourth the amount rolled.

Automatic Rifle. An automatic rifle is similar to the automatic rifles being used today. It is basically a heavier, longer version of the automatic pistol. It can fire up to three single shots or one burst.

Needler Pistol. A needler pistol is a handgun that uses an upright disc clip. It makes only a very soft, coughing noise when it is fired. Needler pistols magnetically propel a cluster of needles at high speed. Two types of needles can be used: barbed needles that cause 2d10 points of damage per shot, and anesthetic needles that cause only 1d10 points of damage but can put the victim to sleep for d100 turns. An individual can resist the anesthetic by passing a current Stamina check. Needles will not penetrate skeinsuits or inertia screens. Neither the suit, screen, or individual is damaged.

Needler Rifle. A needler rifle is a rifle-sized version of a needler pistol. It has a longer range than a needler pistol and its barbed ammunition does more damage (the longer barrel gives the needles more velocity).

Machine Gun. A machine gun is a fully automatic heavy weapon that must be mounted on a tripod or a swival mount to fire. A burst fires 20 bullets. Except for its greater damage and range, it operates just like an automatic pistol.

Recoilless Rifle. A recoilless rifle is a heavy weapon that must be mounted on a tripod or a swival mount to fire. It fires an exploding shell that causes 12d10 points of damage if it hits. Only one shell can be fired per turn, and loading another shell takes one turn. Inertia screens and skeinsuits halve the damage.

Gyrojet Weapons

Gyrojet Pistol. A gyrojet pistol is a large handgun. It shoots miniature, self-propelled rockets that cause 2d10 points of damage when they explode. A gyrojet pistol is not effective at very short range, because the rocket is still accelerating. Thus the short range modifier is used even at point blank range. Skeinsuits and inertia screens absorb half the damage from a gyrojet rocket.

Gyrojet Rifle. A gyrojet rifle is a rifle-sized version of a gyrojet pistol. It has a longer range and causes 3d10 points of damage per shot.

Grenade Rifle. A grenade rifle resembles a shotgun. It fires hand grenades that are fitted into special grenade bullets. Any type of grenade can be used. It can fire one shot per turn, and then must be reloaded, which also takes one turn. If a shot misses, the grenade does not scatter. Depending on what type of grenade is being used, all the usual grenade saving throws apply.

Grenade Mortar. A grenade mortar is a hollow tube that is attached at an angle to a large base plate.It can fire any type of grenade, using a special shell called a grenade shell. It operates like a grenade rifle, except for the greater range. Because it lobs grenades in a high arc, it has a minimum range of 10 meters.

Rocket Launcher. A rocket launcher is a long, hollow tube that is fired while resting across the firer's shoulder. It fires a large, long-range rocket. It must be reloaded after every shot, and reloading takes one turn.

Grenades

Grenades can be thrown or fired from a grenade rifle or mortar. Characters can avoid or resist the effect of a grenade by passing an ability check that applies to the grenade. Grenades can be set to explode in two ways: on impact or with a timer that is adjustable for 1 to 10 turns. All grenades have a blast radius of 3 meters. Any character or creature within 3 m of a grenade when it goes off can be affected.

Doze Grenades. A doze grenade releases a cloud of fast-acting knockout gas. All creatures within the blast radius will fall asleep for d100 turns unless they pass a current Stamina check. A shot of stimdose will revive a sleeping individual immediately. The doze gas is effective only on the turn that the grenade goes off.

Fragmentation Grenade. When a fragmentation grenade explodes it throws hundreds of small, sharp pieces of metal in all direction.

Fragmentation grenades are commonly called frag grenades. Any creature or character in the blast radius suffers 8d10 points of damage. This damage is cut in half if the individual passes a Reaction Speed check. Inertia screens and skeinsuits also reduce damage by half. All of these modifiers are cumulative.

Incendiary Grenade. An exploding incendiary grenade scatters sticky, flaming liquid across everything in the blast radius. Incendiary grenades are commonly called fire grenades. A fire grenade causes 4d10 points of damage on the turn it explodes. The burning liquid sticks to the victim, causing an additional 1d10 points of damage on the second, third and fourth turns after the explosion. A character that passes a Reaction Speed check takes only half damage. Anyone in a spacesuit takes no damage from an incendiary grenade.

Poison Grenade. A poison grenade releases a cloud of poisonous gas. Anyone in the blast radius will be poisoned by the gas. The gas is effective only on the turn the grenade explodes. The gas acts as an S5/T10 poison. A character who passes a current Stamina check will not be affected, nor will anyone in a gas mask. A shot of antitox will neutralize the poison so that no further damage is taken.

Smoke Grenade. A smoke grenade produces a thick cloud of smoke that both blocks vision and acts like tear gas. Smoke grenades are available in colors so they can be used as signals. Anyone in the blast radius on the turn the grenade explodes must make a current Stamina check. If the character fails the check he has a -10 modifier on all ability checks for 1d10 turns, due to coughing and blurred vision. The smoke will continue to spread 3 meters/turn for five turns, when it will cover an area 30 meters in diameter. The smoke cloud gives soft cover to anyone behind it or inside it. The smoke screen will last for 10 minutes.

Tangler Grenade. An exploding tangler grenade throws out hundreds of strong, sticky polymer threads. These threads stick to everything within the blast radius. An entangled individual can not move until the threads decay (in 30 minutes) or until solvaway is spread over the threads. Any creature with more than 100 stamina points can break out of tangler threads in one turn.

Archaic Weapons

Bow. For simplicity, all bows (crossbows, longbows, composite bows, etc.) are handled the same. An arrow causes 1d10 points of damage. Readying another arrow takes one full turn. Inertia screens and skeinsuits halve the damage from an arrow.

Musket. Muskets include all muzzle-loading firearms, such as arquebuses, blunderbusses, and flintlock rifles. Muskets use black gunpowder and lead bullets (powder and shot). Loading a musket takes two turns, so a musket can be fired only once every three turns.

Melee Weapons

Axe. An axe is actually a tool, but it can be used as either a thrown or melee weapon. If used as a thrown weapon, all the usual ranged weapon modifiers apply. Inertia screens and skeinsuits will halve the damage from an axe.

Brass Knuckles. Besides actual brass knuckles, this category includes any improvised weapon that increases the damage caused by someone's fist. Examples are rocks, coin rolls, sword or dagger handles, etc. Inertia screens and skeinsuits halve the damage from brass knuckles.

Chain/Whip. Besides chains and whips, this category includes any flexible weapon, such as flails, nunchuks, weighted ropes, etc. Inertia screens and skeinsuits absorb half the damage caused by these types of weapons.

Club. Any blunt weapon used like a club is considered a club. This includes chair legs, metal pipes and bottles. Inertia screens and skeinsuits reduce club damage by half.

Electric Sword. This is a light-weight metal rod that contains a battery in the handle. It delivers an electrical shock when it strikes someone. It can be set to shock or stun. When set on stun, a successful hit causes no damage but can stun the victim for d100 turns. The victim can resist the stun by making a successful current Stamina check. An electric sword can be hooked into a beltpack or powerpack with a power cable. A successful hit by an electric sword uses 2 SEU. Individuals wearing gauss screens or with anti-shock implants are not affected by electric swords.

Knife. This category covers any knife that is big enough to fight with. If thrown, the usual ranged combat modifiers apply. Inertia screens and skeinsuits will absorb half of the damage caused by a knife.

Nightstick. A nightstick is a weighted plastic club. This category also includes improvised weapons that are more effective than simple clubs, like chairs, baseball bats and quarterstaffs. Inertia screens and skeinsuits halve the damage from a nightstick.

Polearm. A polearm consists of a long pole with a heavy blade at one end. Typical polearms are halberds, partisans, naginatas and glaives. Inertia screens and skeinsuits halve the damage from a polearm.

Shock Gloves. Shock gloves are silvery gloves that deliver an electrical shock to anything they touch. They must be connected to a beltpack or powerpack to work. Shock gloves will not affect anyone protected by a gauss screen or an anti-shock implant. Shock gloves use 2 SEU each time they hit.

Sonic Knife. A sonic knife looks like a golden tube, 15 cm long and 4 cm in diameter. This tube is actually only the weapon's handle. When a small button on the side of the tube is pressed, a powerful "blade" of focused sound is created at one end of the tube. The sound blade is about 20 cm long, and is invisible. It emits a high-pitched whine, however. The blade is turned off when the button is released. The knife is powered by a 20 SEU clip, but can be hooked into a beltpack or power pack. A sonic knife uses 1 SEU when it hits. Anyone wearing a sonic screen can not be injured by a sonic knife. Unlike a regular knife, a sonic knife cannot be thrown.

Sonic Sword. A sonic sword looks like a sonic knife, but the blade is 1 m long when it is turned on. A sonic sword causes 5d10 damage and uses 2 SEU when it hits.

Spear. Any pole with a knife-like blade on the end is a spear. Bayonets and pikes are included in this category. Inertia screens and skeinsuits halve the damage from a spear.

Stunstick. A stunstick is a copper-colored tube 30 cm long and 3 cm in diameter, with an insulated grip. It has two settings: shock and stun. When set on shock, a successful hit causes 3d10 points of damage. When set on stun, a successful hit will stun the victim for d100 turns. A character can resist the stun by making a successful check against his current Stamina. A successful hit uses 2 SEU. A 20 SEU clip can be fitted into the handle, or the weapon can be connected to a beltpack or powerpack. A character with an anti-shock implant is immune to the stun setting.

Sword. Any long-bladed, hand-held weapon is a sword. Examples are broadswords, machetes or rapiers. Inertia screens and skeinsuits reduce the damage from a sword by half.

Vibroknife. A vibroknife has a 20 cm saw-toothed blade. When it is turned on, the blade vibrates at high speed. It uses 1 SEU with each successful hit. A 20 SEU clip can be plugged into the handle, or the weapon can be connected to beltpack or powerpack. Inertia screens and skeinsuits halve vibroknife damage.

AMMUNITION

Beam Weapon Ammunition

Powerclip. The standard 20 SEU powerclip is a sturdy plastic box about the size of a cigarette pack. A powerclip will fit any weapon that can use a powerclip. Players must keep track of how many SEU are in the clip. Powerclips can not be recharged.

Power Beltpack. A power beltpack is a 20 cm x 8 cm x 5 cm plastic box that attaches to a character's belt. It comes with three different powercords that can be plugged into three distinct outlets in the side of the unit. One port is for weapons, one is for screens and one is for

auxiliary equipment such as scanners or radios. Only one weapon and one screen can be plugged into a beltpack at the same time. Beltpacks can be recharged at a cost of 5 credits per 1 SEU recharged. Recharging can be done at any weapons shop, hardware store or fuel station.

Power Backpack. A power backpack is worn on a harness that slips over the shoulders. Special adapters are available for Dralasites at no additional cost. A backpack has two weapon ports, one screen port and three auxiliary ports. Only two weapons can be connected to the same backpack. Backpacks can be recharged for 5 credits per 1 SEU recharged. It takes two turns to plug in or unplug a powercord from a power backpack.

Projectile Ammunition

Bulletclip. A bulletclip is a plastic, spring-loaded rack of bullets, 5 cm x 2.5 cm x 15 cm. It holds 20 bullets for either an automatic pistol or rifle. Rifle and pistol clips are not interchangeable.

Needleclip. A needleclip is a drum-shaped canister 10 cm in diameter and 5 cm thick, It holds 10 clusters of needles. Two varieties of needles are available: barbed and anesthetic. Rifle and pistol needleclips are not interchangeable.

Machine Gun Belt. Machine guns use a disintegrating belt of 200 bullets (nothing is left of the belt after all the bullets are fired except individual shell casings). If someone is working with the firer, ammo belts can be linked together so the gun can keep firing without stopping to be reloaded.

Recoilless Rifle Shell. A recoilless rifle shell looks like a 15 cm long artillery shell. It is essentially a giant bullet.

Gyrojet Ammunition

Jetclip. Jetclips are loaded with 10 miniature rockets. The clip is inserted into the weapon's ammo chamber in front of the trigger. Pistol and rifle jetclips are not interchangeable.

Grenade Bullet. A grenade bullet looks like a shotgun shell. It is used to launch a grenade from a grenade rifle. It has no effect if fired without a grenade.

Grenade Shell. A grenade shell looks like a mortar round. It must be loaded into a grenade mortar in order to fire a grenade.

Rocket. Rockets are 25 cm long cylinders, with no fins. The rocket's exhaust is vented out the back of the launcher when fired. Anyone standing directly behind the launcher will suffer 5d10 points of damage from the blast.

Archaic Weapon Ammunition

Arrows. Arrows can be bought in quivers that contain 20 arrows. Characters with Environmental skill can make crude arrows in an emergency.

Powder and Shot. One package of powder and shot includes 20 lead bullets and enough black gunpowder to fire them.

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. This 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 cassette 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. 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. A character wearing both a skeinsuit and an inertia screen would take only one-fourth damage from ballistic attacks. The suit is ruined when it takes 50 points or more of damage. Two types of skeinsuits are available: military and civilian. Military skeinsuits are camouflage green. Civilian skeinsuits look like regular clothing.

TOOLKITS

If a starting character chose a skill that requires a toolkit, the character gets the toolkit automatically along with the skill. Characters who learn skills by spending experience points for them must buy their own toolkits. None of the Military skills require toolkits.

Technological Toolkits

All characters with Technological skills need 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 plasteel 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
Electrodrive — rotates all shapes and size of screws and bolts

Insulated wire — 10 meters
Uninsulated wire — 25 meters, can support 2,000 kg
Prybar — 1 meter plasteel 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 needs a medkit and an environmentalist 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.

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 first-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.



COMPUTERS

A computer is a sophisticated electronic machine that can receive and analyze information. A computer works by running programs. Every program is available in six levels. The higher levels are more complex and able to handle more information. Each program requires a certain number of computer function points in order to operate. A function point is a measurement of a computer's ability to process information. Higher-level programs have a higher function point requirement. The Computer Program list shows the number of function points a program needs.

When a character buys a computer he actually is buying individual programs and the hardware needed to run them. For example, when a character buys a level 1 Analysis program (1 function point), he gets not only the program, but also a computer circuit module that can process a 1-function point program. A computer's level is determined by totaling all the function point requirements of the various programs and finding this number on the Computer list. If more programs are added to the computer later, its level may be raised.

EXAMPLE: A small inter-steller business run by "Slingshot" Simmons buys a computer to keep track of its finances. Simmons buys a level 2 Analysis program (2 function points), a level 2 Commerce program (6 function points) and a level 1 Information Storage program (2 function points). The computer needs a total of 10 function points, making it a level 1 computer. It costs 10,000 Credits. If Simmons later adds a level 2 Robot Management program (4 function points), his computer has 14 function points, making it a level 2 computer.

Structure Points. A computer's weight in kilograms also is its number of structural points. Thus a level 4 computer that weighs 100 kg could take 100 points of damage before it stopped working.

Power Sources. Level 1 to level 4 computers are powered by parabatteries of the same type as the computer's level. Level 5 and 6 computers use power generators type 1 and 2, respectively. Computers will operate for at least one year before their batteries must be recharged. Power sources must be bought separately.

Computer Programs

The standard computer programs listed below can be purchased by anyone in any store that sells computers or computer parts and equipment. A program's cost is the number of function points it requires, multiplied by 1,000 Credits.

Analysis. An Analysis program allows a computer to perform mathematic calculations and computations. Level 1 is basically a sophisticated calculator. At level 3 the program can do advanced algebra and calculus. At level 6 it can do all known mathematical calculations, including theoretical math.

Bureaucracy. A Bureaucracy program coordinates other programs. For example, a city could use the Bureaucracy program to coordinate Commerce, Communication, Industry, Law Enforcement, Life Support, Maintenance and Transportation programs. A Bureaucracy program can coordinate a number of programs equal to its level x 3. It is not needed unless the programs being coordinated are level 3 or higher.

Commerce. A Commerce program enables a computer to handle business transactions. Commerce covers such areas as banking, stocks, market trends, bookkeeping, imports and exports. A level 1 program could be used by starship computers to record the cargo manifest, passenger records and ship's books. A level 6 program could be used to coordinate all commerce in a city.

Communication. A Communication program deals with all aspects of communication, including news, entertainment and public service announcements. It can control radio, holophones and holovision communication devices. Higher program levels can handle more complex systems. A level 1 communications program might be used to handle communication and to provide packaged entertainment on a starship. A level 6 program could monitor all communication in an entire city.

Computer Security. Computer Security programs protect a computer against both physical and program tampering. A Computer Security program must be defeated or bypassed before a computer specialist can change any programs or interface two computers. Computer Security programs can also control physical defenses guarding the computer. A level 1 Computer Security program is simple code words that lock other programs, plus a simple recognition code such as a fingerprint reader. A level 6 security program sets up a complex system of codes and special directions, and guards the computer with robots or remote guns.

Industry. An Industry program deals with turning raw materials into products. It can be used for both agriculture and manufacturing. At level 1 an Industry program could run a starship's hydroponics system and machine shop. At level 6 the program could coordinate many large factories and farms.

Information Storage. The Information Storage program is passive. It is simply a record-keeping system. A level 1 Information Storage program could be used by a business to record its yearly sales data. A level 6 program could store an entire university library.

Installation Security. An Installation Security program coordinates the defense of an area. Higher-level programs can defend larger areas. A level 1 Installation Security program could lock a building's doors at a certain time and call the police if an alarm is set off in the building. A level 3 installation Security program would not only lock the doors and call the police, but could control pressure plate sensors, I-R scanners, holovision cameras, special weapons, etc. At level 6, the program could defend an entire city or starport.

Language. The language program enables a computer to translate known languages into each other and, at higher levels, to translate unknown languages into known languages. Higher level programs can translate more languages. Translating an unknown language requires at least a level 3 program.

Law Enforcement. The law enforcement program is used to coordinate the efforts of all law enforcers in an area. Higher level programs can control a larger area. The program can handle police calls, schedule patrols, monitor trials, control riots and scan for developing crime trends. A level 1 program could monitor traffic flow and patrol routes in one precinct, while a level 6 program could run an entire city police department.

Life Support. The life support program controls lighting, temperature control, weather prediction, heating and power plant control. A level 1 program can control the life support system on a starship. A level 6 program could handle all the life suppport functions of an enclosed city.

Maintenance. The Maintenance program handles standard janitorial functions such as cleaning, painting and basic repair. It can also coordinate services such as garbage collection, fire inspection and sewage removel. A level 1 program could maintain a starship. A level 6 program could coordinate maintenance for an entire city.

Robot Management. The Robot Management program lets a computer control robots. Higher level programs can control more robots. This program often is used along with the Industry, Security, Law Enforcement and Maintenance programs. The Robot Management program must be a least as high a level as the robots it is controlling.The number of robots that a program can control equals its level multiplied by its number of function points.

Transportation. The transportation program allows a computer to control a mass transit system, including traffic control and distribution of products. A level 1 program could control mechanized sidewalks, elevators and escalators in a building. A level 6 program could run all of the monorails, buses, subways and traffic control signals in a city.

ROBOTS

When a robot is built, the designer must give it a body type, a way to move, a way to manipulate objects and programming. Special items can be added at additional cost.

Body Types

Standard Body. Standard robot bodies come in all shapes. They are about the size of an average character, weigh 100 kg (without a parabattery) and have 100 Stamina points. A standard body is powered by a type 1 parabattery.

Heavy Duty. Heavy duty robot bodies also are available in any shape, but they are about the size of a ground car and weigh about 500 kg (without a parabattery). A heavy duty robot has 500 Stamina points, and is powered by a type 2 parabattery.

Anthropomorphic. Anthropomorphic robot bodies look like one of the four major races. They weigh roughly 100 kg (without battery) and have 100 Stamina points. They are powered by a type 2 parabattery.

Robot Movement

All three body types can be equipped with wheels, tracks or mechanical legs, whichever the designer wants.

Limbs. All three body types come with two manipulative limbs. These can be mechanical arms, tentacles, or specialized limbs for digging through rock or mounting tools.

Under normal conditions, most robots move 10 meters/turn. They can travel much faster, however. Top speeds for various types of robots are shown on the table below.

Robot	Top Speed
cybot, heavy duty, service, brain	30 meters/turn
maintenance	60 meters/turn
security	90 meters/turn
combat, warbot	120 meters/turn

Altered Movement. Robots with hover movement move the same as hover cars. Robots with rotor movement move the same as jetcopters and robots with rocket movement move the same as aircars.

Robot Levels

Robot levels are described in the Skills section under Robotics.

Customizing

A robot can be given additional arms and legs, a different means of movement, special equipment or special programs. Every two additions picked from the Special Program, Altered Movement or Extra Limbs tables increase the size and cost of the robot's body by 10%

EXAMPLE: Sheeta Starfox is customizing a combat robot. Her standard combat robot has a standard body (2,000 Cr), the attack/defense special program (1,000 Cr) and is level 4 (2,000 Cr). It originally cost 5,000 Cr. Sheeta wants to add the Computer Link and Search and Destroy programs, rotor type movement and two additional pairs of standard limbs. The size and cost of the robot's body must be increased 30% (to 2,600 Cr). The Search and Destroy program costs 3,000 Cr and the Computer Link program costs 4,000 Cr. Rotor movement cost another 5,000 Cr and the additional arms cost 1,600 Cr. The customized robot will cost Sheeta 19,200 Cr (14,200 Cr more than the standard robot). The robot weighs 130 kg (without its battery), but still has only 100 Stamina points.

Robot Programs

Restrain. The robot can both defend itself and attack, but can not use any lethal weapon.

Self Defense. The robot can fight back if attacked in melee.

Attack/Defense. The robot can fight using the same type of weapons as a character, and can be equipped with an albedo suit and a screen (with its own power supply). The robot can use lethal weapons.

Search and Destroy. The robot can perform combat missions that include tracking down its target. A robot must have the Attack/Defense program to use this program.

Computer Link. This program enables a robot to communicate directly with a computer using a tight-beam long-range communicator. This gives it access to all the information in the computer.

Robot Attacks

A robot gets one melee attack for every pair of limbs it has. If the robot uses a weapon, it causes whatever damage is normal for that weapon. If the robot attacks without a weapon, standard and anthropomorphic limbs cause 2d10 points of damage and heavy duty limbs cause 6d10 points of damage.

A robot using a ranged weapon is treated exacltly the same as a character, and is subject to all the ranged combat rules.

A robot can not attack unless it has a restrain, self-defense or attack/defense program.

Standard Robots

Combat Robots. Combat robots have standard bodies and the attack/defense program. They are limited to levels 2 to 4. Combat robots serve as active combat soldiers.

Cybernetic Robots. Cybernetic robots (cybots) have both mechanical and organic parts. They can perform any job other robots of their level can perform. Cybots can have any body type, but usually are anthropomorphic. They are limited to levels 4 to 6.

Heavy Duty Robots. Heavy duty robots do heavy excavating, crop harvesting, rock quarrying, etc. They have heavy duty bodies and are limited to levels 1 to 4.

Maintenance Robots. Maintenance robots clean areas, oil machines, watch for breakdowns and malfunctions, etc. They use standard bodies and are limited to levels 1 to 4. They can not do actual repairs.

Robot Brains. Robot brains are robot managers. They usually command other types of robots. They have heavy duty bodies plus the computer link program. All robot brains are level 6.

Security Robots. Security robots serve as both guards and police. They have standard bodies and the restrain program. They are limited to levels 2 to 6.

Service Robots. Service robots are used as servants. They work as store clerks, information sources, gardeners, tailors etc. Service robots have anthropomorphic bodies modeled after whichever race they serve. They can not be mistaken for a living person, however. These robots are limited to levels 3 to 6.

Warbots. Warbots are intelligent war machines. They often command combat robots. They have heavy duty bodies and the attack/defense and search and destroy programs. They are limited to levels 5 to 6.

PARABATTERIES AND POWER GENERATORS

Parabatteries are used in vehicles, computers and robots. They vary in size from a few hundred cubic centimeters to one cubic meter. The cost to recharge a parabattery is equal to the amount of the SEUs being recharged.

Power Generators are much larger than parabatteries. A power generator produces a certain number of SEU every hour it operates. However, there is a maintenance cost to run the generator, and it needs an outside force of some kind: solar, nuclear, hydrodynamic, thermal, etc.

MISCELLANEOUS EQUIPMENT

Allweather Blanket. This 3m x 3m blanket has a layer of soft pseudowool on one side, and a layer of smooth waterproof plastic on the other. The blanket will keep a character warm in temperatures down to 0° C (freezing temperature). The blanket can be used to carry water. If the blanket is used to line a pit in the desert, it will collect 1 liter of dew overnight.

Anti-Shock Implant. This is a small device that can be implanted in the back of a character's neck, making the character immune to stun attacks. A-S implants must be installed at a hospital.

Chronocom. Chronocom is short for chronograph/communicator. A chronocom is a combination wristwatch, calculator and communicator. It has a range of 5 kilometers.

Compass. A compass is used to find direction. A compass can be deceived so it points away from magnetic north by the presence of nearby magnetic rocks, electrical generators or other powerful magnets or large metal deposits.

Everflame. An everflame is a permanent, waterproof, windproof lighter guaranteed to last 20 years.

Exoskeleton. An exoskeleton is a mechanical, metal frame that is worn on the outside of a character's body. It follows the body's movements and increases the strength of its wearer. Each joint has its own miniature motor. An exoskeleton must be specially fitted to the character that will wear it, and can not be worn by anyone else. Getting into or out of an exoskeleton takes 1d10 +10 minutes. A character in an exoskeleton can move twice as fast as normal, can jump 5 meters straight up (in 1g), gains a bonus of +20 to hit in melee and does +10 points of damage in melee. An exoskeleton provides no protection to the wearer. It can be worn along with a powerscreen and defensive suit.

Flashlight. The flashlight is about the size of a pencil. It contains enough power to operate for 200 hours. Its beam will shine up to 100 meters.

Freeze Field. Each freeze field device contains 20 SEU. The field uses 1 SEU every 10 hours. Another power source can be attached if the power runs low, but if it ever runs out the body can not be revived. A character loses one point from one of his ability scores for each full 10 hours he spends in a freeze field. The player can subtract these points from any ability or abilities he chooses. A freeze field device can be reused, but it must be recharged and re-tuned at a hospital or shop, at a cost of 100 Cr.

Gas Mask. A gas mask fits over the wearer's face and filters out all hazardous gases as the character breathes. It will not allow a person to breathe underwater or in a vacuum, or anywhere there is not enough oxygen to keep a character alive.

Holoflare. A holoflare is a small, solid, ball-shaped device. When lit, the flare rockets about 200 meters into the air and hovers there for 10 minutes. The flare will illuminate an area 1 km across with a dim light.

Infra-Red Goggles. Infra-red (IR) goggles allow a character to see heat images in total darkness. They can be used to spot characters that are hidden in light foliage or darkness, or that are using a holo belt.

Infra-Red Jammer. An IR jammer hides the wearer from infra-red sensors, including IR goggles.

Life Jacket. A life jacket is an inflatable vest that will keep a character afloat for any length of time. It comes folded into a package about the size of a person's fist.

Magnigoggles. Magnigoggles are goggles that magnify visual images the same way binoculars do. They triple the distance at which a character can identify a man-sized object. They do not work like telescopic sights, and a character wearing magnigoggles can not aim a weapon.

Machete. A machete is a short sword used for chopping through soft jungle growth or grass.

Parawing. A parawing is a disposable glider used as an emergency parachute. A character can jump with a parawing from any altitude. The wing is opened automatically by small solid-fuel jets, and the frame glues itself open. The character then floats to the ground. The wing can not be refolded to be used again.

Poly-vox. A poly-vox is a specialized computer that can be worn around the throat. It translates a message that it hears in one language into another language, and then repeats it. It can learn an unknown language if it can be programmed with key phrases, and then exposed to the language for 1-100 hours (see Language). A character does not need computer skill to use a poly-vox.

Radiophone. A radiophone is a short-wave communicator with a 1,000 km range.

Rope. This is a 25-meter coil of braided plastic rope that will support up to 500 kg.

Solvaway. Solvaway is the only solvent that will immediately dissolve tangler grenade threads. It must be applied by someone other than the person who is tangled in the threads. One vial of solvaway contains enough liquid to dissolve the threads from one tangler grenade. It will not dissolve anything but tangler grenade threads.

Subspace Radio. A subspace radio is used for sending messages between distant planets and star systems. Subspace communicators send coded tachyon beams that must be broadcast from very carefully aimed dish antennas to hit their target planet or system. A subspace message crosses one light-year in one hour. The radio uses a type 1 parabattery. Sending a message uses 100 SEU.

Sungoggles. Sungoggles are high-quality sunglasses.

Survival Rations. A box of survival rations contains four airtight foil-wrapped packets. Each packet holds a food concentrate that looks like crumbly dust. When water is added, the dust quickly becomes a delicious meal of protein and vitamin-packed mush. One packet will feed one character for one day.

Tornadium D-19. Tornadium D-19 ("kaboomite") is the standard plastic explosive. It can be bought legally only by someone with Demolitions skill. A 50-gram charge of TD-19 will cause 5d10 points of damage to anyone and anything within 1 meter of the explosion. Each additional 50 grams causes an additional 25 points of damage. Anyone farther from the explosion than 1 meter, but within the blast radius, takes one-half damage. The blast radius is 1 meter for every 100 grams of TD-19 used. A thrown charge does full damage to living creatures, but only one-half damage to structures.

Toxyrad Gauge. A Toxy-rad gauge is a special device that is worn on the wrist like a watch. It will alert the wearer to several types of danger. There are three colored lights on the device. If the red light flashes, it indicates that the oxygen content of the surrounding air is dropping to a dangerously low level. If the blue light flashes, it indicates that there is dangerous radioactivity nearby. If the yellow light flashes, it means that the sensor has encountered some substance that is poisonous to Humans, Dralasites, Yazirians or Vrusk. A small dial on the face of the gauge indicates the degree of danger to a character.

Variable Timer/Detonator. Variable timers are used to detonate Tornadium D-19. A timer can be set for 1 to 60 seconds, 1 to 60 minutes or 1 to 60 hours.

Vitasalt Pills. Vitasalt pills are special pills containing vitamins and minerals, including salt. They help reduce a character's need for water in dry areas.

Water Pack. A water pack contains eight one-liter plastic bags of water. Each bag has a reclosable seal. The water bags come packed in a lightweight plastic frame. The frame can be converted into a simple backpack in 5 minutes.

FRONTIER SOCIETIES

THE FRONTIER WORLDS

STAR FRONTIERS adventures take place in an area of space called the Frontier Sector, or simply the Frontier. The Frontier contains 17 inhabited star systems, with a total of 23 colonized planets. Some of these planets have been claimed and settled by only one of the four races, while others were set up in cooperation and have mixed populations.

Besides these settled areas, the sector contains 21 unexplored star systems that could have habitable (or inhabited) planets. No one has explored the routes to these stars for navigational hazards, so no one knows whether these stars even have planets. Even the settled systems are not fully explored. There are many moons, asteroid belts and uninhabited planets that are largely ignored in the day-to-day business of earning a living in the Frontier. These areas could hold lost alien treasures or rich deposits of precious metals and gems. Because they are isolated, these spots quickly become hiding places for outlaws and space pirates.

Many of the settled planets themselves are not fully explored. Most have been mapped by spaceships and satellites that take pictures from orbit. Very few have been explored on the ground. When adventurers travel more than a few hundred kilometers from a settlement, they are entering an area where very few people have ever been. They could be the first people ever to cross that land, or they could be walking in the footprints of a race that built a civilization and then collapsed, leaving its relics to be discovered centuries later.

The Frontier Map

A map of the Frontier Sector is provided for the referee and the players. The map shows the location of all the settled systems, unexplored systems, neutron and binary stars and dust clouds. Each square is 1 light-year across.

Each inhabited planet is described below. Six characteristics are given for each planet: Colonizers (Col.), Population and Trade (Pop.), Gravity (Grav.), Moons and Length of Day.

Colonizers indicates which of the four races settled the planet. This race will be the most common on the planet, and will control the government. Abbreviations are used to indicate which race colonized the planet: D = Dralasites, H = Humans, V = Vrusk, Y = Yazirians, * = a mixture of several races.

Population and Trade indicates how many intelligent beings live on the planet and what their major trade is. This information is given in a two- or three-letter code. The first letter describes the population, and the second and third describe the major trade. The abbreviations are:

H — Heavy population. The planet has many large cities that are very crowded, and hundreds of smaller cities. Individual cities may cover hundreds of square kilometers.

M — Moderate population. The planet has several large cities and numerous smaller cities, but they are not overcrowded.

L — Light population. The planet has only a few cities, and most would be considered small on a planet with a Heavy population.

O — Outpost. The planet is a small outpost or new colony. It has only one city, but there may be small settlements scattered nearby.

I — Industry. Most of the planet's economy is based on manufacturing. Cities are built around factories and processing plants, and most of the inhabitants work in these factories. Raw materials may be mined on the planet or shipped in from other planets.

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 because there are not enough factories to process them where they are mined.

A — Agriculture. The planet's economy is based on farming. Any renewable resource can be farmed: grain, lumber, livestock, fish, fruit, textiles, etc.

Some planets have more than one major trade item. The trade item that is listed first is most important.

EXAMPLE: Pale, the first inhabited planet at Truane's Star, has a Pop. code of MRI. This means the planet has a moderate population, and its major trade is mining natural resources. The planet also has some industry, but not enough to process all the materials that are mined.

Gravity is simply the strength of gravity on the planet. It is measured in multiples of 1 g, which is considered normal gravity. The effects of gravity are described in the section on Movement.

Moons indicate the number of moons orbiting the planet. Many planets have small moons that have never been fully explored. Some large planets have moons that are big enough to have atmospheres. Planets can also have rings.

Length of Day is the number of hours the planet takes to complete one rotation, or the number of hours from sunrise to sunrise.

The color of the star that the planet orbits also is listed. This has no effect on the game, but the referee can use it to add to his descriptions.

Some planets have additional notes following the table. These describe unusual cultures or planetary features. The referee can make up any other information he needs about the planets when he designs adventures to place on them.

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. When adventurers travel, they are limited to scheduled or chartered trips following these routes.

Travel Time

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.

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 stopover in a system for more than one or two days: just long enough to pick up supplies, fuel and news.

EXAMPLE: Justin Balinar and Sh'Kree Kir must travel from Cassidine to Athor. Their ship takes seven days to reach Prenglar. When they arrive, the referee rolls 3d10 and subtracts three days to see when the next ship leaves. The result is an 8, so Justin and Sh'Kree must spend eight days on Prenglar before leaving for Athor. They can look for a temporary job, see the local sights, or perhaps get involved in a short, surprise adventure that the referee has prepared for them.

Customs, Duties and Taxes

The referee may want to add local baggage inspections and special visitors' taxes on some planets. These are not standard, and are left to the referee's judgment. However, they can lead to interesting adventures if the characters are trying to smuggle goods onto a planet or hide from the law. Local duties and taxes also are a good way to relieve rich characters of some of their extra cash. If players ask, the referee should tell them what sorts of inspections and charges they can expect at their destination.

THE FRONTIER WORLDS

System/Planet	Col.	Pop.	Grav.	Moons	Day	Star
Araks						Yellow
Hentz	Y	HI	.7	0	25	
Athor						Orange
Yast	Y	MA	1.0	2	15	
Cassidine						Orange-Yellow
Rupert's Hole	H	MIA	.9	0	20	
Triad	*	HI	1.1	1	30	
Dixon's Star						Green-Yellow
Laco	H	0	1.4	1	60	
Dramune						Orange-Yellow
Inner Reach	D	MAI	.8	1	20	
Outer Reach	*	MIR	1.0	5	35	
Fromeltar						Yellow
Groth	D	LA	1.2	0	45	
Terledrom	D/V	HI	1.0	3	60	
Gruna Goru						Yellow
Hargut	Y	HR	1.1	1	20	
K'aken-Kar						Red-Orange
Ken'zah Kit	V	MA	.9	0	25	
Kizk'-Kar						Yellow
Zik-kit	V	MIR	1.0	0	65	
Madderly's Star						Yellow-Green
Kdikit	H	MIA	1.0	5	30	
Prenglar						Yellow
Gran Quivera	*	HI	1.0	0	15	
Morgaine's World	H	0	1.5	4	40	
Scree Fron						Orange-Red
Histran	Y	0	.6	7	25	
Hakosoar	Y	LAI	.9	5	50	
Theseus						Yellow-Orange
Minotaur	H	HI	1.2	0	15	
Timeon						Green-Yellow
Lossend	H	LFI	.7	0	70	
Truane's Star						Orange-Yellow
Pale	*	MIR	.9	3	55	
New Pale	H	LA	1.4	0	20	
White Light						Red-Orange
Gollywog	H	HR	1.0	0	50	

Notes

Hentz (Araks) is ruled by a religious clan, the Family of One. Everyone who lives there wears a uniform showing his job and position.

Triad (Cassidine) is a major industrial planet where very high technology items are manufactured and sold.

Inner Reach (Dramune) has an unusual local custom. The Dralasites that live there dye their skin various colors to show their mood for the day. The dyes wash off easily.

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

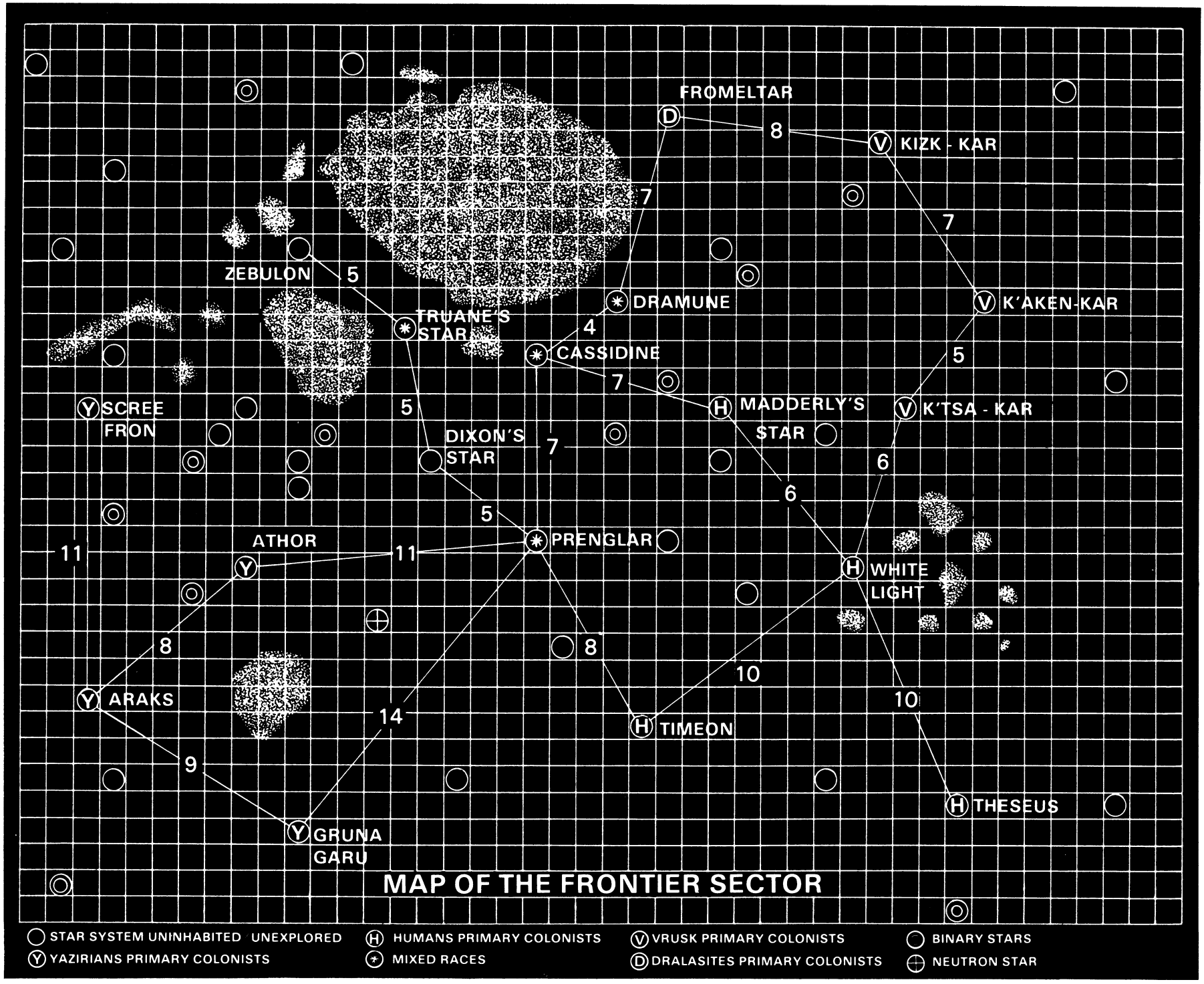
Terledrom (Fromeltar) is ruled by a council of Vrusk companies and elected Dralasites. The companies control all trade with other planets, and consider smuggling a serious crime. The planet has rings that are visible from the ground during the day.

Zik-kit (Kizk'-Kar) has very rich mineral deposits. These are exported mainly to Terledrom for manufacturing. Zik-kit is controlled as a colony by the Terledrom government.

Gran Quivera (Prenglar) is the hub of the Frontier Sector. The Star Law Rangers, Pan-Galactic Corporation and United Planetary Federation all have headquarters at Port Loren, the major city.

Morgaine's World (Prenglar) is a UPF and Star Law base. The planet has rings.

Pale (Truane's Star) is the starting point of the only possible starship route through the Xagyg dust clouds. The route to Zebulon was just recently opened.


FROMELTAR
KIZK - KAR
ZEBULON
DRAMUNE
K'AKEN-KAR
TRUANE'S STAR
CASSIDINE
SCREE FRON
MADDERLY'S STAR
K'TSA - KAR
DIXON'S STAR
PRENGLAR
ATHOR
WHITE LIGHT
ARAKS
TIMEON
THESEUS
GRUNA GARU
MAP OF THE FRONTIER SECTOR
STAR SYSTEM UNINHABITED UNEXPLORED
HUMANS PRIMARY COLONISTS
VRUSK PRIMARY COLONISTS
BINARY STARS
YAZIRIANS PRIMARY COLONISTS
MIXED RACES
DRALASITES PRIMARY COLONISTS
NEUTRON STAR



TIME

Galactic Standard Time (GST) is the most popular time system in the Frontier. The GST system uses hours, minutes and seconds. An hour is 60 minutes long, a minute is 60 seconds long. A second is defined as the length of time needed for a beam of light to travel 300,000 km through a vacuum.

One year in Galactic Standard Time is 8,000 hours long. A standard year is divided into 400 20-hour days. Each day is divided into a 10-hour work period and a 10-hour rest period. These standardized days and years are used mainly for record-keeping.

Besides Galactic Standard Time, many planets have their own local time system. These local systems use GST seconds, minutes and hours, but the length of the day and year varies from planet to planet. The length of a local day is the time it takes for the planet to rotate through one complete day/night cycle. A local day usually is divided into equal periods of light and darkness, although these can vary if the planet's axis is tilted in relation to its orbit. A local year is the length of time the planet takes to make one complete revolution around its star.

Game Turns. A STAR FRONTIERS game turn is six seconds long. There are 10 turns in one minute. The referee should not break the game down into individual turns until the characters get into a fight, a chase or some other situation where a difference of a few meters or a few seconds can be important. When the characters are not under pressure, the referee should ignore game turns. He can either run the game in real time or use his own judgment to decide how much time the characters spend doing something.

LANGUAGES

Pan Galactic. All intelligent races in the known galaxy have a native language. In order to simplify interstellar trade, the Pan-Galactic Corporation created Pan Galactic, a language of sounds and gestures that can be spoken by almost any intelligent, speaking creature. It does not sound quite the same when spoken by members of different races, but anyone who speaks Pan Galactic can understand a creature speaking Pan Galactic. Because of its usefulness, Pan Galactic is spoken on almost every world that has contact with the Pan-Galactic Corporation or one of the four major races.

Alien Languages. The referee can decide that the natives of some planets do not speak any language but their own. Aliens that have never met adventurers or Pan-Galactic traders certainly will not know how to speak Pan Galactic. This will create problems for adventurers when they must find a way to communicate with the aliens.

Learning New Languages. At the start of the game, all player characters speak their native language and Pan Galactic. Learning a new language is like learning a new skill. Each level costs 3 experience points. At level 1, a character will understand about half of what anyone says in that language, and has a 50% chance to make someone else understand what he says. This increases 10% at each level above 1.

Polyvoxes. A polyvox is a small, computerized device that translates what it hears in one language and repeats it in another language. Polyvoxes and language tapes for all known languages can be bought wherever general computer equipment is sold. A polyvox also can learn a new language if it can be programmed with key phrases, and then hear the spoken language for d100 hours. More information on polyvoxes is given in the section on EQUIPMENT.

Other Barriers. Knowing an alien language or having a polyvox does not guarantee that a character can talk to an alien without having problems. Characters who are speaking an alien language can be confused by words that sound alike but have different meanings, and can have difficulty forming strange sounds. They can easily offend an alien creature by violating one of its traditions, customs or systems of etiquette. The referee should feel free to use language barriers as obstacles for players and to add excitement or even humor to the game.

THE COST OF LIVING

Instead of keeping track of many small expenses, the referee shouid assume that characters spend one-half of all the money they earn on food, clothes, rent and other miscellaneous items. This is the same on every planet. Unless there are unusual circumstances, players always will have enough money to pay for these and other mundane items not included on the Equipment List.

The referee can adjust the cost of living to fit the circumstances in the game. For example, if the referee thinks the player characters have too much money, he can raise taxes, raise the price of traveling between planets, declare that a drought is increasing food prices, etc. If the characters are having trouble saving enough money to buy equipment they need, the referee can declare a special tax refund to celebrate a prince's wedding or some similar event.

HOW TO REFEREE

The referee is the most important person in a STAR FRONTIERS game. He runs the adventure; he must know the rules and be able to interpret them when necessary; he must determine the chances and effects of any special actions. The referee must prepare the adventure, get the players started, and then tell the story of the adventure. Most important, he must make sure that everyone has fun during the game.

If you plan to referee a STAR FRONTIERS game, this sections explains your responsibilities and gives you tips on how to get started. Sections on how to create your own adventures and how to create non-player characters and creatures are included.

How to Prepare for Play

As referee, you have three main tasks when preparing to play:

1. Know the Rules. You must be familiar with all of the STAR FRONTIERS rules. This does not mean you must memorize the rules, but you should know how to use them in play and where to look in the rulebook when players have questions.

2. Know the Adventure. Study your adventure thoroughly, so you know in what order events are supposed to happen. Review the maps so you will know at a glance how the setting changes as the characters move through the adventure. Try to think about how players will react to a situation and how you should respond to their actions.

You may want to make notes about the important points of an encounter and what effect the encounter should have on the players. Then you can describe things to the players in the order characters would see them, and add descriptions that help convey the mood of the encounter. For example, you could make players nervous by telling them, "As you finish cutting through the door hinges, the door falls and snaps a power cable. You can't see anything in the darkness, but you can hear a faint shuffling sound coming from the ship's hold."

3. Be Prepared to Make Decisions. Players will try to do things you did not expect, and you must be able to decide what their chances to succeed are and what effects their actions have. Knowing your players' characters, their abilities, skills and equipment will help you make your decisions.

Being a Referee

A referee is many things in a STAR FRONTIERS game. To be a referee you must be a judge, a storyteller, an actor and a leader. The referee's goal is to make the game the most fun for everyone be performing each of these jobs well.

Be a Judge. The referee's job in any game is to ensure that the rules are followed at all times and that everyone is treated fairly, and to settle questions and problems that come up during the game. These are also your jobs as referee in a STAR FRONTIERS game.

Be a Storyteller. The players usually will not have a board or map to study where all of their challenges and choices are visible. Instead, they must make their decisions based on your descriptions of what they can see and hear. You are the players' eyes and ears, telling the basic story, but then letting the players decide which direction it will go by their choices. It is a challenge to tell the players only as much as they need to know to make a decision, but not so much that you make decisions for them. Tell them only what they could see at a glance, and describe things further only if they ask specific questions.

Keep the Game Exciting. Make your story dramatic, with descriptions of an approaching storm, an ancient alien spaceship and the life on alien worlds. Add mystery and intrigue to your story. Not knowing what everything is or why something happens will drive players on in search of the answers. There is excitement in solving a puzzle and overcoming suspense to accomplish your goal. Don't let the game become boring with too much detail. When things start to move too slowly, move the characters on to the next challenge in the adventure. Don't make the players spend a lot of time buying supplies, traveling from one place to another or searching for clues where there are none; tell the players they finish what they are doing to their satisfaction and lead them on to the next challenge.

Play the Extra Characters. The referee acts the part of each non-player character and creature encountered. Playing these parts is a good chance to entertain and create fun for everyone. Each character is different and reacts differently. It is your job to determine how each character would react in a situation. Encourage the players to talk to you as if you were the characters they meet and answer them as each would.

For example, the player characters are trying to find someone who might know something about a missing PGC scientist. They want to question several NPCs who were in the area when the scientist disappeared. One is an old woman whose mind wanders and who never quite answers the questions. Another fellow has had too much to drink and wants the players to drink with him. The third is a bully who won't hlep anyone and wants to start a fight. The last is a policeman who warns them that strangers are not liked here; but he does remember seeing the scientist with two people the night he disappeared. You can make up an entire, interesting dialogue as the NPCs talk to the player characters.

Be a Leader. Make sure everyone participates. Give every player a chance to make decisions but don't let everyone talk at once. You might ask the group to choose one player to be its leader. When the players reach decisions, the leader explains their plans to you. This reduces the confusion that can result when everyone talks at once. When characters are acting independently, as in combat, you can ask each player what his character is doing. Make sure no one is forgotten.

Controlling the Adventure

As the referee, you must control many actions during an adventure. You must start the game and control the direction of the story; you must make decisions on special actions, determine any modifiers, decide on non-player character and creature reactions, conduct combat and keep track of time. Advice on handling each of these tasks is given below.

You start a game by telling the players the background of their mission, describing the setting and discussing how much they will be paid if they succeed. Be prepared to answer any questions and give further descriptions as the players investigate. Let the players make their own decisions and try not to force choices on them. If they make a bad choice or bypass an encouter, let them; they may return to the encounter later. What you should try to do is make sure players understand what effects their decisions might have.

Make Decisions. During the adventure you must decide what happens when characters try unusual things, and how likely they are to succeed. This might include deciding whether a building blows up, or if a skimmer is damaged by driving across a rocky field. You may have decided before the game what will happen when certain things are done, or you may have to make a decision during play. Your decisions should be based on what you think would happen in real life. A character who tries to leap from one roof to another may make it, but if he fails he probably will fall and get hurt.

If a character tries an unusual action, you probably can link his chance to succeed to one of his ability scores. Then you can have the player make an ability check to see if the character succeeds in his attempt. If an action can not be linked to an ability, you should just assign a percentage chance from 1 to 100, based on how likely you think the action is to work.

When players ask if they can do something, don't answer them "yes" or "no." Tell them to try and see what happens. Letting players try

anything will make the game more unpredictable and full of surprises for everyone.

Most important, you should make your decisions quickly. It is more important to keep the adventure moving and the players interested than to consider every possibility.

Using Modifiers. As referee you will need to determine how easy or difficult an action is and how this will affect a character's chance to do something. You must use modifiers to reflect the difficulty of an action. If an action is easy you can let the player add 5 to 30 points to his chance of success; if it is difficult, you could tell him to subtract points.

To determine whether a character should get a positive or negative modifier, you can compare the action being attempted to the character's normal limits. For example, a character can leap 5 meters with a running start. If a character tries to leap 5 meters without a running start or with a heavy pack on his back, his chance to succeed should be reduced. If the character is jumping with a strong wind at his back or from a higher to a lower surface, his chance to succeed should be increased.

Your own judgment is very important when deciding whether to assign a modifer, but you always should have a reason for choosing the modifier you assigned.

NPC Reactions. You will need to decide how non-players characters and creatures react to player characters when they are encountered. NPCs should act intelligently and react according to their personalities (are they friendly, suspicious or hostile) and on the basis of what they know and how the characters act. Creatures usually react according to their instincts and the characters' actions. You may decide ahead of time how they will react or you can decide randomly, using the rules for character and creature reactions in the sections on Creating NPCs and Creating Creatures.

Conduct Combat. Combat will occur many times during the game between player characters and NPCs, creatures or robots. It is the referee's job to see that the combat sequence is followed and that everyone gets a chance to do something. He must also decide whether character's are in a position to attack. Ask players what they are doing one at a time, so no one is missed. It is important that you do not forget any of the opponents, either; they deserve to have a fair chance. You must keep track of any damage the NPCs and creatures take so you know when they are killed.

Keeping Track of Time. The referee must keep track of how much time character's spend on an adventure. Time effects how much energy gets used, how far characters can travel and how often characters must rest. Time also determines how long characters' food lasts, and how many points of damage they heal. Graph paper can be used to keep track of time. Decide how much time each box represents (6 seconds, 10 minutes, 1 hour or 5 hours are convenient) and then simply cross off boxes as the adventure moves along.

AN EXAMPLE OF PLAY

The Pan-Galactic Corporation has hired four player characters to find and capture the leader of a band of space pirates. There is one player character of each race in the group. Their search has led them to a run-down part of the city. Everyone the characters have talked to so far has been unpleasant or gruff. The group is walking down a street toward a cheap tavern, looking for a short, overweight man.

REFEREE: You are about 30 meters from the tavern when you see a short, fat, dark-haired Human wearing a skeinsuit. He is across the street, about 25 meters away and moving toward you.

JARDIN (Human): Hey, that guy looks like the slug we're trying to find!

YALUA (Yazirian): Let's grab him!

DARTHA (Dralasite): Wait, you two. We're not close enough to see if it's him. This description could fit a lot of Humans.

YTTL (Vrusk): Dartha is right. Let's just keep walking casually down the street until we get behind him. Then we can follow him and see where he goes. I want to watch him carefully, in case he talks to anyone.

REFEREE: He doesn't talk to anyone, but you do notice that he is wearing a red scarf around his neck.

DARTHA: Didn't the other pirates wear red scarves?

YALUA: That's gotta be him! Let's go!

JARDIN: I'm going to go to the right, cut through the alley and try to sneak up in front of him so we can't lose sight of him.

REFEREE: Okay. The rest of you manage to cross the street and get behind the man without him seeming to notice you. You follow him for about 60 meters, and then he ducks inside a restaurant.



YALUA: We'll follow him in.

REFEREE: Jardin hasn't gotten through the alley yet and doesn't see the man go in the restaurant. He'll have to spend three minutes finding out where you went. You walk in the door and know immediately that this is not a normal, law-abiding place. The furniture is shabby. The lighting is bad, so you can't see into the far corners. The customers look pretty rough. When they see you, they stop talking.

YALUA: Never mind all that. Where's the guy we were following?

REFEREE: You don't see him anywhere.

YTTL: Are there any other entrances or exits that we can see?

REFEREE: There's a back door directly across from the entrance where you're standing.

DARTHA: Okay. Let's check it.

OTHERS (all together): Right!

REFEREE: As you approach the door, two very large Yazirians step in front of you and lean against the door. They are looking at you with nasty smirks on their faces. One of them has one hand hidden behind his back.

YALUA: Is he holding a blaster?

REFEREE: You can't tell. Do you want to draw your weapon?

YALUA: Not yet.

REFEREE: The Yazirian with his hand behind his back says [with a sneering, gruff voice], "Well, lookee what we got here. A dumb bug, a blob and one of our big, bold brothers. You fellas wouldn't be looking for someone, would you? We don't like nosy people in here."

DARTHA: What are the other customers doing? How big is this place?

REFEREE: The restaurant is about 9 meters wide and 18 meters from front to back. You are standing about 2 meters from the back door. There are about 20 customers in the place. Most of them have gotten up and are heading for the front door, but five of them are slowly forming a ring around you. (to Jardin): You arrive at the front door now.

JARDIN: I'll sneak in while the customers are leaving.

YALUA: It's a trap. I'm going for my blaster!

REFEREE: Okay. Roll for initiative...

The referee then shifts to combat turns, and the players resolve the fight.

Pay and Experience Points

Pay. At the start of each adventure, player characters will be hired to undertake a job. Before accepting a job, characters will want to know how much they are going to be paid. You, as referee, will have to decide.

Pay should depend on the skills of the character and how much danger they will face. Characters with high skills earn more, and dangerous jobs pay more. Payment is given as pay per 20-hour day (10 hours of work). The typical work week is five days of work with three days off. One way to determine how much to pay is to pay 10 credits per level of skill per day plus 10 to 100 credits per day depending on the danger. You probably should pay no less than 20 Cr/day and no more than 500 Cr/day.

Pay does not have to be just credits. You may agree to pay for medical care, or you could provide equipment with the understanding that characters get to keep it when they finish the job. You should always provide free transportation to the starting point of the adventure.

At the end of an adventure, the characters will return to their employer to collect their pay. You should pay them according to their degree of success, paying less if they failed to complete an important part of the mission, or paying a bonus for excellent work or delivering more than was expected. In this way, you can use pay to encourage players to complete a job. Remember that half of their pay should go to cost of living. If a character is unemployed during any week, he can find a job that will cover his cost of living and give him an additional 5 Cr per week.

Experience. A character learns things and improves himself through his experience on adventures. At the end of an adventure a character gains experience points (XP) which he can use to raise his ability scores, to gain new skills or improve old skills.

The referee awards experience points at the end of an adventure or evening of play, based on how well the person played during the adventure. This reward encourages good play. Experience points are awarded for accomplishing each goal of an adventure. A character who survived but did not contribute anything to the group's success should receive only 1 XP for that goal. If a character accomplished his job and nothing more, he should receive 2 XP for the goal. If a character did an excellent job or contributed greatly to the group's success he should receive 3 XP for the goal. On the average, player characters should be receiving about 3 to 7 XP each during an average evening of play. The referee should never award more than 10 points for one adventure.

Be a Good Referee

A good referee never tries to beat the players, but tries to create exciting challenges for them to overcome. You must match these challenges to the abilities and resources of the player characters. If the challenges are too easy, players will lose interest. If they are too hard, player will be frustrated and no one will have fun.

Be fair when you make decisions, and treat all characters the same. You must be flexible; if players are having a hard time with the adventure or are missing important information, adjust the situation so they still have a chance to succeed.

A good referee takes notes during an adventure. You must remember anything that can affect the course of the adventure: did the characters turn off the alarms on their way in? Have they seen these poisonous trees before? How did they treat this NPC the first time they met?

Is it hard to be a referee? Your ability to be a fair, decisive, thoughtful referee probably is better than you suppose, for you already have a number of tools you can use. You can use your imagination to create interesting events and to deal with unpredictable actions by your players. You can use your players' imaginations too. Listen to the things they say during the game; they might give you some ideas to use later. You can also get ideas from stories you read and movies you see.

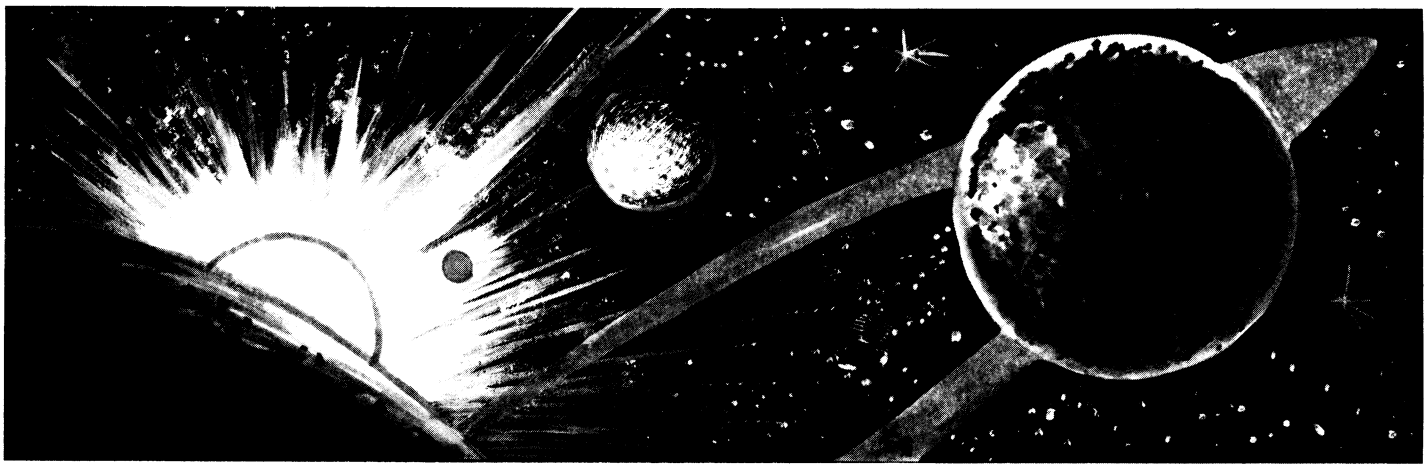
As the referee you are the final authority in the game and you can use that authority to make decisions and settle arguments. You also can control the game so that it is fun for everyone; don't let dice rolls decide how the game should be run if it just slows the game. Use your own judgment about what is fair. You can use your knowledge of how things happen in life to help you make decisions about the game.

As referee you also control how the characters will be rewarded, and you can use rewards to encourage good, thoughtful play. If they succeed through good decisions, you can give them extra experience points or a pay bonus.

Remember that you have a major advantage over the players. You know everything there is to know about the adventure and just why something happens. The players know only what their characters have discovered. You can use this knowledge to create mystery and to make fast decisions when your characters do something unexpected.

Finally, a good referee tries to make the game fun for everyone.

HOW TO CREATE AN ADVENTURE



The first thing you must do as a referee is create adventures for your players. Adventures can be as simple or as complex as you want to make them. You can design them completely from your imagination, or take ideas from books and movies.

There are six steps to creating an adventure:

1. Choosing a theme or basic story and the goal of the adventure.
2. Selecting the settings where the story takes place;
3. Designing the events that lead to the goal, and the obstacles that must be overcome to reach the goal;
4. Creating the non-player characters and creatures that the characters will meet, and deciding how they will affect play;
5. Writing any special rules that are needed for unusual events;
6. Writing a final outline of the adventure to guide the referee through the action.

Theme

When choosing a theme for your adventure, you should consider these three things:

— What has happened before that led to this adventure?
— What must the characters do to complete their job?
— What sorts of obstacles do you want the players to face during the adventure?

Some suggestions beginning referees can use to create simple adventures are listed below:

— Explore a New World: The player characters are hired to explore an undeveloped planet. This theme can be used many times by creating new planets with new challenges.

— Obtain Information: The player characters must search for special information about a place, group or thing and return to their employer with the information.

— Retrieve a Stolen Item: The player characters are hired to locate and bring back to their employer something that has been stolen - perhaps secret plans or an invention.

— Catch Criminals: The player characters must find and capture space pirates, thieves or other criminals.

— Rescue Someone: The player characters must locate and rescue someone who is being held prisoner — a hostage, kidnap victim or a person in prison.

— Mad Scientist: The player characters must prevent an evil scientist from taking over a planet, setting loose terrible robots or performing some other evil.

These are only a few examples of possible adventures. You could even combine several of these themes into one adventure. You could also create an adventure based on something discovered by the player characters in an earlier game. This adds excitement as players use information they have found in earlier adventures to solve the riddles of another.

Settings

The settings or locations of an adventure determine the events that can take place and what animals and events can be encountered; guards and robots can be encountered while searching a secret outpost, but wild creatures and dangerous terrains are more likely if characters are exploring a new planet. Your settings can be as big or small as you want to make them. An entire adventure could take place in a single building, or it could require the characters to travel halfway around a planet.

The settings you select should have a purpose in the adventure. The players should be able to complete some part of their objective at each place. For example, when searching for someone lost in the wilderness, searchers can find important clues at the spot where the lost person was last seen, at the site of an old campfire, at a spot where they find a dead beast with a trail of blood leading away, etc. At each setting, players can discover the direction the person traveled, how long ago he was there and what has happened to him.

When designing a setting, you should try to answer these questions:

— What is the setting's purpose? When during the adventure will the characters arrive there? What information are the characters supposed to find there?

— What does the setting look like? What are the most important features: where are trees and streams, doors and furniture?

— What types of creatures, characters and events will the characters meet there? Are there any important plants or weather conditions, alarms or robots? These are not necessarily challenges to the players. They can be used to identify the area.

— Are there any other important features about this setting? Does it limit movement in some way or hide things from sight? Does it have obstacles the characters must overcome?

As you decide on each setting, write it down, including all special information about the setting.

Events

Once you have chosen the theme and settings for an adventure, you must design the adventure itself. An adventure is divided into several smaller challenges that the players must overcome. Each of the challenges must be placed in a specific setting.

When designing an adventure, first determine what events or challenges you want. Each event should provide an obstacle to overcome, a lesson to be learned or an opportunity to gain something that will aid the characters in reaching their goal. Events should always be exciting or provide a puzzle that the players must overcome with their wits. Follow each of these four steps when designing events.

— Decide what purpose the event will fulfill. Is it an obstacle to fight or overcome? A puzzle to solve? A chance to gain something helpful? Or an event just to add excitement?

— Determine all the elements needed in the event. Will the player characters encounter NPCs, creatures, robots, foul weather, physical obstacles or security systems?

— Decide how NPCs, creatures or robots will react to the player characters, and what actions they will take.

Random Events. Sometimes, referees may want to set up encounters or events that occur randomly, instead of being pre-planned. Usually, random encounters are tied to die rolls that are made at certain time intervals or when characters enter an area. For example, the referee could decide the characters have a 20% chance of being attacked by wild animals every night they spend in the mountains, or a 30% chance of meeting a criminal in a seedy part of town.

Random events should be created whent he adventure is designed. If you have only one random event, you can simply give it a percentage chance of happening. If you have more than one random event, you can arrange them on a table and assign a percentage chance that one will happen. Then, if there is a random event, you roll a second time to see which specific event happens. If you have more than one event, you can let each one happen only once, or let an event happen whenever it is rolled up.

EXAMPLE: A referee wants to set up random encounters for characters that are searching for a missing caravan in a region with thick forests. He decides the chance for a random event is 20% every five hours. If the searchers have an encounter, he rolls 1d10 on the Random Events table he made up.

RANDOM EVENTS

Die Roll	Event
1-2	Attacked by 5 flying shriekers
3-4	Heavy rainstorm, the searchers must stop moving
5-6	Attacked by 2 tree-cats
7-8	Ground-monkeys steal a piece of equipment
9-0	Searchers meet forest nomads

Arranging Events. Once you have designed your events you must determine their order in the adventure. The events should lead step-by-step to the goal. However, the order does not have to be strict and unbreakable. Players may be able to reach their goal using several different paths through the events. Some events may not lead anywhere, and players will need to return to an earlier encounter to find the right path.

NPCs and Creatures

After you have chosen the events that will lead your players to their goal, you must create the NPCs and creatures that will be encountered in the game and write down any information you will need to know about them to use them in the game.

Determine the purpose of each NPC and creature in the adventure. Make sure they fit the purpose of the adventure and decide what they need to fill that purpose. For example, a guard needs a weapon and a technician needs a toolkit. You should try to make your creatures and NPCs fit the adventure and the setting. A gentleman would not live in a shack and wild creatures do not roam the city streets.

Special Rules

If any of your events involve special situations that are not covered in the game rules, you should think about them before starting to play the adventure and decide how you will handle these situations when they arise. You may want to design special rules for new equipment, alien devices, general skills, weather, strange terrain or anything else called for by the event. Try to keep your special rules simple. Write down any special rules you make up, so if that situation ever comes up again, you can handle it the same way.

Write a Script

When you have decided the order of the events, you should write all the information you need to play in a script that shows when things should happen. It is best to write down everything you need to know about each event so that you do not forget to give players important clues that will affect their decisions. Number each event, so that you will know its order. You can put the number of the event on a map so you can see where the event is to take place. Each written event should include the following information:

1. A description of what the characters can see.
2. A description of what happens when characters enter the setting, including NPC and creature reactions.
3. Ability scores for any NPCs or creatures that will be encountered in the area.
4. Any special rules for the event.
5. Random event probabilities.
6. Notes about what the characters can discover from the event.
7. Notes on what should happen if the characters succeed, if they fail, or take some other course of action.

Read your script several times, putting yourself in the position of a player trying to move through the adventure. Make different choices to see whether you accounted for the most likely possibilities. Make sure your challenges are not too easy or too difficult. Players should need to use reason and judgment to overcome the challenges. However, you cannot think of everything before the game, so try to be flexible and make sure each event challenges the players.

Creating Maps

Once you have finished creating the adventure you should make the maps you will need during the game. There are two types of maps that are very useful: a guide map to show the overall layout of the adventure and playing maps that are used during combat.

Guide Maps. Guide maps show the area where the adventure takes place in small scale. They do not show much detail, but can be used to mark areas where characters will have encounters, and show the types of terrain characters must travel through. A guide map typically has a scale of 1 to 20 km per hex or square.

Combat Maps. Combat maps are drawn on half-inch square grids and used with the counters during fights. The scale on these maps typically is 2 to 10 meters per square. They can show any amount of detail that the referee wants. Important features like doors, windows, security devices and natural dangers should be shown.

Indexing the Maps. Listing information about all of the important encounter areas directly on a map would be very confusing. Instead, encounter areas should be coded with a number or letter, and an explanation recorded on a separate sheet of paper. This way, the referee can see at a glance where the important areas are on his map. The maps included with the adventure SFO, Crash on Volturnus, are good examples of how to set up both combat and guide maps. the sample adventure on the next page also includes two very simple maps, one a guide map with a scale of 1 kilometer per hex and the other a combat map with a scale of 2 meters per square.

Players' Maps. In many adventures, characters will want maps of their own. The referee should prepare these maps himself, and let the players keep them. Generally, these should be about the same as the referee's guide map, but without the notes and indications of where important information can be found. The players' map should include only the information that would be included on a regular map (unless the characters have found a hand-made treasure map or something similar).

SAMPLE ADVENTURE

This sample adventure was designed to show referees how to make simple adventure maps and key the events to them.

Mission. A ship that has been missing for several days is believed to have crashed into the planet. The characters must locate the ship, rescue any survivors and find out why the ship crashed.

Start. An aerial search spotted a grove of barren trees that might have been burned in a fire started by the ship. The ship could not be seen from the air. The characters are landed near the barren trees and given a homing device that can detect the ship's emergency beacon. The aircar will return in 20 hours.

1. Barren Trees. The trees in this area are bare and look as though they were burned. Smaller trees, low plants and shrubs are not damaged, however. The homer will pick up the ship's beacon to the southeast, where the characters can see something that looks like billowy clouds just above the trees.

2. Radio Beacon. The ship's emergency beacon is snagged in a tree, 10 meters above the ground. After the characters find the beacon, five strangler chutes will blow into the area and one will settle on the tree that holds the beacon. If any character fails to evade the chute's filaments, he is caught and must be freed by his companions. The wind is blowing from the southwest, so the beacon could have drifted from that direction.

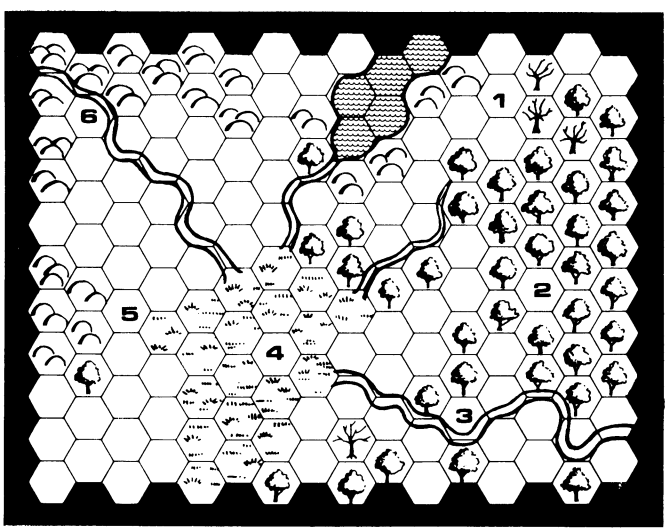
3. Stream. This stream is 5 meters wide. Characters will notice an oil slick on the opposite side, drifting downstream.

4. Mire and Slither. Large patches of oil are floating on top of the muddy water in this swamp. There are several dry mounds of land the characters can stand on, but one of them is a slither. The characters can see a flock of winged rippers circling over the trees to the west.

5. Bodies. The bodies of two Yazirians in Hepplewhite, Inc., work uniforms are lying here. They have been dead for several days. Thirty winged rippers will attack if the characters approach the bodies. The Yazirians' medkit still contains three doses of biocort, two stimdoses and one dose of omnimycin.

6. The Spaceship Wreck. The wrecked ship is crashed into the side of a hill and buried beneath vines and plants. Oil and vapors are leaking from the exposed engines. The entry hatch is blown open, but is hidden beneath churned-up plants and vines.

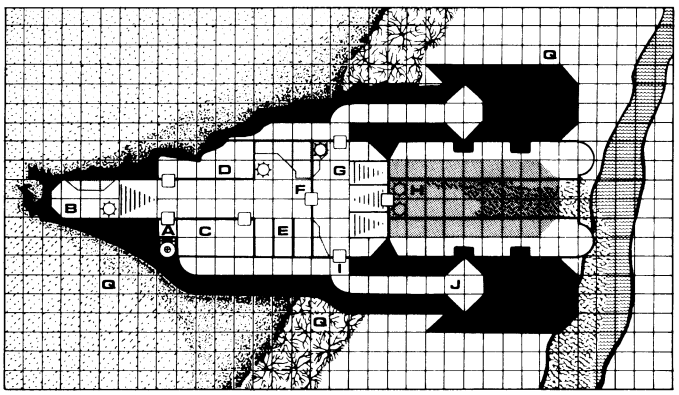
A. Entry Lock. The inner hatch is locked. Any tampering will activate a recording that says, "Only authorized Hepplewhite, Inc., employees are allowed past this point. Please enter your security code." The door has a level 1 security lock. It must either be opened by a technician or blown open with explosives.



B. The Cockpit. A short ladder leads up to the cockpit. The body of a Human pilot is strapped into the seat. All of the instruments are scorched and ruined, but beneath the pilot's seat is a black box labeled "Flight Record" that seems undamaged. If the characters play the tape, they will hear a Yazirian saying, "There's been an explosion! Dierba is dead. I'm sealing off the engine compartment. Has anyone seen Rinny?" There is a fire extinguisher on the wall and an odd, slimy trail on the floor.

C, D. Wrecked Cabins. The room to starboard is caved in and contains nothing of value. A black trail of slime covers the plastic floor in the port room. There is a child's toy on one of the bunks. The crash weakened the floor, so anyone walking into the room must make a Reaction Speed check or fall through the floor, taking 1d5 +2 points of damage.

E. Storage. All three storage lockers on the right are open and empty. There is a fire extinguisher on the wall and many black slime trails on the floor.



F. Rear Hatch. If the characters open this hatch, they will find dangling wires that are throwing sparks. Touching the wires will cause 2d10 points of damage and stun the character for 1d10 minutes. To enter this area, characters must use an insulated tool to move the wires out of the way. Two doors leading down to the cargo area are blown open. A ladder leads up to the engine pods, and the hatch is badly scorched. An access panel in the port wall is open. More slime trails criss-cross the floor.

G. Engine Pod. The body of a dead Yazirian is slumped in a control chair. The engines are cracked, and acid and oil are collecting in pools on the floor. There is a 10% chance each minute that a fire will start in this compartment. If a fire starts, characters will realize that the ship's remaining fuel will explode in about two minutes (20 turns). The fire extinguishers in the ship will not stop the fire, but each turn the fire is sprayed delays the explosion for one turn. An extinguisher will last five turns. The character using the extinguisher takes 1 point of damage per turn.

H. Cargo Hold. Nothing is left here but wreckage and slime on the floor. The slime was left by a small omnivore, a slime bug, that is hiding in the wreckage (Move slow; IM/RS 6/55: STA 35; ATT 55; Dm 2d10). It looks like a flat bug with razor-sharp claws. Characters move at half-speed in the slime.

Any character with Demolitions skill can find enough evidence in the hold to prove that a bomb was planted in the cargo. Otherwise, the players must figure this out themselves.

I. Service Passage. The characters can hear the sound of crying from this passage, but hot wreckage blocks the crawlway. A fire extinguisher will cool the wreckage so characters can get past.

J. Wheel Well. A small Yazirian child, Rinny, is trapped in this landing wheel well. He is crying and scared, but unhurt.

NON-PLAYER CHARACTERS

CREATING NON-PLAYER CHARACTERS

In a STAR FRONTIERS adventure, any character played by the referee and not controlled by a player is called a non-player character or NPC. Non-player characters are the opponents, friends, sources of information and randomly encountered characters in an adventure. Once the referee has outlined the adventure, he must create the NPCs. Non-player characters can be any of the four major races, or an intelligent alien being.

If an NPC has a major role in the adventure, the referee should design him carefully, giving him all of his ability scores as well as a personality and temperament. Minor NPCs do not need to be as detailed. The following step-by-step method can be used to create either type of NPC.

What is already known about the NPC?

You already know some things about a character that will help determine what other information is needed to use the NPC. You know the character's purpose in the adventure — to fight the player characters, to help them or to annoy them. You also know how the character will act when encountered. You should know the character's race. A character's race will alter his abilities, give him special abilities and affect the way he reacts.

Why does the NPC act the way he does?

NPCs always should have a reason to do the things they do. A guard stops intruders because that is his job. A criminal tries to avoid police because they will put him in jail. Townspeople want to be left alone because they feel threatened by strangers.

An NPC's motive should be closely related to his purpose in the adventure. Sathar NPCs usually are used as enemies that must be fought, so their actions will be based on their hatred for the other races. More complex motives add interest and mystery to a character; a man might have become a pirate to find his kidnaped sister and get revenge, and he may be willing to help the player characters.

How will the NPC react to the player characters?

An NPC's reaction to player characters can be based on his purpose in the adventure and his motives. The referee should decide beforehand how major NPCs will react. He can use the rules for random NPC reactions described under NPC Reactions for minor NPCs.

What are the NPC's ability scores?

In many cases, the referee does not need to know all of an NPC's ability scores. Sometimes, none of them are needed. The only ability scores that matter in combat are Stamina, Dexterity and Initiative modifier. Logic, Personality and Leadership are almost never needed for NPCs. The referee can create these scores on the spot as they are needed. If the NPC is a major character, however, knowing all of his ability scores will help define his personality.

Average ability scores for all eight abilities and all five races are shown on the table below. These can be used to create NPCs quickly.

	STR/STA	DEX/RS	INT/LOG	PER/LDR	PS	IM
Human	45/45	45/45	45/45	45/45	3	5
Dralasite	50/50	40/40	45/45	45/45	3	4
Vrusk	40/40	50/50	45/45	45/45	2	5
Yazirian	35/35	50/50	50/50	45/45	2	5
Sathar	40/40	40/40	45/45	45/65	2	4

What skills does the NPC have?

In many situations this question can be ignored because the NPC will not have a chance to use a skill. In combat or other situations where an NPC has a chance to use a skill, skills and levels should be assigned.

The typical colonist or clerk will have little or no skill with weapons. Police, government agents and other people who commonly carry weapons will have level 2 skill with them. Leaders will have higher skill levels or skill with several types of weapons. Only about 1 in 10 characters will have any skill with melee weapons or in martial arts. Other skills can be assigned based on the needs of the encounter. In general, though NPCs with high-level skills should be rare.

How is the NPC equipped?

Sometimes the referee will need to decide what equipment an NPC has. This decision should be based on the NPC's job and his purpose in the adventure. For example, police need weapons and characters with special skills need toolkits. Some NPCs may have things that would be usefull to the player characters. If an NPC has a piece of equipment that uses energy, the referee should decide how much energy the item contains. This also applies to weapon ammunition and medkit drugs.

Does the NPC have anything the player characters need?

Depending on the NPC's purpose in the adventure, he might have or know something that will give the players a clue, a missing bit of information or an important piece of equipment. The referee also must decide how the player characters can get what they need from the NPC.

Creating NPCs (Summary)

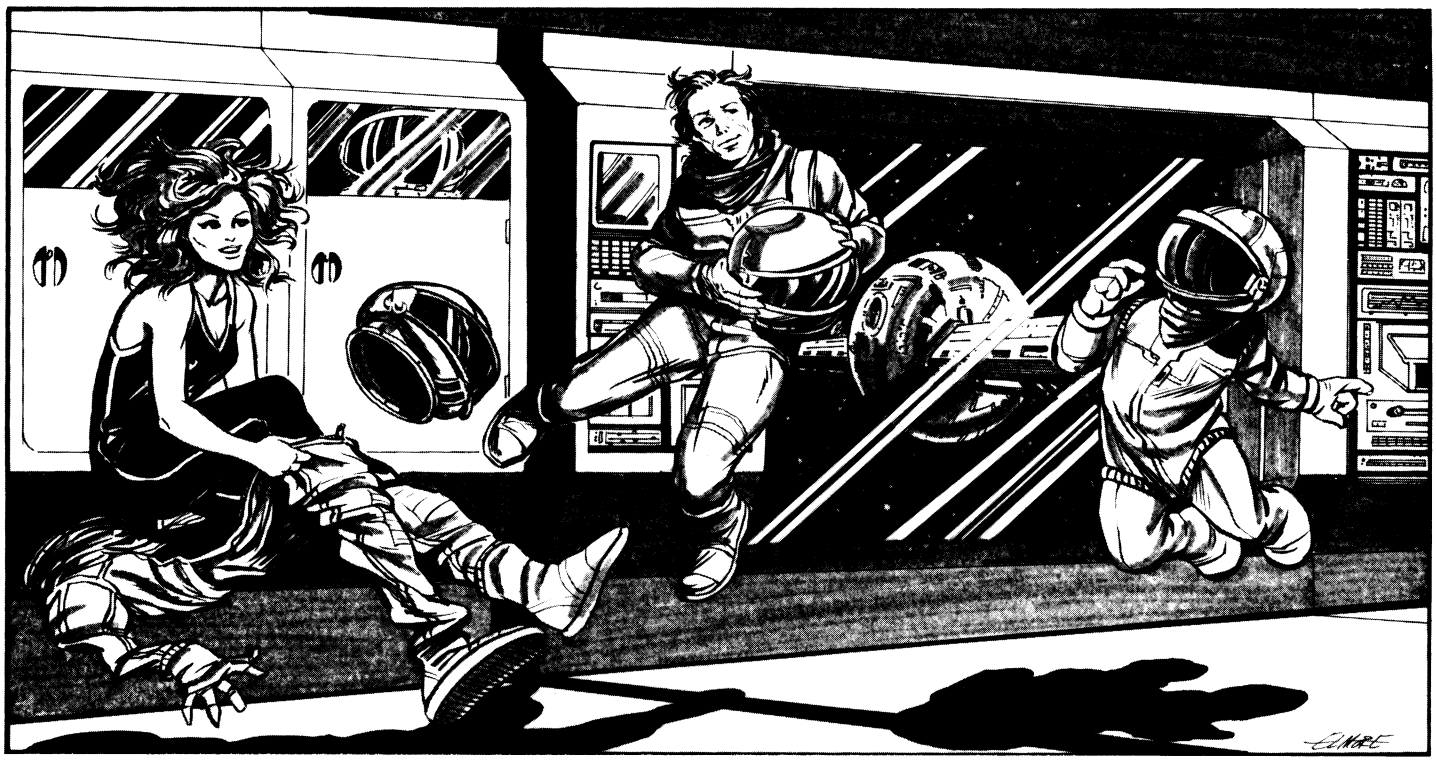
1. What is already known about the NPC?
2. Why does the NPC act the way he does?
3. How will the NPC react to the player characters?
4. What are the NPC's ability scores?
5. What skills does the NPC have?
6. How is the NPC equipped?
7. Does the NPC have anything the player characters need?

NPC Reactions

During an adventure the referee must decide how NPCs react to the player characters. NPC reaction should be based on the NPC's purpose in the adventure and his motives. NPC reactions can be modified by the actions of the player characters, the NPC's past experiences with the player characters and the NPC's and PC's races. The referee should keep in mind that each NPC is different and might react differently.

If the referee does not determine the NPC's reaction ahead of time, his reaction can be determined randomly. The player character that is encountering the NPC must make a Personality check. If this check is successful, the NPC will react in a favorable or friendly manner. If the check fails, the NPC will be hostile, unfavorable or non-committal. The referee can give the character a positive modifier if he thinks the player character is being especially friendly or if the NPC is an easy-going person. The referee also can give the character a negative modifier if the player character is being rude or has mistreated this NPC before, or if the NPC is surly or unfriendly or simply too busy to be bothered. An NPC always will be unfriendly on a roll of 96-00.

Reaction rolls can be modified by the player characters' and the NPCs races. The Racial Reaction table lists these racial reaction modifiers. Find the race of the NPC, and then find the race of the player character that he is reacting to; then adjust the player character's Personality score by the value listed.



This table adds some complexity to the reaction system, so its use is optional. Referees must decide whether they want to use it in their campaigns.

RACIAL REACTION MODIFIERS

	Player Character Race				
Race	Human	Dralasite	Vrusk	Yazirian	Sathar
Human	0	0	-10	-5	-20
Dralasite	0	+10	+5	0	-20
Vrusk	-5	0	0	0	-10
Yazirian	-5	-10	0	0	-30
Sathar	-20	-30	-10	-20	0

Hiring NPC's

At some time, player characters may want to hire NPCs to perform special jobs. The referee should allow this only if the party is weak and needs a more rounded selection of skills to complete the adventure. The referee controls hired non-player characters. The referee must remember that employees do not like being used as targets or bait, and should not let the players make NPCs take the player characters' risks for them.

Availability. The referee must decide whether NPCs are available with the skills the players want. If the referee thinks a level 6 Demolitions expert would give the players' team too much power, he should simply tell them that none are available. NPCs with high skill levels are very rare. If there is no reason to restrict the avialability of NPC hirelings, the table below can be used to determine whether an NPC with a specific skill level can be hired.

Skill Level	1	2	3	4	5	6
Chance Available	90%	75%	60%	45%	30%	15%

Wages. An NPC's wages depend on his level of skill and his field of expertise. The NPC Wages table shows suggested daily pay rates for different skills. If an NPC has several skills, his wage is determined by finding the skill that pays the most and adding 10 Cr/day for each additional level of skill. For example, a level 3 Roboticist/level 2 Sharpshooter/level 1 Medic would be paid 110 Cr/day (80 + 20 + 10 = 110).

When player characters hire NPCs, add the levels of all of the player character's skills. Compare this to the total of all of the NPC's skill levels. If the player character does not have at least twice as many skill levels as the NPC he is hiring, he must pay 20 Cr/day extra.

The referee can create pay requirements for any other specialists he desires.

NPC WAGES

	Skill Level					
Skill	1	2	3	4	5	6
	Credits per Day					
Computer Operator	70	80	90	100	110	120
Demolitions Expert	50	60	70	80	90	100
Environmentalist	60	70	80	90	100	110
Martial Artist (unarmed)	40	50	60	70	80	90
Medic	70	80	90	100	110	120
Non-skilled	20	—	—	—	—	—
Psycho-Sociologist	80	90	100	110	120	130
Roboticist	60	70	80	90	100	110
Sharpshooter (projectile)	20	30	40	50	60	70
Space Marine (beam)	40	50	60	70	80	90
Star Soldier (gyrojet)	30	40	50	60	70	80
Technician	50	60	70	80	90	100
Weaponeer (melee)	40	50	60	70	80	90

Loyalty. NPCs are not like player characters, who face danger and death constantly without worry or fear. There will be times during an adventure when the loyalty of a hired character must be checked to see if he wants to recondsider his employment. Typical situations where an NPC's loyalty should be checked are:

- — The first time an NPC's life is put in danger.
- — The NPC sees that his team is losing a fight or in some other dangerous situation
- — The NPC is offered a bribe that is at least twice his weekly pay.
- — The referee thinks the player characters are taking unfair advantage of the NPC.

When an NPC's loyalty must be checked, the player character that hired the NPC makes a Leadership check. This check can be modified by the size of a bribe, the danger of the immediate situation, the treatment the NPC has received from the characters and the NPC's personality. If the check is successful, the NPC remains loyal. If the check fails, the NPC will ask for more pay, refuse to follow orders, run away or quit; the referee should decide the specific action based on the situation. If the NPC's employer dies or is killed, the NPC will quit unless another character tries to rehire him.

READING FOR FUN AND IDEAS

The following list of books contains suggestions for reading that is relevant to the STAR FRONTIERS game. The more a player or referee reads for fun, the more ideas he will have to use during play or in creating an adventure.

The books listed below are only a few of the many good science and science fiction books available. Most of the authors listed have written many more books than can be shown here, so this list should be used as a starting point.

NON-FICTION

Asimov, Isaac — *Extraterrestrial Civilizations*
Bylinsky, Gene — *Life in Darwin's Universe*
Dole, Robert — *Habitable Planets for Man*
Feinberg, Gerald and Robert Shapiro — *Life Beyond Earth: An Intelligent Earthling's Guide to Life in the Universe*

FICTION

Anthony, Piers — *Macroscope*
Anderson, Poul — *Ensign Flandry* series
Asimov, Isaac — *Foundation* trilogy: *I, Robot; The Gods Themselves*
Asprin, Robert — *The Cold-Cash War*
Bester, Alfred — *The Stars, My Destination*
Blish, James — *Cities In Flight*
Bradbury, Ray — *The Martian Chronicles*
Brown, Frederick — *What Mad Universe*
Brunner, John — *Stand On Zansibar*
Budrys, Algis — *Rogue Moon*
Chandler, Bertram A. — *Commodore Grimes* series
Clarke, Arthur C — *Rendezvous With Rama; The Fountains of Paradise*
Clement, Hal — *Mission of Gravity; Close to Critical; The Nitrogen Fix*
de Camp, L Sprague — *Krishna* series
Dick, Philip K. — *Do Androids Dream of Electric Sheep?*
Dickson, Gordon R. — *Dorsai* series
Drake, David — *Hammer's Slammers*
Farmer, Philip Jose — *Riverworld* series
Garrett, Randall — *Starship Death*
Goulart, Ron — many short novels
Haldeman, Joe — *The Forever War*
Hansen, Karl — *War Games*
Harrison, Harry — *Bill, The Galactic Hero; The Stainless Steel Rat; Deathworld* series
Heinlein, Robert — *Starship Troopers; The Moon Is a Harsh Mistress*
Herbert, Frank — *Dune* series
Laumer, Keith — *A Plague of Demons; Retief* series; *Bolo* series
LeGuin, Ursula K. — *The Left Hand of Darkness*
Lem, Stanislaw — *Solaris; The Cyberiad*
Longyear, Barry — *Circus World*
Niven, Larry — *Ringworld; Ringworld Engineers; Tales of Known Space*
Niven, Larry and Jerry Pournelle — *The Mote in God's Eye*
Norton, Andre — *Star Rangers*
Pohl, Frederick — *Gateway*
Pournelle, Jerry — *The Mercenary*
Russel, Eric Frank — *The Great Explosion*
Saberhagen, Fred — *Berserker* series
Silverberg, Robert — *The Man In the Maze*
Simak, Clifford D. — *City*
Smith, E. E. — *Triplanetary; Space Patrol;* others in the *Lensmen* series
Stapleton, Olaf — *Last and First Men*
Vance, Jack — *Big Planet; The Gray Prince; Tschai, Planet of Adventure* series; *Demon Princes* series
Van Vogt, A. E. — *The Weapons Shops of Isher; The Silkie; Voyage of the Space Beagle*
Varley, John — *The Persistence of Vision*
Zelazny, Roger — *Lord of Light*

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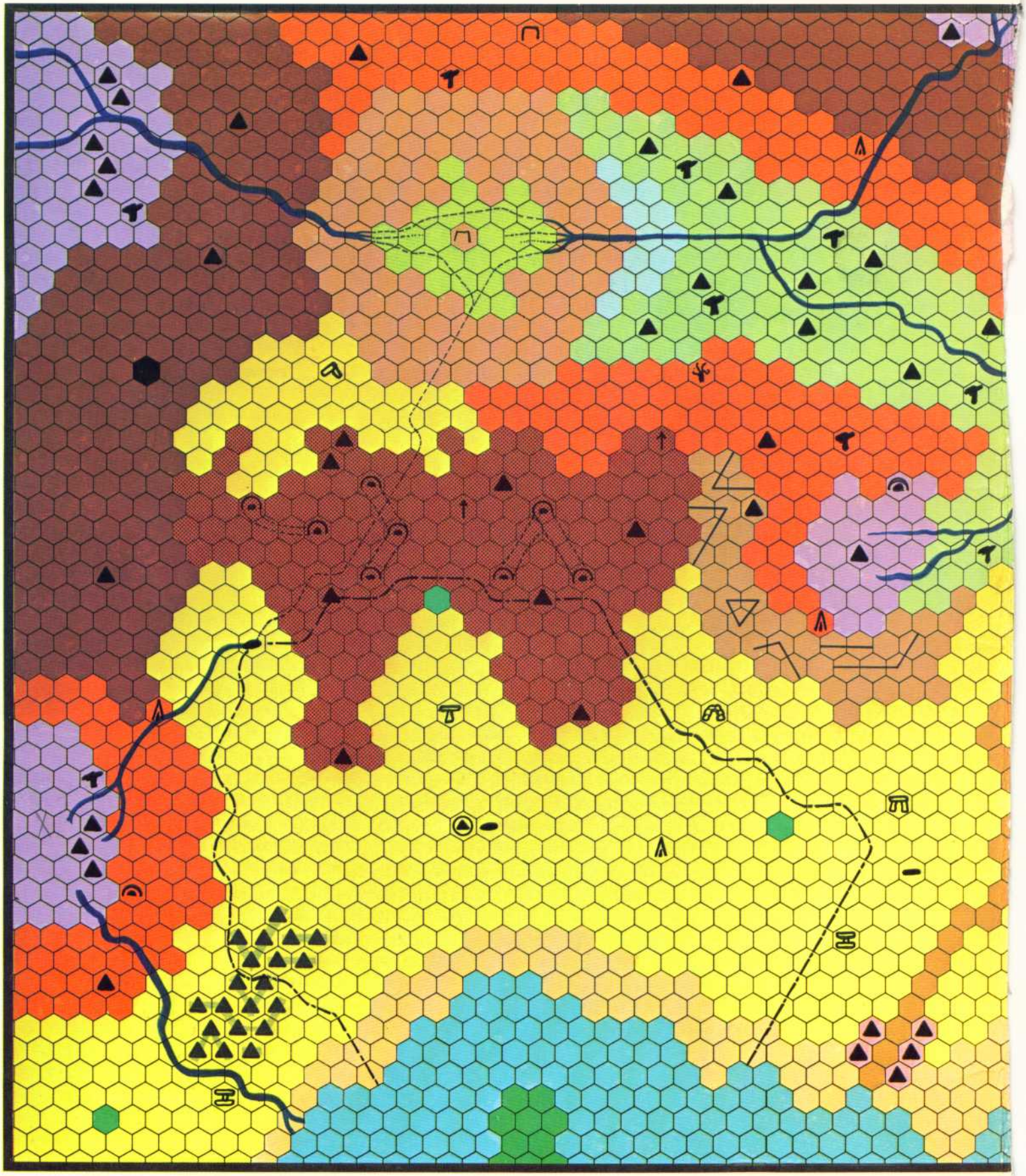
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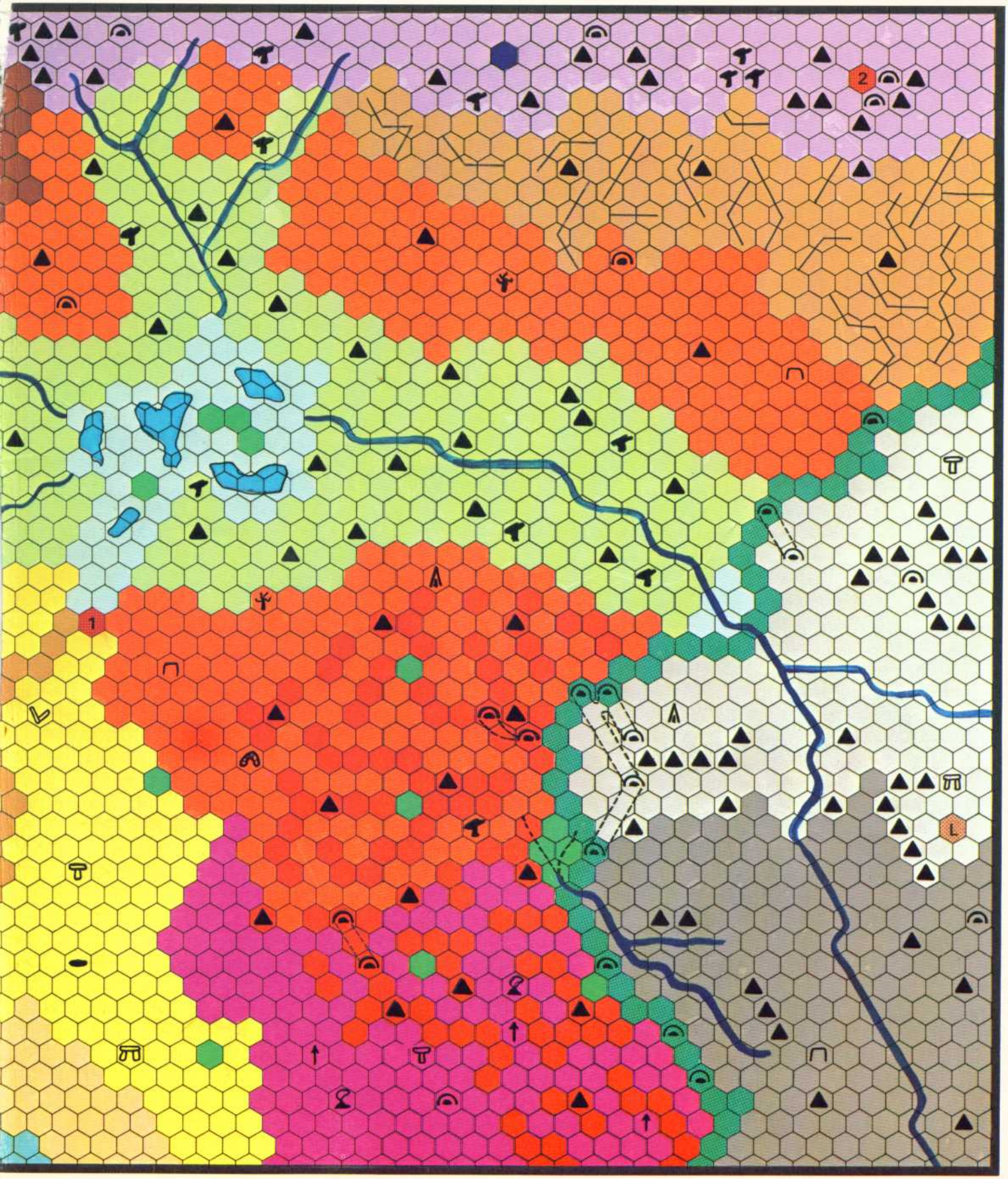
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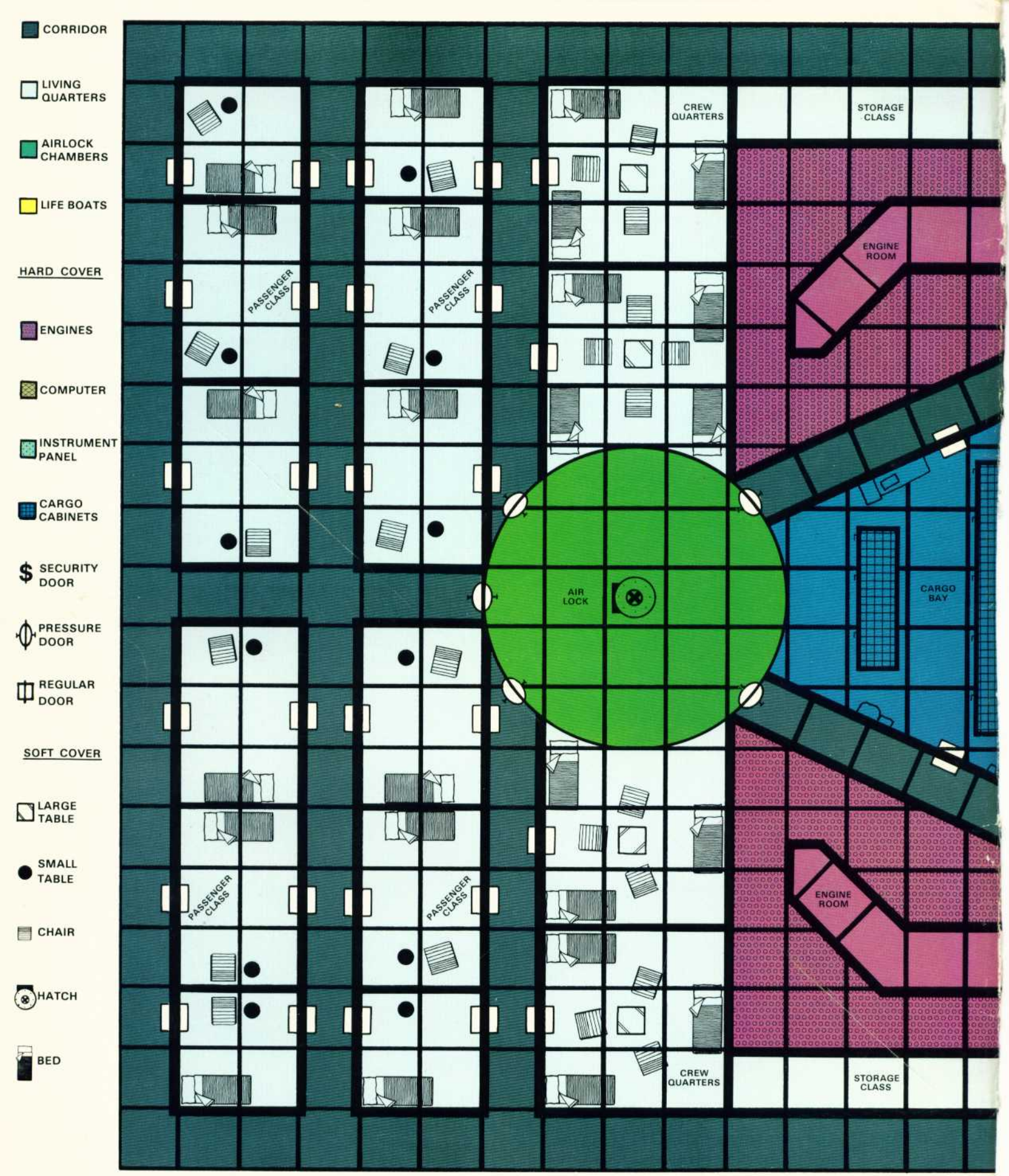
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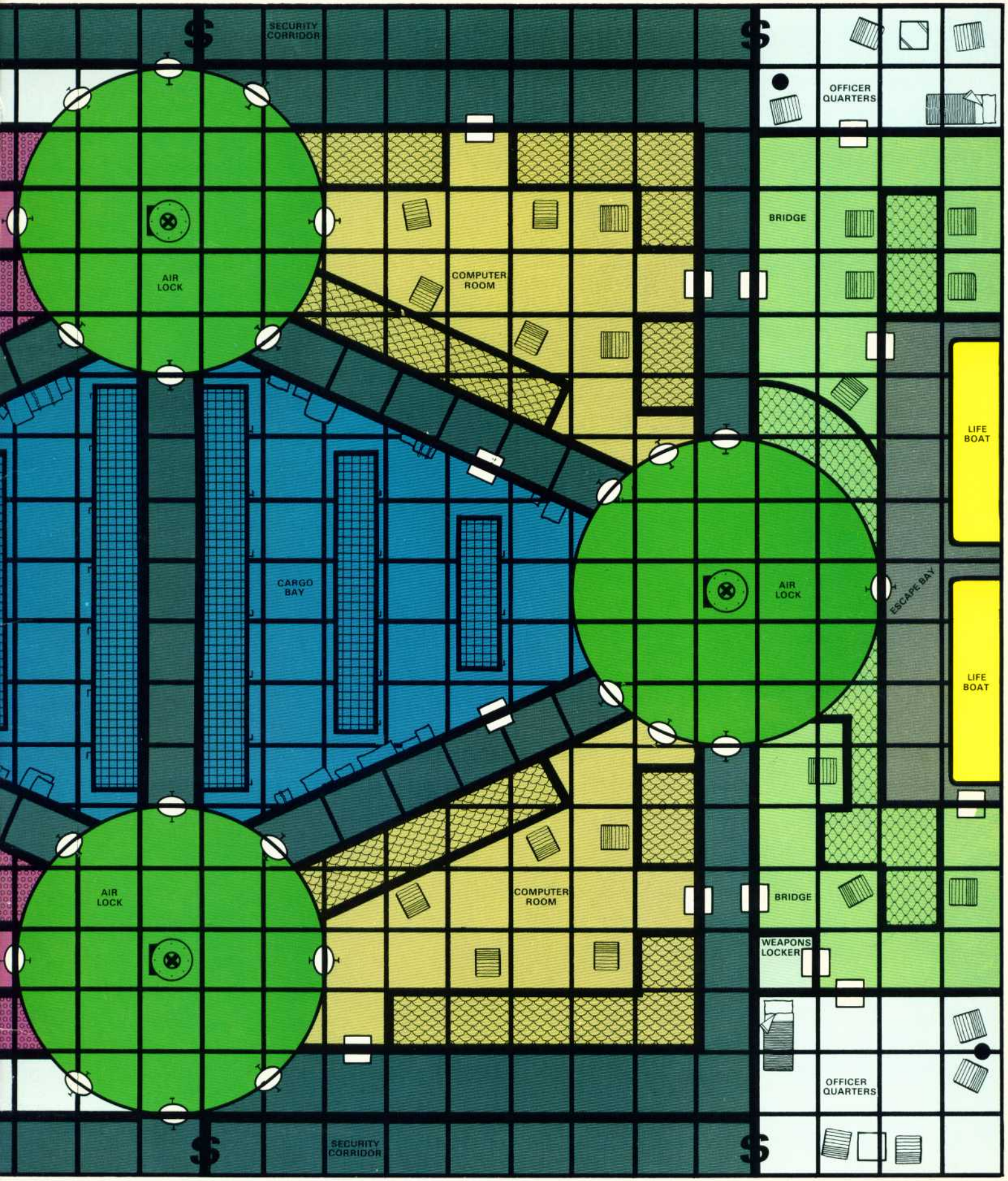
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STARSHIP BRIDGE AREA MAP

STAR FRONTIERS™ Adventure Module

SF-0: Crash on Volturnus

by Mark Acres and Tom Moldvay with Doug Niles



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ALPHA SECTION: INTRODUCTION

Welcome to the universe of the STAR FRONTIERS™ game! You are now a star-rover, one of the lucky few who spend their lives traversing the black void of deep space. Though you often pass long hours aboard cramped, uncomfortable starliners, you spend most of your time exploring mysterious new worlds. On these planets, you will find strange races of intelligent beings, ancient alien cultures, and creatures more deadly than any in the known universe!

If you are participating in this module as a player, **stop reading now.** Your referee will use this booklet to guide you on a thrilling adventure. If you read it now, you will spoil the excitement and surprise.

ALPHA SUBSECTION 1: REFEREE NOTES

Before beginning this module, read the STAR FRONTIERS Expanded Rules. After familiarizing yourself with the expanded rules, study this module carefully. You must be thoroughly familiar with its contents to run a successful adventure. An intimate knowledge of the maps, encounters, creatures, and non-player characters will prove invaluable when trying to describe fast-paced action scenes to your characters.

ALPHA SUBSECTION 2: MODULE BRIEFING

CRASH ON VOLTURNUS is the first module in the VOLTURNUS series. Two other modules, VOLTURNUS: PLANET OF MYSTERY and STARSPAWN OF VOLTURNUS, may be played after completing CRASH ON VOLTURNUS. While neither of the sequels are necessary to play this module, we recommend you complete CRASH ON VOLTURNUS before playing VOLTURNUS: PLANET OF MYSTERY or STARSPAWN OF VOLTURNUS.

This module is designed for 4 to 8 characters. The character group should include at least one Vrusk, at least one character with medical skills, and at least one character with environmental skills. In addition, the party will find it wise to spend most of their money on items other than weapons when they start the adventure. (All weapons will be destroyed early in the adventure.)

In the middle of the module booklet, you will find several removable sections. These sections include the "Alien Creatures Update File," the "Player Character Background Report," and the "STAR FRONTIERS System Brief." These sections may be removed from the booklet and kept in separate notebooks as expandable files. Simply bend the staples out and pull the sheets from the book, then bend the staples back down. Each section is printed on a solid sheet of paper which can be inserted into a three-ring notebook.

When the adventure begins, give the "Player Character Background Report" to your players. This sheet provides them a basic background statement, pre-rolled characters, and two different kinds of mapping paper.

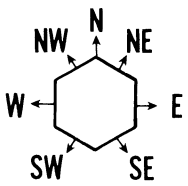
ALPHA SUBSECTION 3: USING THE MAPS

Both sides of the module cover contain maps. The outside cover shows a small interior section of the starliner "Serena Dawn." The adventure begins as a group of space pirates hijack the Serena Dawn. Use this map as a "playing board." Lay it on a flat surface and place your players' counters directly on it. You and your players may then move the counters over the map as needed to represent movement.

On the inside cover, you will find a partial planetary map of Volturnus. Do not show this map to your players at any time, it is for your reference only. The planetary map will be used to keep track of the movement of the characters on the planet.

The planetary map uses hexagons instead of squares to show direction and distance on the planet's surface more accurately. Each hexagon (hex) is color-coded to represent its dominant terrain. In addition, some hexes contain symbols representing unusual features.

The following chart illustrates the six possible directions of movement on a hexagonal map.



When the players tell you their direction of travel, they should use the terms northeast, east, southeast, southwest, west, or northwest. The direction of travel for each hex should be specified separately so there is no confusion about the location of the characters.

You will find maps of the Forbidden Caverns and the Lake of Fire in the STAR FRONTIERS System Brief. Use these special maps when you reach the encounter sections calling for them.

ALPHA SUBSECTION 4: MAPPING

In the Player Character Background Report, you will find two different kinds of mapping paper. The characters should use the hexagonal paper (hex paper) to map their route while outdoors, and the 1/4 inch square graph paper to map their route while in the Forbidden Caverns. (Note: You can buy extra supplies of hex and graph paper at your local hobby shop.)

The simplest way to map terrain is to color code the hexes according to terrain type. If colored pencils are not available, letters or symbols may be used to mark terrain.

Some hexes contain noteworthy features, such as towns or rock formations. The characters should mark these with a symbol they understand. Knowledge of these features may prove useful if the party becomes lost or wishes to rendezvous at a certain place.

ALPHA SUBSECTION 5: SIGHTING ON VOLTURNUS

On Volturnus, the distance to the horizon is 1 hex. This means characters can see into the next hex if their line of sight is not blocked. Note, however, characters cannot identify any objects smaller than a mountain unless in the same hex as that object.

Characters may see farther than 1 hex only when standing in a hex with a high elevation point and an unobstructed view. When this is the case, they can see up to 2 hexes, but cannot identify any objects unless in the same hex as that object.

ALPHA SUBSECTION 6: MOVEMENT ON VOLTURNUS

Movement on Volturnus varies greatly with terrain type and character race. Because of the harsh conditions on Volturnus, characters will rarely find it advantageous to split up. In addition, the terrific heat of Volturnus slows the movement of any race. All movement rates on Volturnus are specified for a mixed party of races, and take the heat into account.

You will find a SIGHTING AND MOVEMENT table below. This table lists movement rates and sighting distances for all major terrain types on Volturnus. Much of the information on the table details areas on the map your characters will not venture into during this module. This information will prove useful to you in future adventures upon the planet Volturnus.

ALPHA 6.1: SIGHT AND MOVEMENT BY TERRAIN TYPE

Terrain Type	Sight in Hexes	Move per Hour	Move per Day (1hex = 8 km.)
Alien Fungus	1	.8 km	1
Bachanda Trees	0	.8 km	1
Burning Land	1	.4 km	1/2
Caverns*	0	.8 km*	1*
Cliffs	0	.4 km	1/2
Crystal Mountains	1	.8 km	1
Desert	1	1.6 km	2
Dry Canal	1	3.2 km	4
Fertile Area	1	3.2 km	4
Hills	1	2.4 km	3
Lake**	1	.8 km	1
Lava Beds	1	.4 km	1/2
Meteor Crater	1	1.6 km	2
Mist Mountains	0	.8 km	1
Rocky Barrens	1	1.6 km	2
Roller Path***	1***	2.4 km	3
Ruins	1	2.4 km	3
Salt Flat	1	1.6 km	2
Sea**	1	.8 km	1
Shard Plains***	1***	.4 km	1/2
Tectonic Area	1	.8 km	1

*Movement with guide only, movement without a guide varies.
**Movement by swimming (hour only) and raft (hour & day).
***Roller paths cannot be seen except from high elevation points, or from the same hex as the path.

These are average rates; double them to find maximum movement. These rates are only approximate and have been adjusted to map scale. Feel free to alter movement rates when using maps of different scales.

ALPHA SUBSECTION 7:
FOOD AND WATER ON VOLTURNUS

In this module, assume characters can find all the food and water they need, unless there is reason to assume otherwise. The characters may have trouble finding food and water under any number of circumstances, such as travelling in the desert where no water and little food is available. Circumstances that make it difficult to obtain food and water will be specified in this module.

BETA SECTION:
RUNNING THE ADVENTURE

The sections below will guide you through CRASH ON VOLTURNUS. Although we have made every effort to include as much detail as possible, you must often rely upon your own quick wit and imagination to run the adventure effectively. It is important, therefore, that you are equally familiar with the STAR FRONTIERS game rules and the sections below.

BETA SUBSECTION 1: REFEREE NOTES

There are several categories of information at the beginning of each encounter section. These categories include special rules needed for that encounter section (this might include movement, sighting, time, and special combat modifiers), a brief description to read to your characters, and two types of encounter descriptions.

BETA SUBSECTION 2: RANDOM ENCOUNTERS

CRASH ON VOLTURNUS utilizes two types of encounters, random encounters and planned encounters. Random encounters furnish an element of chance and a feeling of surprise to the adventure. They occur any time, any place within an encounter section. All encounter sections list the percentile chance of having a random encounter each time period. (The length of each time period may vary from section to section. The length of each period will be stated under Special Rules in the beginning of each section.) Roll percentile dice once each period; a random encounter occurs whenever you roll that percentile chance or less.

When random encounters occur, use the random encounter table at the beginning of each section to determine the result. On most tables, you simply roll percentile dice to find the title of the encounter, then read the entry below the table for a description of the encounter. Some tables, however, are arranged in order, so particular encounters occur before others. On these tables, do not roll percentile dice.

BETA SUBSECTION 3: PLANNED ENCOUNTERS

Planned encounters provide a plot and sense of direction to the adventure. They occur at specified times, such as when characters enter certain areas or engage in specified actions. Most planned encounters have sections to read to the players and sections to provide you with the background needed to run the adventure.

BETA SUBSECTION 4: ABBREVIATIONS

Your players will meet many characters and creatures during their adventures. You must know many things about these characters and creatures, so it is very important you study the "Alien Creatures Update File" and the "STAR FRONTIERS System Brief."

You need not memorize the creatures and aliens, however. The abbreviations below provide a compact format for presenting the basic information necessary to run each encounter. Study these abbreviations carefully, so you are familiar with them when running your encounters.

BETA 4.1: ALIEN CREATURES FORMAT

MV = Movement Class.
IM = Creature's Initiative Modifier.
RS = Creature's Reaction Speed.
STA= Creature's Stamina score.
ATT= Creature's Attack score.
DM = Damage per successful attack.
SA = Creature's special attacks.
SD = Creature's special defense.

BETA 4.2: NON-PLAYER CHARACTER FORMAT

(All skill levels included in RW and M scores.)

RW = Ranged Weapon Attack score.
M = Melee score.
PS = Punching score.
IM = Initiative Modifier.
RS = Character's Reaction Speed.
STA= Character's Stamina score.

In some cases, you may need unlisted Ability scores for non-player characters to resolve unexpected situations. The average Ability score is 45; use this value for any non-player character Ability scores not provided.

ALPHA 3.1: MAP KEY FOR THE PLANET VOLTURNUS

The area shown on the map is 600 x 400 kilometers, about the size of the state of Colorado (1 hex = 8 kilometers). All action in the Volturnus modules takes place somewhere on this map. The rest of the planet has not been mapped; you may design these areas yourself if you wish.

MAP COLORS

Alien Fungus — This alien fungus came to Volturnus when a meteorite struck the planet.

Artifact — The Sathar left this monolithic artifact to monitor interstellar flight.

Bachanda Forest — Giant thorn plants cover the floor of the forest, so creatures must travel along the limbs of giant bachanda trees. This is the home of the Kurabanda.

Black Lake — Large, black slicks of oil cover much of the lake's surface.

Burning Lands — This barren, rocky ground often ignites when its free phosphorous contacts the atmosphere.

Ceremonial Burial Mounds — Several large mounds covered with floaterroot rise above the desert sands.

Cliffs — The cliffs run along a major fault line dividing the mountains from the lowlands.

Crystal Mountains — These crystal peaks can be seen gleaming in the sun on any clear day.

Crystal Stonehenge — The Eorna built this monument, resembling Stonehenge on Terra, many ages ago.

Desert — Only a few clumps of sparse vegetation survive among the endless sand dunes of the Volturnian desert.

Dry Canal — The canal that connected lake and sea in the height of Eorna civilization now runs dry.

Dry Plains — These rolling plains are covered with grass.

Fertile Area — A fertile area is an isolated outbreak of vegetation, such as a desert oasis.

Gas Mist Mountains — Ash clouds, smoke, and foul gases cover these mountains.

Hills — Edestekai farms dot the sides of these grassy hills.

Lava Beds — These maze-like beds of cooled magma are riddled with caves.

Meteor Crater — This huge crater is nearly covered by an alien fungus spawned when a meteor struck Volturnus.

Pirate Outpost — The pirates at this small base are studying the feasibility of pumping oil from Black Lake.

Pirate Town — The pirate town is the Star Devil's center of operations on Volturnus.

Oil Slick — Oil seeps to the surface of Black Lake in the hexes marked by oil slicks.

River — These rivers drain into the lowest areas on the map, the meteor crater and the sea.

Rocky Barrens — Though desolate and stark, this dry, rocky wilderness has more vegetation than the desert.

Roller Path — As they graze, rollers create a safe path through the shard grass.

Ruins — These are the ruins of Eleonea, an ancient Eorna city destroyed by the Sathar.

Salt Flat — As the ancient seas of Volturnus began their retreat, they left large salt flats behind. These salt flats are not entirely solid; there are many areas where briny rivers flow underneath. Persons crossing these salt flats will sometimes fall through the crust and drown.

Sea — This the remnant of a vast salt sea that once covered the area.

Shard Plains — The shard plains are covered by vast areas of glass-like shard grass. This grass cuts any creature walking through it.

Tectonic Area — This area contains active volcanoes, hot springs, and geysers.

MAP SYMBOLS

Map symbols mark hexes containing landmarks. Players often use these landmarks for reference while mapping or when lost.

Active Volcano — There is an active volcano in this hex.

Burnt Forest — A superhot forest fire recently reduced this magnificent forest to ash and charcoal.

Cave — The entrance to a vast cave.

Cave Tunnel — A system of caverns runs through the hex as indicated.

Dry Well — These wells are usually dry, though there is a 10% chance they will contain 1d10 liters of water.

Geyser — A geyser of water periodically erupts in this hex.

High Elevation Point — High elevation points offer good vantage points from which to observe nearby terrain. Any character in a high elevation hex can identify terrain types 2 hexes around.

Mesa — Mesas are high rocky plateaus, also serving as high elevation points.

Needle Spire — Strange whistles often echo from holes in the top of these rocky spires.

Unusual Rock Formation — Unusual rock formations assume many shapes. Five common types are shown on the map.

Unusual Tree — Unusual trees have abnormal shapes, sizes, colors, and so on. They can be used as map references.

GAMMA SECTION: SPACE PIRATES!

You are about to begin the first encounter section of CRASH ON VOLTURNUS. Study the entire section and be sure you are familiar with the movement scale, the special rules, and the general plot of the scenario before beginning play.

Use the starship map on the outside of the module cover for this encounter section. Lay it flat on the table where all may see it, and place one counter in a passenger-class cabin for each character. Player characters begin the adventure in these cabins. They have no equipment with them except their tool kits. (Note that weapons of any sort are not considered tool kits. All weapons will be locked in the weapons locker on the bridge.)

GAMMA SUBSECTION 1: SPECIAL RULES

SCALE MOVEMENT

In this encounter section, movement is calculated in squares. Each square equals 2 meters. The following table shows the maximum movement per turn for each race.

GAMMA 1.1:
MAXIMUM MOVEMENTS IN MAP SQUARES

Race	Walking or Dodging	Running
Human	5 squares	15 squares
Dralasite	3 squares	10 squares
Vrusk	8 squares	18 squares
Yazirian	5 squares	15 squares

MOVEMENT MODIFIERS

When moving through a door, a character must stop in the square directly in front of the door and open it. A character opening a normal door may move only 1/2 his normal distance, while a character opening a pressure or security door must spend two full turns opening that door. The character ends his movement directly in front of the pressure or security door, waits two turns, and moves through the following turn.

Under no circumstances may a character move diagonally through any door, whether it is opened or closed. Similarly, a character may open a door only when in the square directly in front of the door.

Normal doors, once opened, will remain open until closed manually. Both pressure and security doors, however, close automatically unless held open. Normal and security doors slide open, but pressure doors swing into the pressure chamber.

Only characters with level 1 or higher Technician skills can open security doors.

SIGHTING

A character can see into any square within his straight line-of-sight, as long as nothing obstructs his view. A character cannot see around corners, through walls, or into any square normally impossible to see into.

This means characters should not know the location of pirates until they can see those pirates according to sighting rules. You should not place any pirate counters on the map until the characters enter an area from which they can clearly see the pirates.

TIME

Use normal six-second combat turns in this section.

COMBAT AND MOVEMENT

Normally, only one counter may occupy a single square. Two counters may occupy the same square only if one counter represents an unconscious individual, or if the two counters are involved in melee.

A character may move through a square occupied by another character if the occupying character allows him to pass without engaging him in combat, or if the occupying character is unconscious. If a conscious character wishes, he may stop any counter moving through a square he occupies and engage it in combat.

Any character within a square containing a chair, computer, engine, or similar object may use it for cover during ranged combat. The map key distinguishes between hard and soft cover objects.

If the space pirates kill or knock all the characters unconscious, the characters must begin the module again. Their characters are considered dead, and the characters must roll or choose new characters.

(If any characters are killed on Volturnus, you may supply replacement characters on the planet by having the party meet another group of survivors from the starliner. The players who lost their characters should run these new characters.)

INTERROGATION

During the course of the adventure, the characters may try to question a captured space pirate. The pirate will cooperate only if he feels the characters will injure him if he does not. Even then, he will reveal only two things; the weapons locker has been destroyed and the bridge is guarded. Any pirate would rather die than reveal anything more about himself or his home.

COMPUTER

If a character with computer skills attempts to use the computer to gain information, he will find it is engaged in an emergency program. The computer will display only the following information:

EMERGENCY ALERT! EMERGENCY ALERT! SECURITY VIOLATION ON BRIDGE. REPEAT: INTRUDERS ON BRIDGE!

EMERGENCY ALERT! EMERGENCY ALERT! EXPLOSION REPORTED IN WEAPONS LOCKER. REPEAT: WEAPONS LOCKER DESTROYED.

GAMMA SUBSECTION 2: PLAYERS' DESCRIPTION

Read the boxed statement below to your players.

> The government of Truane's Star has hired you to carry out a preliminary exploration of a newly discovered planet. You are to journey by starliner to Volturnus and map as much of the planet as possible. The government is especially interested in contacting and studying any intelligent races living on the planet. If you meet an intelligent race, you are to make friendly contact and learn as much about them as possible.
>
> The first expedition to Volturnus disappeared without trace as soon as it entered the Zebulon system. If possible, you are to locate and rescue any survivors of this mission.
>
> As you boarded the starliner that would take you to Volturnus, the steward gave you an interior plan of the starship and urged you to study it carefully. He also searched your luggage and placed all weapons and power packs in the weapons locker. His assistant placed your other heavy gear, such as the military skeinsuits given to you by the government of Truane's Star, in the cargo hold. The only items you were allowed to take to your tiny cabins were your non-weapon tool kits.

During your journey, you have toured the area of the ship not shown on the map. It contains recreation areas, the observation dome, the galley, the first class living quarters, and fuel storage. There is nothing else of interest in that area.

In the event you must evacuate ship, you have been instructed to proceed immediately to the escape bay, where two of the Serena Dawn's lifeboats are stored. Each lifeboat holds up to eight persons. If it becomes necessary to use the lifeboats, you have been instructed not to open the hatch until all persons using the lifeboat are assembled and ready to enter it. This is because the lifeboats automatically launch one minute after the hatch is opened. They then seek the nearest inhabitable planet and land in the first safe spot.

FOR THE REFEREE ONLY: If the characters insist on searching any area of the ship not on the map, go directly to random encounter number 5.

GAMMA SUBSECTION 3: RANDOM ENCOUNTERS

After the pirates capture the ship, there is a 10% chance each turn the characters will meet one or more of them. Roll 1d10 each turn. If you roll a "1," consult the random encounter table below. This table is used sequentially, so encounter 1 takes place first, encounter 2 takes place second, and so on.

These encounters take place as soon as logically possible, ideally in the same turn rolled. Do not, however, have pirates suddenly appear where there is no chance they could appear. Pirates should appear as the characters round a corner, open a door, or move into any area not previously visible. If the characters are stationary, the pirates should appear at the closest possible entrance.

GAMMA 3.1: RANDOM ENCOUNTERS TABLE

1.) Pirate A (RW —, M 30, PS 3, IM 4, RS 35, STA 50.)

Pirate A will attack the closest character, attempting to hold this character hostage. If he succeeds in grabbing any character, he will draw a vibroknife and threaten to kill this character, attempting to persuade the rest of the party to accompany him to a passenger-class cabin. If the rest of the party cooperates, Pirate A will lock them all in the cabin and leave. In this event, go immediately to random encounter 5.

2.) Pirate B (RW —, M 30, PS 3, IM 6, RS 55, STA 55.)

Pirate B will attack the closest character with his nightstick. As soon as he has taken more than 20 points damage, he will attempt to flee toward the bridge.

3.) Pirate C (RW 35, M 28, PS 2, IM 6, RS 55, STA 35.)

Pirate C will attack the entire party with his automatic pistol. If he hits, divide the damage according to the rules for firing a burst. If he runs out of ammunition, he will attack with his gun butt until dead or unconscious. He has enough ammunition to fire two bursts.

4.) Pirate D (RW 25, M 38, PS 4, IM 5, RS 45, STA 75.)
Pirate E (RW 35, M 18, PS 2, IM 7, RS 70, STA 35.)

Pirate D will throw his tangler grenade immediately. Any party members within its range must make a Reaction Speed check. If the check is successful, they must move 2 squares away from the center of the tangler grenade explosion. If they fail the check, they are affected normally by the tangler grenade. After throwing the tangler grenade, pirate D will attack the closest party member with his blackjack.

Pirate E has set his laser pistol energy dial at 2 SEU and will not change it. He thus has a maximum of 10 shots. If he uses all his shots, he will melee using the pistol butt as a weapon.

5.) Ship explosions.

The ship begins to vibrate badly. The characters hear three loud explosions, and the ship lurches. Each character must make a Reaction Speed check or fall to the ground. The second turn, pieces of the ship begin to fly throughout the entire area. There is a 5% chance each character will be struck by one of these pieces, taking 1d10 damage.

If the characters run toward the lifeboats, they will meet no pirates anywhere; all other beings have abandoned ship. There will be one lifeboat left when they reach the escape bay.

GAMMA SUBSECTION 4: PLANNED ENCOUNTERS

Review the following information carefully. You must read the boxed entries aloud to your characters as you begin each encounter, but it is not necessary to provide them with the information below the boxed entry unless they have done something to acquire this information.

1.) BEGINNING

Read the following description to any character:

You hear the sound of scuffling outside your cabin. After the scuffling continues for two seconds, a man cries "Help!" A loud thump follows the man's cry.

The space pirates are hijacking the Serena Dawn. One of them is attacking a crewman in the corridor. When the characters investigate, the pirate will attack with his fists. If the pirate is reduced to 10 or fewer Stamina points, he will surrender (most pirates will continue to fight until reduced to 0 Stamina points).

Pirate F (RW —, M 23, PS 3, IM 4, RS 40, STA 45.)

2.) FIGHT IN THE CORRIDORS

As the characters enter the corridor between the two rows of passenger-class quarters, read the following description to them:

You see three space pirates in the corridor between the two rows of passenger-class cabins. The first pirate, carrying a bullwhip, stands at the top end of the corridor. The second pirate, carrying a club, stands at the junction of the corridor leading from the airlock and the corridor running between the passenger-class cabins. The third pirate, wearing shock gloves and a power belt, is at the bottom end of the corridor.

Each pirate will attack the first character he sees, and continue attacking until the character or himself has been reduced to 0 Stamina points.

Pirate G (RW 30, M 30, PS 3, IM 3, RS 30, STA 45.)

Pirate H (RW —, M 23, PS 2, IM 6, RS 55, STA 25.)

Pirate I (RW —, M 25, PS 3, IM 4, RS 40, STA 50.)

Space pirate I wears a fully charged belt pack to power the shock gloves.

3.) SEARCHING THE CARGO BAY

If the player-characters wish, they may search the cargo bay for useful equipment. Read the following description as they enter either cargo bay:

You have entered a cargo bay. There are many boxes piled in every square, with just enough room for you to walk between them. You can also see several rows of cargo cabinets. Apparently, these cabinets are unlocked.

As the characters search each square, roll on the cargo search table below. All items are stored in clearly marked cargo boxes. It requires one turn to open a cargo box, and another turn to remove the contents.

Each character may search 1 square per turn. A square may be searched only once; if more than one character searches a square, the second will find the same thing as the first.

If the characters have searched all squares in both cargo bays without finding their skeinsuits, they will find the skeinsuits in the last square.

GAMMA 4.1: CARGO SEARCH TABLE

% Roll	Type of Cargo Found	Weight/ Item
01-05	Character's military skeinsuits*	1.5 Kg
06-10	10 Laser rifle clips*	—
11-15	12 Packets of dehydrated food***	1 Kg
16-20	1 Computoy	10 Kg
21-25	Ship doctor's spare medkit*	4 Kg
26-30	Crates of hand axes	1 Kg
31-35	Costume jewelry	—
36-40	1 Holographic fireworks projector	5 Kg
41-45	Chronocom	—
46-50	Boxes of ball bearings	—
51-55	Chocolate anchovies in aspic	—
56-60	Steambath perfume	1 Kg
61-65	1 Prize Vrusk statue	10 Kg
66-70	Characters' non-weapon equipment	—
71-75	Bolts of silk	5 Kg
76-80	Galacticana Encyclopedia	2 Kg
81-85	Yazirian punching bags	2 Kg
86-90	Large machine gears	10 Kg
91-95	Vrusk body wax	—
96-00	High fashion Human dresses	—

*Can be found only once.
***Each packet will feed the entire group for one day.

There is one pirate guard in each cargo bay. Pirate J guards the left bay, and pirate K guards the bay on the right. Each will stand near the center of his cargo bay. Both pirates will fight until they are knocked unconscious or they win the fight.

Pirate J (RW 18, M 18, PS 2, IM 4, RS 35, STA 35.)

Pirate J will fire his gyrojet pistol until out of ammunition, then use the pistol butt in melee. Assume he begins the combat with a fully loaded clip.

Pirate K (RW —, M 30, PS 3, IM 6, RS 55, STA 50.)

Pirate K will attack with his axe until he wins or is knocked unconscious.

4.) GUNFIRE IN THE AIRLOCK CHAMBER

As the characters enter the airlock chamber closest to the escape bay, they will see two space pirates.

> There are two pirates in this airlock chamber. One holds a grenade, and the other holds a sonic stunner. They move to attack you immediately.

The pirates will attack as soon as they see the characters.

Pirate L (RW 30, M 30, PS 3, IM 6, RS 55, STA 55.)

Pirate L will throw his fragmentation grenade immediately. Each character within the blast radius should make a Reaction Speed check; any characters who make their checks take only 1/2 damage from the grenade. One or both pirates may be caught in the blast radius of the grenade. (Each character should roll damage from the grenade separately.)

Pirate M (RW 25, M 25, PS 2, IM 5, RS 45, STA 40.)

Pirate M will attack with his sonic stunner. Any character hit by the sonic stunner should make a Stamina check. If the check is successful, he is not stunned.

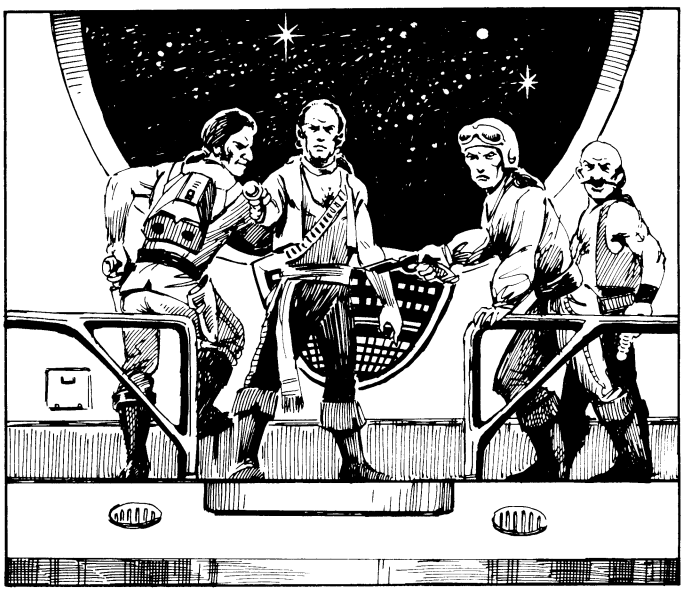
5.) RETREAT FROM THE BRIDGE

If the characters enter the bridge area, read the following description to them:

> As you open the door, you immediately realize a struggle has taken place. Chairs, instruments, and even unconscious officers lie strewn about the floor. You see four armed space pirates on the bridge. The first holds an automatic pistol, the second holds a needler pistol, the third holds an electrostunner, and the last holds a laser pistol.

If the characters have entered the bridge section with the weapons locker, read the following statement:

> From your vantage point, you can see the weapons locker has been destroyed, along with everything it once contained.



The pirates have orders to guard the bridge at all costs. They will open fire as soon as they see the characters. The guards will not follow the characters if they leave the bridge area.

Pirate N (RW 23, M 18, PS 3, IM 4, RS 35, STA 55.)

Pirate N will fire two shots each turn until he has used the 10 shots remaining in his clip. He will then use the pistol butt in melee.

Pirate O (RW 25, M 10, PS 2, IM 5, RS 50, STA 40.)

Pirate O will fire two shots each turn until he uses his 10 shot clip. He will then use the pistol butt in melee.

Pirate P (RW 40, M 15, PS 2, IM 6, RS 60, STA 30.)

Pirate P will place the electrostunner on the damage setting and fire until he has used his 20 SEU clip. He will then use the pistol butt in melee.

Captain Slag (RW 69, M 47, PS 4, IM 7, RS 67, STA 73.)

Choose any pirate counter to represent Captain Slag. He will fire one 5 SEU shot from his laser pistol each turn until he exhausts its 20 SEU clip. He will then use the pistol butt in melee.

6.) ESCAPE!

As the characters enter the escape bay, read the following description to them:

> The escape bay is empty except for one lifeboat. Looking into it, you notice an item inside labeled "Survival Pack." This seems to be locked in some sort of cabinet.
>
> Suddenly, the Serena Dawn lurches, and you hear three loud explosions coming from the bridge. The ship trembles for several seconds, then lurches again and you hear another explosion. You hear various squeaks and groans as the ship twists and buckles beneath your feet.

The lifeboat is large enough for eight characters. As soon as the first character opens the entry hatch, a computerized voice will say, "One minute to launch. Please fasten your seat belts." Ten game turns later, the lifeboat will blast out of the escape bay. All characters should be in the lifeboat by this time. (Two characters may enter the lifeboat every turn.) If the characters do not wish to enter the lifeboat immediately, tell them the ship is about to explode. They will see pieces of metal flying about inside the escape bay, and they will notice a crack forming in one of the walls of the escape bay.

After the characters secure themselves inside the lifeboat, it will automatically launch itself. As the lifeboat starts to move, four space pirates armed with automatic rifles will enter the escape bay and shoot at the lifeboat. There is no chance this fire will injure any characters, but they will feel the lifeboat shudder and lurch as the bullets strike it.

The lifeboat will then seek the nearest inhabitable planet and find a safe place to land.

GAMMA SUBSECTION 5: EXPERIENCE POINTS

It is now time to award experience points. Players who took an active part in the adventure receive 2 experience points. Players who were extremely helpful or active in this section receive 3 experience points. Players who managed to escape, but who did not show any initiative, receive only 1 experience point.

Remember, characters may use these experience points immediately only if acquiring a skill they have been practicing or utilizing during the adventure. They may also use these experience points to improve their Ability scores (this may help them a great deal later in the module).

DELTA SECTION: CRASH IN THE DESERT

The characters are about to reach Volturnus. Unfortunately for them, however, they are not arriving with the benefit of all the equipment and preparation they would have liked. Instead of landing in a choice site in a fully equipped shuttle, they are crash-landing in the middle of a hostile desert. They are light-years from their home planets, with no hope of rescue in the foreseeable future. To survive, they must improve their Ability scores, learn new skills, and utilize every shred of imagination they possess.

DELTA SUBSECTION 1: SPECIAL RULES

MOVEMENT

Since the characters will move over a wide range of terrain on Volturnus, it is difficult to specify a standard movement rate. While travelling over the planetary map of Volturnus, characters will move at the rates specified in the planetary movement table in Alpha 6.1.

As the characters move across the planet surface, they should use the hex paper provided in the Player Character Background Report to map the terrain. Mapping has been explained in Alpha Subsection 4.

A dashed line circles the lifeboat crashsite. This is the movement limit for CRASH ON VOLTURNUS. It is important the characters do not pass this line, especially if you plan to play the sequel to CRASH ON VOLTURNUS. If the characters reach this line, turn immediately to planned encounter 3 (the Ul-Mor). In addition, if the characters begin to die of thirst or starve, turn immediately to planned encounter 3.

Most characters will spend their time wandering through the desert. They may, however, occasionally wander into the salt flats or the burning lands.

If they do so, allow them to wander through these lands for a few hours, then persuade them to leave. In the burning lands, a volcano will erupt, and the only way to escape the lava flow will be to flee back to the desert. In the salt flats, a small tidal wave will rise and force the party to run back to the desert.

TIME

Normal game turns may prove impractical in this encounter section, since most action on the planetary surface occurs in daily segments. Because of this, the time reference period on Volturnus is 12 hours. These periods alternate between night and day. For the purposes of random encounters, roll once every period, or twice a day. Note, however, that when characters enter combat situations, the game action will change to six-second game turns.

WATER IN THE DESERT

In the harsh Volturnian desert, a character needs 4 liters of water per day to survive. Players can reduce this amount 1 liter if they take two salt pills each day. They can further reduce this amount 1 liter per day by travelling at night and resting in the shade during the day.

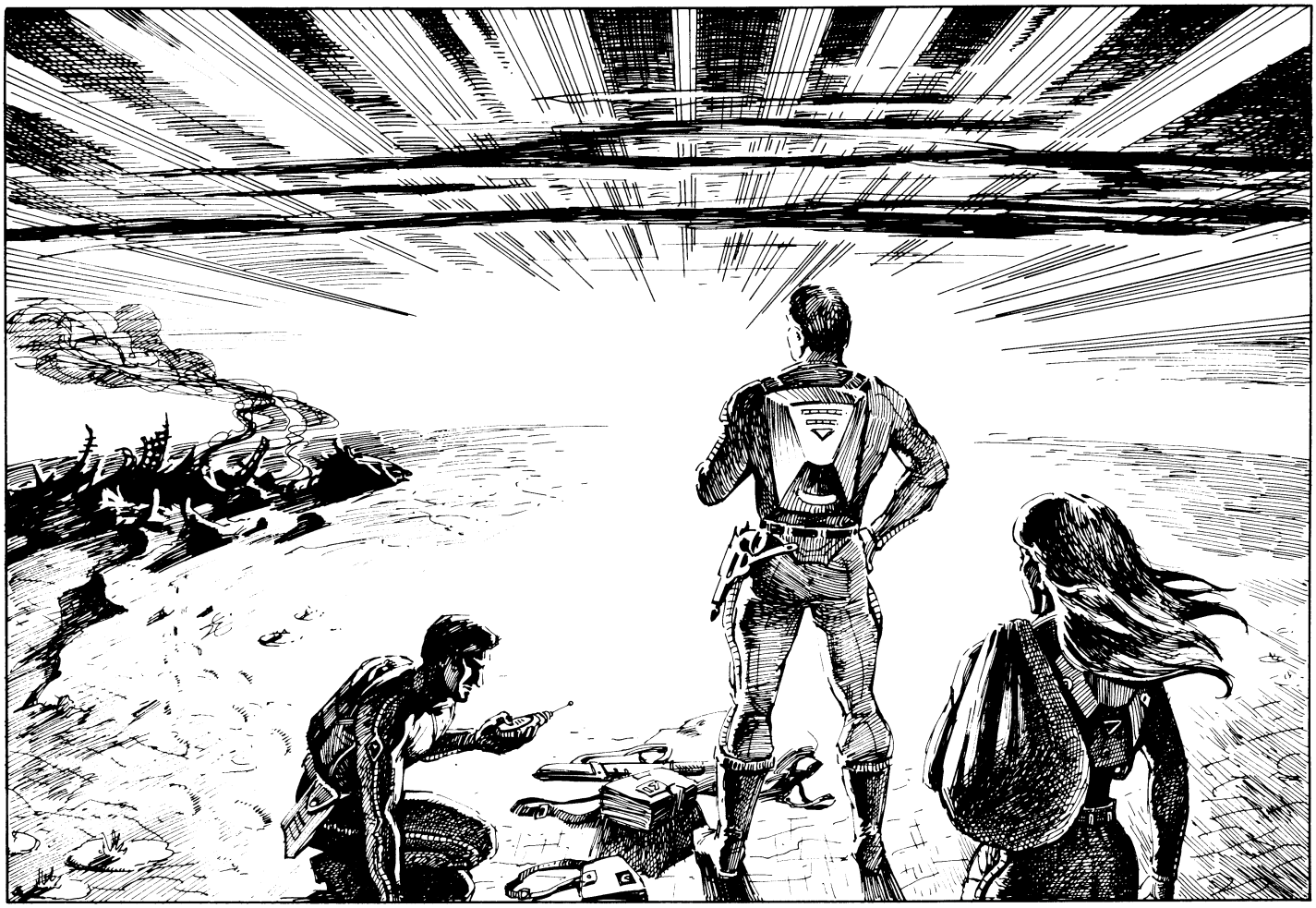
If the characters move at their maximum rate, they must double the amount of water needed to survive (after taking into account any precautions taken to reduce water consumption). Thus, a character moving at maximum speed during the day without taking salt pills would need 8 liters of water a day to survive. If, however, the character were taking two salt pills each day, he could move at maximum rate and survive on 6 liters of water a day. Finally, a character moving at maximum rate during the night and taking two salt pills a day would need only 4 liters of water per day to survive.

The amount of water needed to survive includes all water used to rehydrate survival or dehydrated rations.

DELTA SUBSECTION 2: PLAYERS' DESCRIPTION

Read the following description to your players:

> As your lifeboat leaves the Serena Dawn, you see the starship tremble again. A few metal chunks float out of the escape bay, and then all is quiet. Your lifeboat quickly accelerates toward the forbidding planet of Volturnus. As you approach the daylight side of the planet, you see nothing. A great portion of the planet is shrouded in clouds. Your lifeboat enters a shallow orbit and travels to the other side of Volturnus, where it begins its descent into the dark, clear night.
>
> Sparks begin to fly from the onboard computer. Then, after several seconds of jolting, a rear engine explodes and a fire erupts on the exterior of the lifeboat.



> The fire grows larger and hotter as you descend, even entering the passenger compartment. After two minutes of intense heat, the lifeboat crashes into a high outcropping of rocks. The fire seems to die down, but flames still flash from the rear engine and the onboard computer.

FOR THE REFEREE ONLY: Each character has a 5% chance of being injured in the crash. All characters should roll percentile dice. On a roll of 06 or greater, that character takes no damage. Any character who rolls less than 06 takes 1 to 5d10 of damage. The number the character rolled is the number of dice of damage he takes. A character who rolled a 01 during the crash would take 1d10 damage, but a character who rolled a 04 would take 4d10 damage.

After the characters recover from the shock of crash-landing, they will notice the survival kits have popped out of the lockers and are ready to be removed from the lifeboat. They will also notice a foul-smelling liquid seeping from the engine compartment. Some of this liquid is starting to burn.

The characters have enough time to remove the survival packs from the lifeboat, but no other equipment can be removed. The lifeboat will burst into flames as soon as the last survival pack is removed. Two turns later, it will explode. If the characters attempt to remove other equipment before the survival packs, they will be unable to do so because the liquid is covering everything in the shuttle except the survival packs. The liquid is actually a flammable acid which ruins everything it touches. If the characters have not removed the survival packs after two turns, the liquid will start to burn. The characters will then have one turn to remove the survival packs before the lifeboat explodes. Any character within 20 meters of the explosion will take 1d5 damage, and any character actually in the lifeboat when it explodes will take 5d10 damage.

The lifeboat has eight survival kits, each containing 1 machete, 1 box of matches, 1 allweather blanket, 1 first aid pack, 1 chronocom, 2 packages of survival rations (enough food for 1 person for four days). 1 tangler grenade, 1 compass, 1 lifejacket, 10 salt pills, 1 pocket tool, 1 flashlight, 1 doze grenade, 10m of rope, 1 toxyrad gauge, 8 liters of water, 1 pair of sungoggles, 1 pair of stretch coveralls, 1 poly-vox, and 1 laser pistol with a 20 SEU clip.

After the lifeboat explodes, read the following description to the characters:

> The night has passed, and it is now dawn. A desolate wilderness of sand and rock stretches as far as you can see in every direction. The desert is occasionally broken by green flat plants similar in appearance to lilly pads. Though it is only a few minutes past sunrise, the heat is already overbearing.

DELTA SUBSECTION 3: RANDOM ENCOUNTERS

When moving through the desert, characters will have random encounters. Check for random encounters at the beginning of each period (every 12 hours). Roll 1d10; a random encounter will take place during the day if you roll 1-3 and at night if you roll 1-2. When a random encounter occurs, roll on the random encounter table to determine which encounter will take place.

DELTA 3.1: DESERT RANDOM ENCOUNTER TABLE

Die Roll (1d10)	Encounter
1-2	Burrower Snake
3-4	Sand Storm
5-6	Funnel Worm
7-8	Sand Shark
9-10	Lopers

(Continued on page 21.)

1.) Burrower Snake (MV Slow; IM 8; RS 80; STA 15; DM 1d5; SA Poison S5/T10)

Choose a character at random. This character steps next to a burrower snake hole and is attacked.

2.) Sand Storm

The wind begins to blow 120 kph and creates a sand storm. Any character with an environmental skill should make an Intuition check; modify this roll by +10 for every level above one. If any character makes a successful Intuition check, the party will be able to improvise a shelter and survive the storm without taking damage.

If the characters happen to be in a hex with an unusual rock formation, well, fertile area, or high elevation symbol, the characters can find shelter quickly and avoid taking damage from the storm.

If the characters have no advance warning and are not in one of the hexes listed above, they will take damage from the storm. Have each character roll a Reaction Speed check. If the check is unsuccessful, the character takes 4d10 damage from the sand storm during that time period. If successful, the character takes only 2d10 damage from the storm.

Sand storms will normally last only one 12 hour period, but there is a small chance they will last longer. Roll 1d10; on a roll of 1-8, the storm lasts only one period. On a roll of 9, the storm lasts an extra period, and on a roll of 10, it lasts two extra periods.

If a storm lasts for more than one period, characters will take only 2d10 damage during the second and third periods.

3.) Funnel Worm (MV Slow: IM 3; RS 25; STA 200; ATT 70; DM 4d10; SA See below; SD See below)

The party walks over a funnel worm. Choose one character at random. That character and any other character within 10 meters must make Reaction Speed checks or fall into the funnel worm's trap.

SA: Automatic hit from ambush position. SD: Remains undetected until it attacks.

4.) Sand Shark (MV Medium fast; IM 5; RS 50; STA 80; ATT 50; DM 2d10; SD See below)

The characters are attacked by two hungry sand sharks.

SD: Immune to needler weapons; cannot be atacked until it surfaces.

5.) Lopers (MV Fast; IM 5; RS 41; STA 300; ATT 40; DM 2d10; SD See below)

The characters encounter a dead female loper that has just given birth to two babies. The lopers will believe the first character they see is their mother. The young animals will then follow this character, hoping to receive food and water. (They need 1/2 as much food and water as characters.)

SD: Immune to needler weapons.

DELTA SUBSECTION 4: PLANNED ENCOUNTERS

Because of the vast territory the characters may journey through, the number of planned encounters is limited. There are only three planned encounters in this section; all are designed to accomplish specific goals. The first encounter, the poison well, warns the characters that many things on Volturnus are not as they seem. The second encounter, with the jet-copter, foreshadows later encounters with Volturnian space pirates. The third encounter, with the Ul-Mor, is designed to provide clues to the secret of Volturnus, but only after the characters pass the test of tribal membership.

1.) Poison Well

Read the following description to your characters as they start to leave the crash site:

> From your vantage point high in the rocks, you see what appears to be a covered well 8 kilometers east of you.

The well is a deep hole lined with rocks. A small rock dome covers the well. This dome has only one entrance, on the northeast. This entrance is 1 meter high. The bottom of the well contains 12 liters of water.

The dome was built by the Ul-Mor to protect the well, which is poisonous to Humans, Dralasites, Vrusk, and Yazirians because of its high arsenic content. The water is not poisonous to Ul-Mor, however, for they have a special organ that filters out arsenic.

This is not the only poisonous well in the desert. There is a 50% chance that any other well in the desert will be poisonous. If any character uses a toxyrad gauge on a poisonous well, he will detect the arsenic.

Arsenic is a cumulative poison, continuing to collect inside the body until death occurs. The first time a character drinks from an arsenic well, there are no undesirable side effects. The second time, the character feels ill, but takes no damage. The third time, the character takes 10 points of damage, and the fourth time the character takes 10 points of damage per melee turn until the poison is countered by an antitox shot or the character dies.

If the characters boil the water and collect the condensed steam (by trapping the vapor under a plastic tarp or similar item and collecting the liquid as it cools), the water will be safe to drink. They may collect up to 8 liters a day in this manner. But simply boiling the water is not enough, since the arsenic will still be in the water.

2.) Pirate Search Craft

Eleven periods after the characters leave the lifeboat wreckage, a pirate search-copter will fly over them.

> You hear the distant throbbing of a small jet-copter on the desert air. Looking back toward the lifeboat's wreckage, you see a small jet-copter flying toward you. It is flying very high, but you can see it is an open search-type copter.

If any character uses magni-goggles to look at the jet-copter, they will see it carries three very mean looking men, obviously pirates. They will also see a painting of a red devil surrounded by silver stars on the side of the copter.

If the characters attempt to hide from the jet-copter, it will cross back and forth over their general vicinity several times, then leave. But if the characters attempt to attract the attention of the men in the copter, it will hover overhead. All three men will fire their laser pistols at the party members. Luckily for the player characters, the pirates will miss because of the range and difficulty of firing from a jet-copter.

After firing at the characters several times, the men in the jet-copter will run out of ammunition and fly back toward the life-boat. As they leave, one of the men in the jet-copter will drop a note reading, "We know who you are. You'll never leave Volturnus alive."

3.) The Ul-Mor

The characters will encounter the Ul-Mor when they have reached the movement limit marked by the dotted line on the planetary map, or are dying of thirst. This encounter is designed to introduce the characters to their first intelligent race on Volturnus, to further the plot of the adventure, and to keep them from dying in the wilderness.

You see a number of individuals riding toward you over a distant ridge. They vaguely resemble octopi, except their bodies are plum-purple and highly decorated with feathers, primitive jewelry, tattoos, and bright paint. They carry spears and war clubs in four of their tentacles, and keep their other four tentacles wrapped around their mounts, which resemble two-legged dinosaurs standing 4 meters tall.

The tallest rider shouts a high pitched command and the riders spread out along the ridge to await another command. The riders are about 500 meters away.

The characters have encountered the advance guard of an Ul-Mor tribe changing camps. The Ul-Mor will make no hostile gestures.

Five Ul-Mor will ride toward the characters slowly and carefully, keeping their weapons handy, but not raised in a threatening manner. The Ul-Mor will stop if the characters make any threatening gestures. Once the Ul-Mor are within easy speaking distance, they will attempt to establish contact.

At this point, if the characters have the baby lopers with them, the tallest Ul-Mor will ceremoniously drop his weapons and raise four of his tentacles. If the characters do not have the lopers, the Ul-Mor will simply wait for the characters to make the next move.

Communication will prove difficult until the poly-vox has had sufficient time to study the Ul-Mor language. Meaningful communication will be restricted to gestures at first, but the poly-vox will soon enable the characters to communicate with the Ul-Mor. Even after the poly-vox is working at full potential, the characters will find the Ul-Mor language primitive and limited to basic ideas.

The Ul-Mor will soon ask permission to use their primary means of communication, the direct mind link. Any character who undergoes the direct mind link will be able to communicate with the Ul-Mor normally. The Ul-Mor will explain that food and water are scarce in the desert, and by law they can share food and water only with tribe members. It is obvious, however, that the characters will soon die if somebody doesn't help them, and so the Ul-Mor will give the characters food and water if they will join the tribe. If the characters are not willing to undergo the manhood ritual required to join the tribe, the Ul-Mor will regretfully leave the characters to die in the desert.

If the characters agree to join the tribe, the Ul-Mor will lead them to the oasis just outside the Burning Lands. During this journey, the characters must travel a little behind the Ul-Mor and camp separately, since they are probationary members of the tribe. They will be immune to all predictable natural disasters such as sandstorms, flashfloods, starvation, and dying of thirst. Furthermore, the characters will only have to fight for five turns before the Ul-Mor will come to drive away the attacking creature. Once they arrive at the oasis, the Ul-Mor will insist the characters rest until all of their wounds are healed.

TABLE 4.1: UL-MOR NON-PLAYER CHARACTERS

There are 20 average Ul-Mor riders in the tribe your player characters meet. Use the set of average characteristics below for these 20 riders. In addition to the 20 riders, there are 5 leaders. These five leaders are shown below the average characteristics. The melee and ranged weapon scores take all skill levels into account.

Average Ul-Mor (RW 45, M 45, PS 2, IM 5, RS 50, STA 40.)

Notes: All Ul-Mor have four attacks per turn and have mind link ability; almost all have 2nd level skill in thrown and melee weapons. They all ride lopers (MV FAST; IM 5; RS 41; STA 300; ATT 40; DM 4d10; SD Immune to needlers) and are armed with spears.

Fonn-Ar the Warrior (RW 65, M 65, PS 3, IM 7, RS 65, STA 45.)

Notes: 3rd level skill in thrown and melee weapons; brave to the point of foolhardiness; open and forthright.

Arkadas the Red (RW 60, M 65, PS 3, IM 6, RS 55, STA 50.)

Notes: 3rd level thrown and melee weapons; paints red stripes on body for war; cunning but loyal; something of a dandy.

Thurad Sandy Back (RW 75, M 70, PS 2, IM 7, RS 65, STA 40.)

Notes: 4th level thrown and melee weapons; cautious and quiet, a mystic who often contemplates the One.

Kahai Long Rider (RW 70, M 75, PS 3, IM 6, RS 55, STA 60.)

Notes: 4th level thrown and melee weapons; protector of loper-kind; close friend of Athru.

Athru Sea People's Bane (RW 90, M 85, PS 3, IM 7, RS 70, STA 60.)

Notes: 5th level thrown and melee weapons; courageous but not foolhardy; always shrewd; considers the good of the tribe above his own; a good leader.

DELTA SUBSECTION 5: EXPERIENCE POINTS

This is the end of the second encounter section. It is now time to award experience points. Players who took an active part in this section receive 2 experience points. Players who were extremely helpful or active receive 3 experience points. Players who merely travelled along, but did not do very much to help the party, receive 1 experience point.

EPSILON SECTION: CREATURES OF THE CAVERNS

The Ul-Mor will lead the characters to a vast cavern network one 12 hour period's travel inside the burning lands. This cavern is the safest way to cross those perilous lands, though it holds many dangers for the unwary. The first four periods in the cavern will pass uneventfully, but a massive cave-in will separate the characters from the Ul-Mor at the beginning of the fifth period. They must then find their way through the Forbidden Caverns to the outside world. If the characters survive, they will once again meet the Ul-Mor and finally journey to the Place of True Warriors to fight the ferocious quickdeath.

EPSILON SUBSECTION 1: SPECIAL RULES

MAPPING

Use the Forbidden Caverns map in the STAR FRONTIERS System Brief for this section. You can simplify mapping by sketching or tracing these corridors onto the characters' mapping paper.

However your characters map the caverns, remember to reveal only small sections of the map at one time. The characters must discover the exit to the Forbidden Caverns by themselves. You should not show the cavern map to them at any time.

The characters will not need to map the sections of the caverns they travel during the the first two days underground. They will begin mapping only after the cave-in occurs at the location marked "S" on the cavern map. After the cave-in, they will wander through the winding corridors and cathedral-like

rooms of the Forbidden Caverns, trying to find an exit. Several areas are numbered; these are the planned encounter areas. When the characters enter one of these areas, refer to the planned encounter chart for this section.

TIME IN THE CAVERNS

After the cave-in, the characters will enter a new and dangerous phase of their adventure. Because they are lost in the perilous Forbidden Caverns, the time period reference must be changed from 12 hours to one hour. If your characters question this, you may explain that the time period has changed because they are travelling in dark, unknown caverns.

MOVEMENT IN THE CAVERNS

Since the characters will find themselves moving through dark, unknown caverns, their movement rate will be considerably reduced. The movement rate must also be adjusted because the time period has been reduced to one hour. Therefore, the following movement rates will apply while the characters are in the Forbidden Caverns:

EPSILON 1.1:

MOVEMENT RATES IN SQUARES

Race	Number of Squares
Human	3
Dralasite	2
Vrusk	4
Yazirian	3
Mixed Party	2

COMBAT IN THE FORBIDDEN CAVERNS

When encounters and combats occur, the action should be resolved in normal six-second game turns. The distances characters can move in six-second turns are summarized on the following chart:

EPSILON 1.2:

MOVEMENT PER SIX-SECOND TURN IN CAVERNS

RACE	WALKING	RUNNING
Human	2 meters	6 meters
Dralasite	1 meter	4 meters
Vrusk	3 meters	7 meters
Yazirian	2 meters	6 meters

Players will quickly find anyone running in the caverns has an excellent chance of falling. Any character running in the caverns must make a Dexterity check. The character must make a Dexterity check once every five turns spent running. If a character falls, he may move only 1/2 the normal distance that turn.

SIGHTING

Visibility in the caverns is limited. Even with flashlights or torches, party members can see only 30 meters. When in large rooms, this means they may not be able to see the cavern walls.

EXPERIENCE

The Forbidden Caverns encounter section will require more playing time than most other encounter sections in this module. You should award experience three times during the this encounter section (usually at the end of an evening of play). Generally speaking, you will find the best places to award experience points are at the end of encounter area 7, the end of encounter area 13, and after the party exits the caverns.

EPSILON SUBSECTION 2: PLAYERS' DESCRIPTION

After several days travel, you have reached the Burning Lands. Deposits of phosphorous, magnesium, and various salts cover the entire area, and numerous geysers, gas fissures, and lava flows erupt through the crusty ground. Athru says you will spend only a short time on the surface of the Burning Lands; after a period of travel you will reach a large network of caves. The Ul-Mor know a safe path through the caverns and out into the desert on the other side of the Burning Lands. You will follow this underground path to the Place of True Warriors. Athru warns you not to stray from the safe path, for there is an endless expanse of winding caverns teeming with unknown dangers.

You travel through the caverns for 24 hours, walking well behind the main body of Ul-Mor. The tunnels are between 5 and 10 meters wide, while the ceiling rises as high as 12 meters. Occasionally, the tunnels spread into underground rooms as much as 1 kilometer in diameter, with ceilings as high as 20 meters.

You constantly pass large stands of a mushroom-type fungus growing from the cavern floors. The stalk of this fungus is almost as thick as a small tree trunk. There is nothing else unusual in these caverns.

As you move along, you pass many smaller passages leading away from the main path, but the Ul-Mor carefully avoid these passages and warn you to do the same.

EPSILON SUBSECTION 3: RANDOM ENCOUNTERS

Roll for random encounters once each one-hour period. A roll of "1" on 1d10 indicates a random encounter; roll again on the following table. No random encounters will occur while the characters are with the Ul-Mor.

EPSILON 3.1:

RANDOM ENCOUNTER TABLE

Die Roll	Encounter
1	Small rastie pack
2	Droppers
3	Poison gas fissure
4	Lava flow
5	Rastie trap
6	Flitters
7	Skeleton and drained blaster
8	Sleep gas fissure
9	Broom, mop, and bucket
10	Dead loper carcass

Do not use an encounter more than once. If you roll the same encounter more than once, ignore the result and roll again.

EPSILON 3.2: RANDOM ENCOUNTER DESCRIPTIONS

1.) Rastie Pack (MV Medium; IM 7; RS 65; STA 75; ATT 75; DM 2d10; SA See below)

A pack of 10 rasties attacks the party. They will pursue if the party attempts to run.

SA: Lock jaws and rend automatically for 1d10 per turn.

2.) DROPPERS: (MV Very slow; IM 2; RS 18; STA 20; ATT 80; DM 2d10; SA See below; SD See below)

A dropper attacks a randomly determined party member. Assume the cavern ceiling is 3 meters high. The dropper will automatically have initiative unless the characters are searching the cavern ceilings for droppers.



SA: Attract 2d10 more droppers in 1d10 turns. SD: Immune to projectile weapons; tangler, and doze grenades; ranged weapons attack at -10.

3.) POISON GAS FISSURE: A crack opens in the cavern wall and poison gas seeps out. The gas fills a 3 meter long section of cavern each turn. The gas is rated S5/T1, and appears to be hot steam when the characters first see it.

4.) LAVA FLOW: A large section of cavern wall collapses, releasing a 250 centimeter deep lava flow 10 meters behind the characters. It will advance toward the characters at a rate of 5 meters each turn.

Any character caught in the lava flow takes 5d10 damage every turn until he escapes.

If the characters choose to jump out of the path of the lava flow, they have a 75% chance of finding a safe place (such as a low-hanging stalactite or a narrow rock shelf). If the characters try to find cover and fail to make the 75% roll, assume they tried for cover, but discovered a turn later this cover was not sufficient. They will return to the cavern floor one turn after trying to find a safe place. They may try again for a safe place or run, at their option.

Even if the characters find a safe place, they must then make a Dexterity check. If they fail the check, they will return to the cavern floor the next turn.

If the characters succeed in jumping out of the flow's path, they must then wait three days for the lava to cool before walking on it. Unless they have found a sufficiently comfortable place to wait (use your own judgement), there is a 75% chance they will fall into it several hours later, taking 1d10 damage from the cooling lava every turn until they escape.

If the characters run from the flow, it will follow them until they come to a branch in the corridor, and will then flow down the corridor sloping downward (choose one at random). If the characters are foolish enough to run into the corridor sloping down or there are no corridor branches, the flow will stop after chasing them for 1 kilometer.

5.) RASTIE TRAP: Roll a secret Intuition check for the two characters leading the party. If either character makes the check, he will see the rastie trap and neither character will fall into it. If neither character makes the check, both characters in the front will fall into a hidden 4 meter pit with sharpened stakes at the bottom. Each character takes 2d10 damage. (The pirate who lives in encounter area 18 set this trap to catch rasties.)

6.) FLITTERS: (MV Medium; IM 7; RS 70; STA 10; DM 2; SA Disease)

The party meets 10 flitters panicked by a gas explosion in another part of the cavern. All flitters will attack one character immediately, then fly away after two rounds of combat.

7.) SKELETON: The party finds the remains of a Human skeleton. They will find a laser pistol with an empty clip near the skeleton.

8.) SLEEP GAS: The characters hear a faint hissing from a crack in the cavern wall. This crack is releasing a gas into a 10 meter section of the corridor that causes characters to fall asleep for 10d10 minutes. Players may avoid the effects of the

gas by holding their breaths, using gas masks, or making a current Stamina check.

9.) MAINTENANCE EQUIPMENT: The characters find a push broom, a bucket, and a mop.

10.) DEAD LOPER: The characters find a dead loper. The loper has obviously been dead only a few days.

EPSILON SUBSECTION 4: PLANNED ENCOUNTERS

Start.) CAVE-IN!

> After spending 50 hours travelling through the caverns with the Ul-Mor, you are awakened by loud crashes and loper screams. As you get up, you feel the cavern floor vibrating and see whole sections of the ceiling crashing down. You do not see any sign of the Ul-Mor, who had camped a considerable distance ahead of you. Three of the five exits from the room are now blocked.

The characters may run (checking for falls) to any of the three corridors not blocked by the cave-in. They cannot take any Ul-Mor or lopers with them, since all of the Ul-Mor are on the other side of the cave-in, and any lopers near them have been killed.

If the party attempts to dig out either passageway, let them dig for a few turns and then tell them they realize it would take many days to complete the task. The party can retrieve their own equipment from the rubble, as well as enough food and water to last three days.

1.) RASTIE LAIR (MV Medium; IM 7; RS 65; STA 75; ATT 75; DM 2d10; SA See below)

Read the following description to the characters as they approach area 1. If they do not turn toward area 1, but proceed straight through area 1 A, this encounter will not occur.

> You hear chittering in the gloom ahead, such as a small mammal might make.

The sounds are coming from the lair of 100 rasties.

If the party continues into area 1 after hearing these sounds, the rasties nearest the party will squeal an alert to the rest of the pack. The entire pack will then attack. If the party retreats toward 1 A after hearing these sounds, only 20 rasties will attack.

SA: Lock jaws and rend automatically for 1d10 per turn.

2.) FLITTER LAIR (MV Medium; IM 7; RS 70; STA 10; ATT 40; DM 2; SA Disease)

> The passageway gradually widens into a room. Your lights are not powerful enough to see across the room. A few high pitched squeaks echo toward you from the room. You can also hear a faint fluttering.

There are 95 flitters asleep in this room. The sounds are being made by five restless flitters as they move about the cavern ceiling. These five flitters will ignore the party unless the characters light a fire, shine a light on any of the flitters, make a loud noise, or touch any of the flitters.

If the party does any of these things, the five waking flitters will fly about the cavern squealing and screaming to wake the rest of the flitters. All flitters will then attack the party. No character will be attacked by more than five flitters in any single turn. Players bitten by flitters must make a Stamina check or contract the deadly disease flitters carry (see Alien Creatures Update File).

3.) CORRIDORS OF CONFUSION

> You see several more of the mushroom-like fungi you see throughout the caverns in this area. These fungi, however, appear a little larger than most. The air in this area is difficult to breath because of the amount of dust in it.

The "dust" in the air is a concentration of spores from the giant fungi. Any character breathing without special precautions (gas mask, handkerchief over mouth and nose, etc.) will inhale many thousand spores. These spores cause hallucinations one hour after the characters enter the area. The referee should make up an appropriate hallucination, such as being attacked by a giant Ul-Mor, seeing a wall of water rushing down the corridor, finding a spaceship to take the party home, etc.

When they start to hallucinate, each character should make a Logic check. If this check is successful, that character will realize he is having a hallucination. If the check is unsuccessful, the character will not realize he is having a hallucination. That character must then act as though the hallucination were completely real. You should temporarily take control of any character who is not acting as though the hallucination is real.

After two hours, the hallucinations will cease, but any character who breathed the spores will still be disoriented and confused for six hours. They will not be able to concentrate or remember where they came from, and their RS scores will be temporarily reduced by 5 points. After this six-hour period is finished, the characters will be immune to any further effects of the spores.

4.) DROPPER CAVERN (MV Very slow; IM 2; RS 18; STA 20; ATT 80; DM 2d10; SA See below; SD See below)

> You have reached another large underground room. The ceiling here is only 3 meters high. You cannot see the other side of the room.

Each character stands a 30% chance of walking directly beneath a dropper. Once a character is attacked, 19 more droppers will arrive in 1d10 turns.

SA: Attract 2d10 droppers in 1d10 turns. SD: Immune to projectile weapons, tangler and doze grenades; ranged weapons attack at -10.

5.) BURROWER SNAKE LAIR (MV Slow; IM 8; RS 80; STA 15; DM 1d5; SA Poison S5/T10)

> There is a faint glow near the ceiling of this huge room. The glow appears to be about 250 meters away.

Upon closer inspection, the characters will see a deposit of phosphorescent minerals at the base of a 3 meter chimney extending upward farther than the characters can see. This chimney dead-ends in a burrower snake lair about 35 meters up.

If any character climbs the chimney, the burrower snakes will attack immediately to protect the 23 eggs in their nest. If the characters do not climb the chimney, nothing will happen.

6.) VOLTURNIAN CAVE BEAR (MV Medium, IM 5; RS 45; STA 200; ATT 60; DM 4d10; SA See below)

> You are entering a large cavern room lit by dim phosphorescent minerals when you see a 7 meter tall creature 60 meters from you. It looks like a hairless, white bear. It has shown no sign of noticing your party.

If the characters do not immediately back out of the room, the bear will attack until killed. If they back out of the room and wait for three hours, the bear will fall asleep. The party can then sneak by without harm. The bear will instantly awaken

and pursue the party 1d10 squares down the corridor if anyone passes within 30 meters of it.

SA: Hug for 2d10 per turn on roll of 10 or less.

7.) SHOVELMOUTH STAMPEDE (MV Medium; IM 3; RS 25; STA 60; ATT 45; DM 1d10; SA Stampede)

> The corridor gradually widens into another large room. This room is dimly illuminated by phosphorescent mineral deposits. It is more than half a kilometer long and 250 meters wide. You hear the sound of many running feet, and a number of grunts, hisses, and squeals.

Twenty shovelmouths are stampeding from encounter area 8 into area 7 A. If the party stays in the room, each character has a 30% chance of being hit by a shovelmouth and falling to the ground. Any character who has fallen will be hit by at least one shovelmouth and has a 50% chance of being hit by two. Every time a character is hit by a shovelmouth, he takes 2d10 damage.

If the characters attempt to avoid the stampede, use your discretion to determine if they do so successfully. Players climbing the cavern walls, for example, will be safe from the stampede.

8.) EXPLOSIVE GAS FISSURE

> As you round a bend in the corridor, you hear an explosion and see a sudden burst of light 300 meters ahead. Ten seconds later, another explosion follows. As you watch, several more explosions occur at random intervals. The bursts of light illuminate a circular room 500 meters or more in diameter.

As the characters try to cross the room, there is 45% chance some of the explosive gas escaping through the many fissures in the room will ignite near the party. (Roll for each group of characters separately if they split up.) Any character caught in one of these explosions suffers 2d10 damage.

If any character strikes a match, fires a laser, or introduces any type of open flame into the room, there is a 90% chance all explosive gas in the room will ignite, causing 10d10 damage to those within the room. (Make Dexterity checks to see if the characters flung themselves to the ground in time to avoid part of the damage. If this check is successful, they take only 1/2 damage.)

9.) SALT DEPOSITS

> The walls and floor are becoming rough and loose as you walk down the corridor. A white, granular substance covers increasing portions of the cavern, until, when you enter a large room, it completely hides the floor and walls. Here, the cavern floor appears only in spots.

The white substance is common salt. The bare patches of cavern floor are actually flat rocks that have fallen onto the salt bed from the ceiling. These rocks are large enough for two people to stand upon, and it is readily apparent that the characters could cross the room by jumping from rock to rock.

If the party tries to cross the room, roll percentile dice as each character nears the middle. There is a 25% chance that each rock a character stands upon will sink into the salt bed. If one rock sinks, there is a 15% chance that any adjacent rock also sinks. Players will sink at a rate of 1/2 meter every turn. Players who sink completely before being rescued will suffocate in 20 turns.

10.) WATER!

> You are entering another room in this seemingly endless cavern. The air here is much cooler than other parts of the cavern.

There is a spring of fresh water hidden behind a thin wall in this room. If they enter the room quietly, the characters will hear the sound of bubbling water. They can then locate the spring by going to the place where it seems the loudest and digging, blasting, or hacking through the soft wall.

They will then find plenty of fresh water for drinking, washing, and restocking canteens.

11.) THE LAKE OF FIRE

> This passage is becoming increasingly hot as you advance. You round a narrow bend and see a large room ahead. A fiery, red glow illuminates this room, and you feel an intense heat coming from it. As you move on, your passage opens onto a narrow ledge overlooking a vast lake of molten rock.
>
> Large pillars of crystal rise out of the lake to the height of your ledge, which is nearly 30 meters above the fiery surface. Near the middle of the lake, two or more of these crystals are fused at the top, forming narrow bridges. Many stalactites hang to within 3 meters of the crystal tops. Some of these stalactites are huge and well-anchored; others appear thinner and shakily attached. As you watch, one of the thin stalactites falls from the ceiling into the lake below. While you study the scene, you notice that jets of flaming gasses and molten rock stream out of the lake, splashing against the crystal pillars and even the ceiling of the cavern.
>
> There doesn't appear to be any safe way across the lake, for your ledge runs only part way around the lake. On the other side, you can see a similar ledge, with a passage leading away from the lake. The distance between the two ledges appears to be about 200 meters.

Lay the map of the Lake of Fire on a flat surface where all may see it. Place the characters' counters directly on the map so that you may see the characters' locations as they attempt to cross the Lake of Fire.

The characters will probably try to use one or more of the following methods to move from pillar to pillar:

1. Jump from one pillar to the next where the distance is not too great (see map).
2. Rope the stalactites and swing from pillar to pillar.
3. Make bridges out of the trunks of the giant mushrooms growing throughout the caverns.

Players who jump must make successful Strength checks (at +25) or fall several inches short of the next pillar. Players who fail these checks should make a Reaction Speed check to see if they grabbed the edge of the pillar as they fell. Any character who fails both of these checks falls into the Lake of Fire and dies instantly.

Players attempting to swing from pillar to pillar must make Dexterity checks to see if they land on the pillar safely. Any character who fails the check misses the pillar; the character must hang from the rope until rescued by another character. (If the rope was not long enough to reach the pillar, the character should make a Reaction Speed check to see if he managed to grab the edge of a pillar as he fell. Any character who fails both checks falls into the Lake of Fire.)

Players will never have any trouble roping a stalactite, since they can keep trying until they are successful. In addition, at least one stalactite will always be within roping distance. There is a 5% chance, however, that a stalactite may break loose from the ceiling before the character completes the swing. If this occurs, the character should make a Reaction Speed check to see if he had completed enough of the swing to fly through the air to the pillar and grab its edge before falling

into the Lake of Fire. Any character failing this check falls into the Lake of Fire.

If the characters use the trunks of the giant fungi as bridges to cross the pillars, they should make a Dexterity check to see if they fall off the trunk while crossing it. Any character failing the Dexterity check should make a Reaction Speed check to see if he grabbed the trunk before falling into the Lake of Fire. Any character who fails both checks falls into the Lake of Fire.

No matter how the characters cross the Lake of Fire, each character stands a large chance of being hit by a lava splash as it streams out of the lake. As the characters cross each dashed line on the map, roll percentile dice. On a roll of 10% or less, that character takes 1d10 damage from a small burst of molten rock.

As the characters cross the lake, the referee should emphasize that the heat is nearly unbearable, and that the smoke and ash in the air make breathing nearly impossible. After completing the crossing, roll 1d5 points of damage for each character that did not take any precautions to protect himself from the heat.

12.) THE MAGMA MONSTERS (MV Very slow; IM 3; RS 30; STA 150; DM 3d10; SA See below; SD See below)

You walk only 500 meters before the corridor widens into a room. The smooth rock floor of this room is littered with hundreds of small balls of hardened lava. Some of these lava-balls are lying quietly on the floor, but others are bouncing around like balls on a pool table. Occasionally, a lava-ball rolls into or out of a small hole in the wall.

The small balls of lava are baby magma monsters. They are harmless to the characters, even if they bump into them by accident.

A very old magma monster guards the babies. This adult appears to be a large black boulder lying against the wall 20 meters away. The adult magma monster will remain motionless unless a character touches one of the small lava-balls, at which time it will attack.

Despite its slow movement, the magma monster is a deadly opponent. It spews a stream of hot lava up to 50 meters in any direction, doing 3d10 damage. This attack, however, is not subject to ranged weapon modifiers because it is the creature's natural attack form.

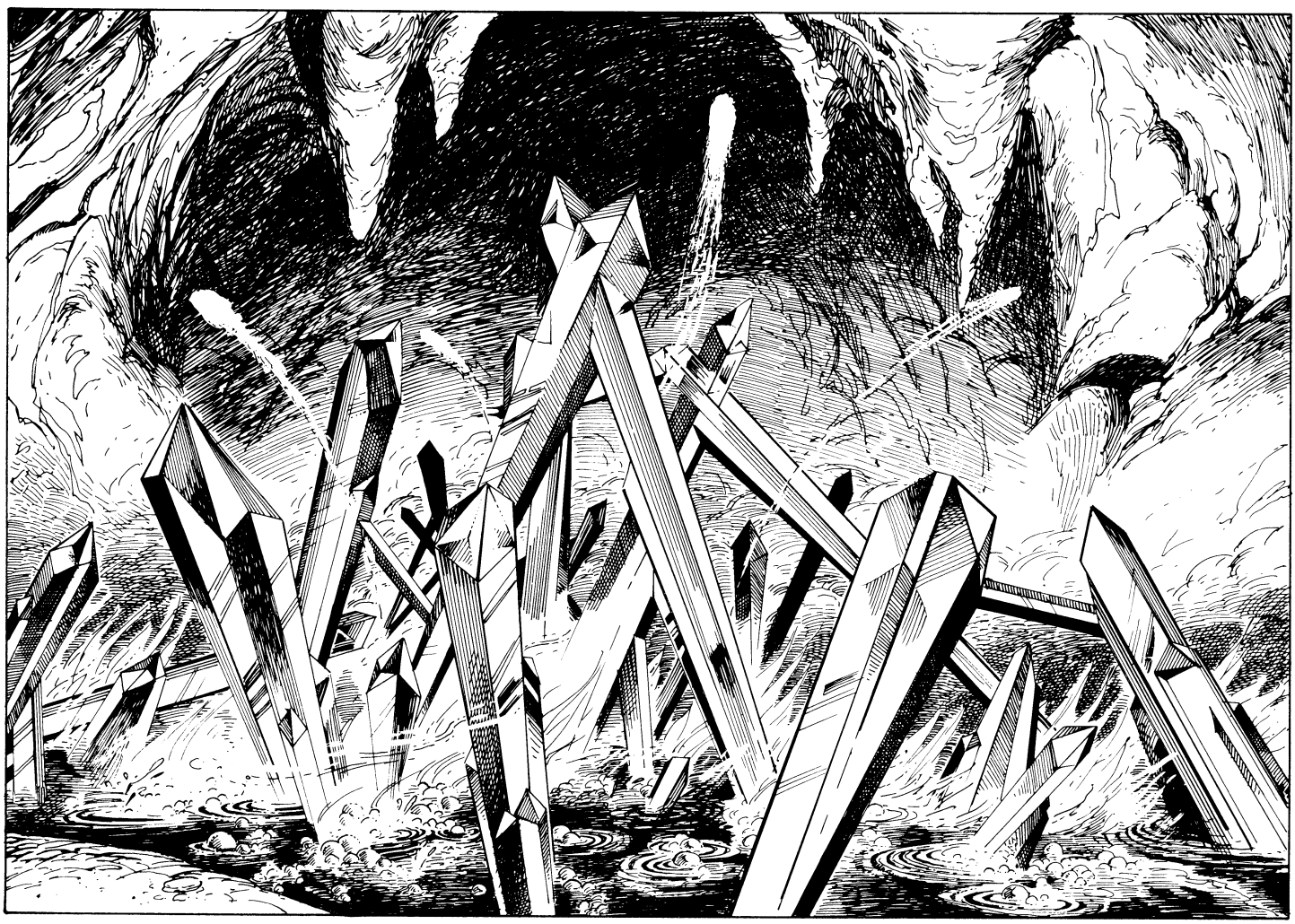
The magma monster will cease attacking if the characters leave the chamber, but will immediately attack if they re-enter.

SA: Attack up to 50 meters with no range modifiers. SD: Immune to needler, projectile, and stun weapons; immune to tangler and doze grenades; 1/2 damage from lasers and fragmentation grenades.

13.) THE UNDERGROUND SHORE

After wandering through more of the endless passages, you hear the sound of gently lapping water ahead. Soon, you round a corner in the passage and see an underground sea.

This sea, more than 1.5 kilometers wide and 6.5 kilometers long, is nearly a kilometer deep in places; even along the shore the depth is more than 10 meters. The



ceiling above the sea is 50 meters high. The entire area is illuminated by large deposits of phosphorescent minerals.

The shoreline is simply a rocky ledge covered with giant mushroom-like fungi. From any area along this ledge, the characters will see the island (encounter area 14 A). They will also see the opposite shore (encounter area 15) in the far distance.

13 A: This shoreline is exactly like the one described above.

13 B: As the characters enter this area, they will see an Ul-Mor sitting at the water's edge. He is totally absorbed in his own thoughts, and will take no notice of the party's approach. If spoken to, he will slowly turn around, revealing that much of his face and two of his tentacles are covered with a pasty white growth. He will introduce himself as Throm the Banished (RW 45; M 45; PS 2; IM 5; RS 50; STA 40).

Throm will give the following account of himself:

"I was once a powerful Ul-Mor, who stole many things from our enemies and divided these things many ways. My fellows envied me, and, indeed, I believed they had reason to do so. I had been chosen as the tribe's next leader, and this made me feel as though no risk were too great for me to take. But, alas, the One will not tolerate such foolishness.

"I was riding herd on a large flock of kwidges when a burrower snake startled them, and they stampeded. Many of the kwidges ran under my loper; alas, I was not quick enough to control the noble beast. Left solely to his own direction, my loper panicked and ran into the tribe's egg cache, destroying several of our young. The elders immediately banished me, forever denying me the rights of an Ul-Mor.

"Since that time I have wandered these caverns, where I have learned the secret of joining the One without the cold sleep! Perhaps the One has sent you to me, so that I may redeem myself by showing you his secret."

Throm is slightly deranged, and believes the mutating fungus on the island is the key to eternal life. He will make every effort to convince the characters to go to the island, and will not speak of anything else. He does not desire to leave, and could not remember the way out of the caverns if he did. He does remember that his loper wandered off and joined the One some time ago.

Throm will attempt to convince the party to journey to the island, but he will not use force to do so. If questioned about how to get to the island, he will say that he swims, but this is very dangerous because there is something evil in the lake. If the characters attack Throm for some reason, he will defend himself with his spear.

14.) ACROSS THE UNDERGROUND SEA

The characters may cross the underground sea by constructing a raft of fungi trunks or swimming. The characters will need oars or similar devices to steer the raft, or the current will draw them toward the island at the rate of 1 square per minute.

Halfway across the lake, the party will be attacked by a jawfish (MV Fast; IM 5; RS 50; STA 100; ATT 80; DM 3d10; SD Soft cover in water). They will see a fin 90 meters away. One turn later, the jawfish will attack. It will continue to attack once every third turn, circling the raft for two turns between attacks. The jawfish will circle 60 meters away for purposes of ranged weapons. Consider the jawfish to have soft cover, unless it is attacking a character.

The jawfish will normally attack the raft. Roll percentile dice each time the jawfish attacks; on a roll of 30% or less, the jawfish lifts itself out of the water and attacks a randomly determined character. The first time the jawfish attacks, it will destroy the raft. Once the raft is destroyed, it will be useless, but there is still a 70% chance the jawfish will attack it rather than the characters.

The jawfish will make four attacks after destroying the raft. It will then lose interest and swim away.

14 A.) THE ISLE OF MUTATING FUNGUS

When you reach the island, you see several stands of mushroom-like fungi on its shores. A pasty, white growth covers the ground on the entire surface of the island.

As the characters explore the island, they will notice the fungi resemble some animals they have seen. Many clumps resemble rasties, shovelmouths, and other bizarre creatures. If the characters observe any of these strange formations carefully, they will notice the shapes are moving very slowly. This movement is nearly unnoticeable.

These odd-shaped clumps were once animals. The bizarre fungus which covers the island attaches itself to other living creatures and gradually replaces their cells with its own.

The only living thing the mutating fungus has not devoured is an isolated stand of giant mushroom fungi. (This stand of fungi has not been mutated because it is less than eight hours old. The lifespan of giant fungi is only 36 hours; it grows to its full size in one 12 hour period, fertilizes in the second 12 hour period, and dies by the end of the third 12 hour period.)

Any character who stays on the island for eight hours or more, or who sleeps on the island for any period of time, will find a white, pasty growth covering parts of his body. This growth is identical to the white growth on Throm's face and tentacles. Any character remaining on the island for more than three days turns completely into fungus.

If the characters notice the fungus on their body within three hours, a medic must correctly diagnose the disease and treat it with antibody plus. This will destroy the fungus already diseasing the body, but the characters will not be immune to further attacks. Any body part not treated within three hours of a fungus attack must be amputated, or the entire body will turn into fungus.

Throm is convinced being turned into fungus is a form of eternal life. No amount of pleading will persuade him to leave the island; in fact, he will try to persuade the party members to stay on the island and rest.

15.) THE FAR SHORE

This area is identical to area 13 A.

16.) THE PLACE OF HEALING

If any characters enter this area, read the following description to them:

You have just awakened. Apparently, you fell asleep after entering this area. You have no memory of anything after stepping into this area. Those of you who were wounded notice you have healed a great deal. You notice two large, indistinct footprints leading out of the room.

In fact, each character has healed 4d10 points. The characters met an Eorna in this area, who used his medical knowledge to heal the characters. The Eorna did not wish the characters to know of the presence of his race, so he hypnotized them and erased any memory of the encounter. (It is very important that no hint of the Eorna be given to the characters.)

If some characters remained outside the room, they will be affected as though inside the room.

17.) THE DERANGED ROBOT

> You hear many crashes in the room ahead, as if several objects of various sizes are being tossed about a small room.

A deranged maintenance robot brought into the caverns by the pirate in area 18 is cleaning the cavern room. The robot lost its broom and mop some time ago and has become deranged. It throws the rocks, boulders, and gravel from one section of the floor to another and attempts to sweep the dirt with its metallic hands. It will continue sweeping until the rock floor is bare and smooth, then move to another section and repeat the process.

Though the robot will not attack the characters, it is still dangerous. There is a 20% chance a rock will hit a random party member, causing 1d10 points damage. Players more than 15 meters away from the robot cannot be hit by the rocks.

The robot is a level 1 maintenance robot that will ignore the characters unless they attack it or attempt to change its programming. It will attack any character attempting to do either of these things with its hands (1d10 damage).

It requires one turn to open the safety release catch on the robot's instrument panel.

18.) THE MAD PIRATE (RW 30; M 30; PS 3; IM 6; RS 55; STA 55)

> From the gloomy passage ahead, you hear a Human voice singing,
>
> "Oh, we hijacked the ship and we took us guns,
> Li-dee-di-dee, li-dee-di-dee day-o.
> Came to Volturnus and drank some rum,
> Li-dee-di-dee, li-dee-di-dee day-o.
>
> "Now I'm lost in the caverns, no place to run,
> Li-dee-di-dee, li-dee-di-dee day-o.
> Anything moves, I shoots it with me gun,
> Li-dee-di-dee, li-dee-di-dee day-o."

Read the following description to the characters as they investigate:

> You see a lone Human figure about 30 meters ahead, squatting next to a small fire in the center of the room. He appears to be roasting a skinned rastie, though you can't be certain since he is turned sideways to you and his body hides part of the fire. A red splotch on his left arm barely shows through his tattered shirt. A laser rifle attached to a power pack lies on the cavern floor next to him. The floor is littered with rastie bones, a large pile of moss, and a pile of rastie furs the man uses as a bed.

The pirate, Phalen the Black, will attack the characters on sight, using setting 4 on his laser rifle. When he drains the fresh pack attached to his rifle, he will fight with his bare hands. (The pack was his last supply of power.)

If captured alive, Phalen will reveal only his name. Like the maintenance robot he brought into the cavern, Phalen is now slightly deranged, and anything else he says will be gibberish. From time to time he will whisper that he is greatly afraid of turning into a fungus.

Careful inspection of Phalen's arm will show that the red blotch is a tattoo of a red devil surrounded by white stars. Phalen will escape as soon as he can.

19.) EXITING THE CAVERNS

> As you stumble along the passageway, you see a beam of light far ahead. The air is warm and fresh, almost overwhelming after the days of breathing the dank cavern air.

This is the exit from the caverns. As the characters stumble out into the daylight, they will find they are once again in the desert. A large party of Ul-Mor are camped not more than 250 meters away, and, as the characters come out of the cavern, Athru will ride up to them on his loper. After greeting them, Athru will explain that after the cave-in, the Ul-Mor continued through the safe caverns and camped here, hoping the characters could find a way through the Forbidden Caverns. He is very glad to see them, and, after they have rested, he will take the characters to the Place of True Warriors.

ZETA SECTION: THE RITUAL OF THE QUICKDEATH

Any creature, male or female, wishing to become an Ul-Mor tribe-member must pass the ceremonial test all Ul-Mor males take upon entering adulthood: the Ritual of the Quickdeath. Those who survive become Ul-Mor tribe-members.

This section outlines the encounter between the party and a quickdeath. Study the description of the quickdeath in the "Alien Creatures Update File" carefully before playing this encounter.

ZETA SUBSECTION 1: SPECIAL RULES

THE MAP

Use the small desert map in the boxed STAR FRONTIERS game set for this encounter. For the purposes of ranged weapon combat or movement, 1 square equals 5 meters. The following table gives movement rates in squares per six-second turn for easy reference:

ZETA 1.1: MOVEMENT ON THE DESERT MAP

Race	Walking	Running
Human	1	3
Dralasite	1/2	2
Vrusk	2	4
Yazirian	1	3
Quickdeath	12	24

TIME

Most of this encounter will be played using six-second game turns, since much of it consists of combat with the quickdeath. Feel free, however, to alter the time reference period when the characters are not involved in combat. (It will not be necessary to roll for random encounters in this section, so a fixed time reference period is unnecessary.)

CHARACTER EQUIPMENT

The party may use any equipment they have with them. In addition, the Ul-Mor have prepared a straw dummy for each character. The quickdeath retracts its eyes as it attacks, and is nearly blind when it strikes its prey. The creature will often strike a dummy rather than a person, provided the dummy is directly beside the person when the quickdeath attacks. Though the Ul-Mor will not object to the characters' use of their own equipment during the ritual (for they feel the One has given the characters these strange devices to compensate for their lack of limbs), they will give each character a spear.

SET-UP

When the characters reach the Place of True Warriors, they may place their counters anywhere they desire on the map. Give each character an extra counter to represent his dummy. Place the quickdeath counter at the edge of the map, as far as possible from the party members.

ZETA SUBSECTION 2: PLAYERS' DESCRIPTION

After meeting you outside the caverns, the Ul-Mor have taken you three day's journey south to the Place of True Warriors. (At this point, let the characters map the area they travelled through.) The Place of True Warriors appears to be an unremarkable section of desert.

Athru comes to you on the morning of the fourth day and says, "It is now time for the Ritual of Manhood. Those who survive will become Ul-Mor. Those who do not will become a different form of the One. Take spears." (Athru offers each character a spear.) "It is time."

Athru leads you to the ritual area. The other Ul-Mor have withdrawn to a safe distance. Athru gives each of you a straw dummy, shaped roughly like yourself. Athru says, "May you fare well against the quickdeath." He mounts his loper and withdraws to join the other Ul-Mor.

Any attempts by the characters to learn more about the ritual will fail.

ZETA SUBSECTION 3: PLANNED ENCOUNTERS

1.) Battle at the Place of True Warriors

Suddenly, you see a tiger-sized creature covered with some sort of reflective armor running toward you. It has a long neck and hideous head. You can see that its gaping jaw is filled with sharp teeth, and that it has four eyes mounted on stalks above its head. Three small tentacles ending in suction cups dangle from each of its sides. This hideous beast is running toward you at an unbelievable speed, and is apparently going to attack.

The quickdeath (MV Very fast; IM 8; RS 75; STA 180; ATT 70; DM 6d10; SA See below; SD See below) will attempt to kill all characters as quickly as possible. As it rushes into combat, it will fire its tail-dart at a character it does not intend to melee immediately. It will then attack the closest character. If more than one character is within melee distance, it will use its special attack and attempt to grab one character, pulling him into its digestive maw. It will continue to attack until it has killed all characters, or until they have killed it.

Any character next to the quickdeath stands a 50% chance of avoiding the quickdeath's attack for one turn. On a percentile roll of 50% or less, the quickdeath will attack the character's dummy, totally destroying it.

SA: Poisonous tail dart (S10/T3; 1d10 damage; RW 60, 10/20/30/40/50); grappling attack with tentacles and maw, 10 points damage per turn.

SD: Immune to needler weapons; 1/2 damage from thrown spears, projectile and laser weapons (spear thrust does normal damage), ranged weapon attacks made at -25 because of speed.

2.) The Last Encounter?

Use the entry 2 A if you plan to continue the adventure on Volturnus using the sequels to SF 0: CRASH ON VOLTURNUS. These sequels, SF 1: VOLTURNUS, PLANET OF MYSTERY, and SF 2: STARSPAWN OF VOLTURNUS, will be available at your local hobby store. If you do not plan to continue the adventure on Volturnus with TSR modules, use entry 2 B.

2 A.) Ending 1:

As you stare at the body of the hideous beast, you hear the approach of a loper. Looking up, you see Athru riding toward you. When he reaches you, he dismounts and says, "You have done well. We are now One, for you are Ul-Mor."

Athru now reveals he has seen creatures similar to the characters living with the Kurabanda, a race of foolish creatures that dwell in trees. Athru will agree to provide an Ul-Mor escort to the edge of the Kurabanda's home.

SF 1: VOLTURNUS, PLANET OF MYSTERY, begins with this journey.

2 B.) Ending 2:

Read the boxed section in ending 2 A above. Athru will then reveal that there are others of the characters' kind living in the main Ul-Mor tribe. He will then take the characters to the other "strange" tribe-members, who happen to be Lieutenant Colonel Louis V. Jameson and Grod the Dralasite, two members of the original exploration team.

Jameson and Grod will explain that a group of space pirates hijacked their starliner as they approached Volturnus. The other members of their expedition were killed, but Jameson and Grod escaped. The Ul-Mor found them, starved and nearly dead from the lack of water, and invited them to take the Ritual of the Quickdeath. They have lived with the Ul-Mor since that time.

Jameson has almost pieced together a radio. He needs a part found in any poly-vox to complete the radio. If the characters give Jameson a poly-vox, he will take the part he needs, contact Truane's Star and receive word that a rescue ship will be launched immediately. The Ul-Mor will treat Jameson, Grod and the characters as tribe-members until the rescue ship arrives.

ZETA SUBSECTION 4: EXPERIENCE POINTS

This is the end of this encounter section and the module. Award each player character 1-3 experience points.

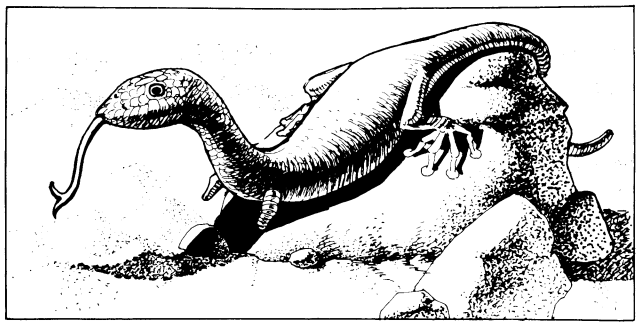


ALIEN CREATURES UPDATE FILE

(Bend staples out and remove the 12 center pages, then bend staples back down.)

The Alien Creatures Update File lists and describes the new creatures encountered in this module. Most plants are not listed because they usually play a minor role in the encounters.

Burrower Snake



TYPE:	Medium Carnivore
NUMBER:	1
MOVE:	Slow
IM/RS:	8/80
STAMINA:	15
ATTACK:	**75**
DAMAGE:	1d5 bite
SPECIAL ATTACK:	Poison S5/T10
SPECIAL DEFENSE:	None
NATIVE WORLD:	Volturnus - desert

DESCRIPTION: The burrower snake resembles a 1.5 meter long cross between a snake and a salamander. It has powerful rear legs suited for burrowing into loose sand and rock, but its forelimbs have long since atrophied because of disuse. The burrower snake uses its rear legs to push itself along as it slithers across the desert sands.

After digging a lair in the loose desert sand, the burrower snake waits patiently until an unsuspecting creature wanders within striking range (5 meters). As soon as it senses the presence of its prey, the burrower snake springs forth, hoping to kill any creature it hits with its venomous bite (a shot of antitox will counteract the venom).

Dropper

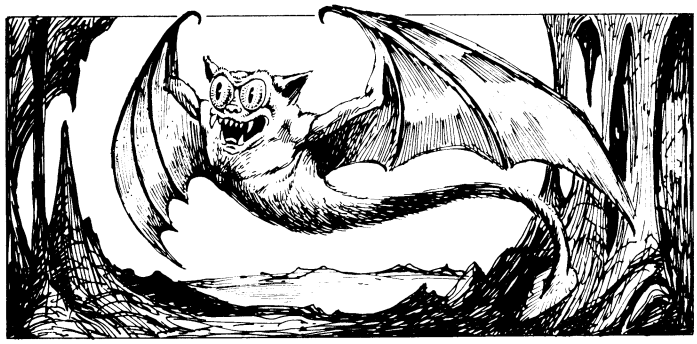


TYPE:	Small Carnivore
NUMBER:	1
MOVE:	Very Slow
IM/RS:	2/18
STAMINA:	20
ATTACK:	**80**
DAMAGE:	2d10 digestion
SPECIAL ATTACK:	Attract 2d10 droppers in 1d10 turns
SPECIAL DEFENSE:	Immune to projectile weapons, and doze grenades; ranged weapons attack at -10
NATIVE WORLD:	Volturnus - caverns

DESCRIPTION: The dropper resembles a giant amoeba. It is a flat, irregular blob up to 1 meter in diameter. The dropper inhabits cavern ceilings all over Volturnus, always ready to drop on any unsuspecting prey walking beneath it. When the dropper senses another creature approaching, it drops a tentacle-like pseudo-pod covered with a sticky digestive acid. If this pseudo-pod strikes the prey, the dropper falls onto the creature in the same turn and attempts to envelop it (treat as a grapple). The dropper then begins to digest the creature, releasing digestive acids that cause 2d10 damage every turn the victim fails to break the dropper's hold. The smell of this digestive acid will attract 2d10 more droppers to the area in 1d10 turns.

Because of its amoeba-like body, projectile weapons will not affect the dropper. It is also immune to the effects of tangler grenades, for it simply oozes out of the tangler strings. Since the dropper never sleeps (even if artifically stimulated), doze grenades will not affect it, either. In addition, any person using a ranged weapon attacks at -10 due to the dropper's ability to blend with its natural rock surroundings (droppers cannot even be seen from distances greater than 5 meters). Very bright light will cancel the effects of the dropper's camouflage.

Flitter

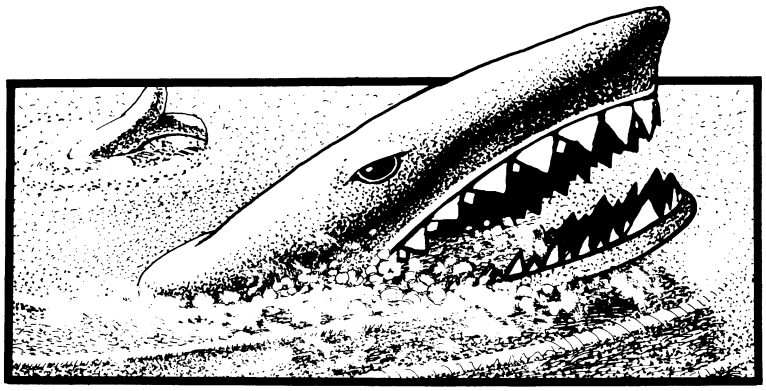


TYPE:	Small Carnivore
NUMBER:	10-100
MOVE:	Medium
IM/RS:	7/70
STAMINA:	10
ATTACK:	**40**
DAMAGE:	2 bite
SPECIAL ATTACK:	Disease
SPECIAL DEFENSE:	None
NATIVE WORLD:	Volturnus - caverns

DESCRIPTION: Flitters are small winged mammals that enjoy dark places. They live in the caverns below the Burning Lands, eating insects, small mammals, and carrion. Flitters are generally passive, but loud noises, light, and smoke will cause them to attack.

Each flitter has a 50% chance of carrying a disease that will be transmitted to a bite victim. Eight hours after being bitten, the infected player will begin to suffer from a fever. This will soon be followed by the chills. The fever will continue for three days, during which time the player will be incapable of any action. If the victim is not treated with antibody plus during this time, he will die on the beginning of the fourth day. Even if the victim receives a dose of antibody plus, he must wait 24 hours before he feels healthy enough to do anything but rest.

Jawfish



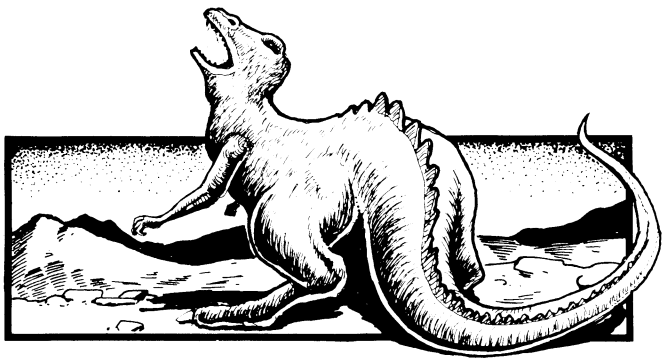
TYPE:	Large Carnivore
NUMBER:	1-2
MOVE:	Fast
IM/RS:	5/50
STAMINA:	100
ATTACK:	**80**
DAMAGE:	3d10 bite
SPECIAL ATTACK:	None
SPECIAL DEFENSE:	Soft cover while in water
NATIVE WORLD:	Volturnus - fresh water

DESCRIPTION: The jawfish is a large predatory fish similar to a shark. Its jaws, more than a meter wide, are filled with thousands of razor-sharp teeth.

The jawfish will attack anything in the water smaller than 10 meters long. If the players are aboard any type of craft, the jawfish is 70% likely to attack it rather than the players. Any time the jawfish attacks a craft, it will overturn the craft, tossing the players into the water. Note, however, the jawfish will still attack the craft 70% of the time as long as the craft remains afloat. If the jawfish attacks a player, it will attack one of them at random.

The jawfish will attack only once every three turns, circling its intended victim for two turns between attacks. After making five attacks, the jawfish will loose interest and swim away.

Loper

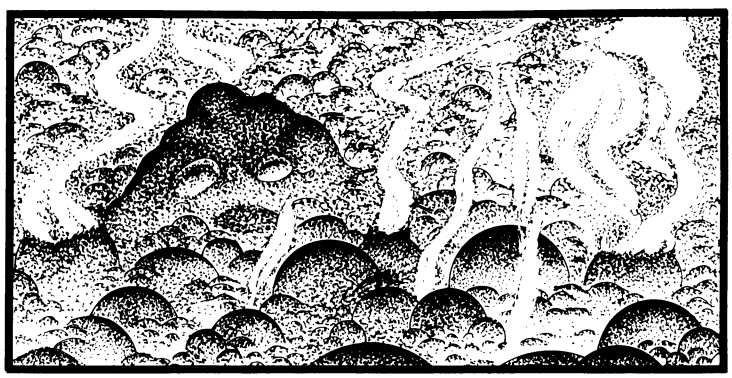


TYPE:	Large Herbivore
NUMBER:	2-20
MOVE:	Fast
IM/RS:	5/41
STAMINA:	300
ATTACK:	**40**
DAMAGE:	2d10 bite and claw
SPECIAL ATTACK:	None
SPECIAL DEFENSE:	Needler weapons do not penetrate hide
NATIVE WORLD:	Volturnus - desert

DESCRIPTION: Lopers are two-legged reptiles the size of horses, inhabiting the deserts of Volturnus. They are usually found in the presence of the Ul-Mor, who use them as cavalry mounts, though it is not uncommon to find them in the wild. They are named for the rapid gait they use to cross the desert sands.

Though normally timid and shy, lopers will attack with their small foreclaws and powerful jaws if provoked. Normally, mounted beasts may not attack in melee, but when mounted by Ul-Mor, lopers are capable of attacking at the rider's direction.

Magma Monster



TYPE:	Special
NUMBER:	1 Adult, 100+ young
MOVE:	Very Slow
IM/RS:	3/30
STAMINA:	150
ATTACK:	**30**
DAMAGE:	3d10 burn
SPECIAL ATTACK:	Attack up to 50 meters away with no range modifiers
SPECIAL DEFENSE:	Immune to needler, projectile, stun weapons, tangler and doze grenades; takes ½ damage from lasers and fragmentation grenades
NATIVE WORLD:	Volturnus - caverns

DESCRIPTION: A magma monster is usually indistinguishable from the pools of lava it inhabits. For most of its life, it remains immersed in the lava, feeding off the tremendous heat. When it has stored enough energy to stimulate reproduction, the magma monster enters its "female" cycle. During this cycle, it assumes a semi-solid shape and allows itself to be shot from the pool of boiling lava onto a shelf or shore of solid rock, where it cools over several decades and forms a hard crust.

When this happens, the magma monster is finally ready to reproduce. It opens a small hole in its outer crust and lays nearly 100 little round blobs of magma. Within 10 days of being laid, these blobs of magma form a hard outer crust, taking on the shape and size of billiard balls. After a century of further cooling (sometimes lying dormant, sometimes rolling around the cavern and hitting their siblings), the adult and the young return to the lava pool and begin this 1,000 year cycle again.

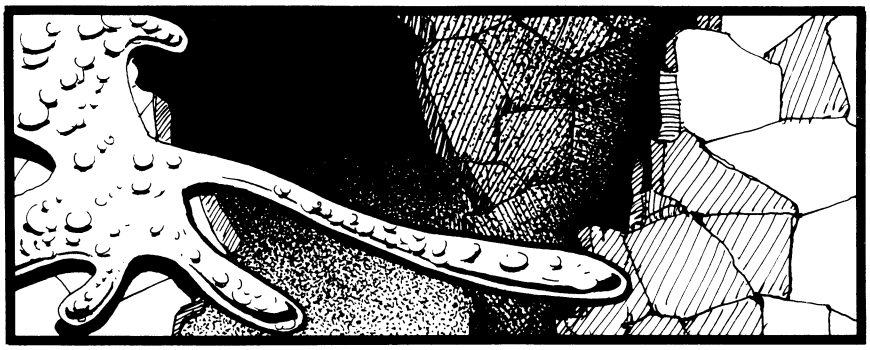
If a stranger is fortunate enough to wander into a cavern filled with magma monsters, the adult magma monster will take no action

Continued on page 19.

unless the stranger approaches the young. The magma monster will attack if any stranger touches its young (not if the young touch a stranger). It will open a small aperture and spew a stream of lava at its victim. This spurt may travel as far as 50 meters, and is shot with such force no modifiers for range are necessary.

Due to the magma monster's hard outer shell, it is not affected by tangler grenades, needler, or projectile weapons. Doze grenades and stun weapons of any sort will not affect it either, since the magma monster's life force is based on thermal energy and these weapons are designed to achieve their effects through bio-chemical manipulation. Magma monsters take only ½ damage from lasers and fragmentation grenades.

Mutating Fungus

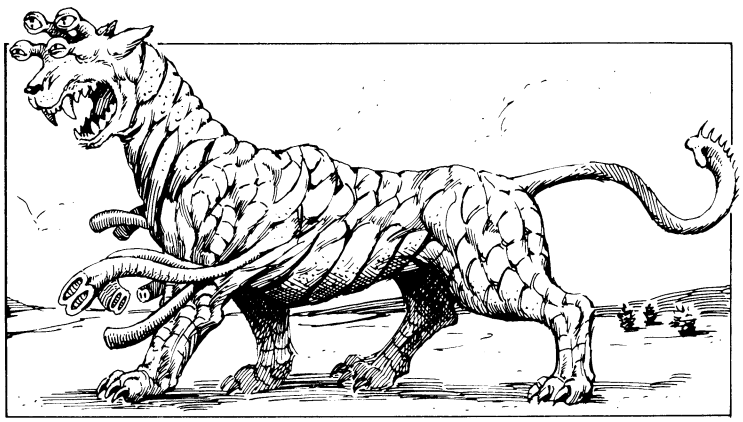


TYPE:	Special
NUMBER:	1
MOVE:	Slow
IM/RS:	Special
STAMINA:	Special
ATTACK:	Special
DAMAGE:	Special
SPECIAL ATTACK:	Replaces body cells
SPECIAL DEFENSE:	None
NATIVE WORLD:	Volturnus - caverns

DESCRIPTION: It is uncertain whether the mutating fungus is an animal, a plant, or a cancer, for it has aspects of all three. In outward appearance, it resembles a white, pasty fungus, yet it is capable of self-locomotion, creeping across small areas of land to attack its prey. Its attack form, however, resembles that of a cancer; replacing the normal, healthy cells of any creature with its own mushy cells.

Any character who is exposed to the mutating fungus for eight hours or more, or who sleeps near it for any amount of time, will find a white, pasty growth covering parts of his body. If the character notices the presence of the fungus within three hours of its attack, he may treat the infected part of his body with antibody plus and counteract the effects of the fungus (though he will not be protected from further attacks). If the character is not treated within three hours, the infected body part must be amputated, or the character will be completely consumed by the fungus within three days. Any character exposed to a mutating fungus for three days without treatment will be transformed into a mutating fungus permanently.

Quickdeath



TYPE:	Large Carnivore
NUMBER:	1-2
MOVE:	Very Fast
IM/RS:	8/75
STAMINA:	180
ATTACK:	**70**
DAMAGE:	6d10 bite, claws
SPECIAL ATTACK:	Poison dart S10/T3, (RW 60, 10/20/30/40/50) attacks extra creature with maw (10 points damage)
SPECIAL DEFENSE:	Immune to needler weapons; ½ damage from laser or projectile weapons. 70% chance will remain unseen until within 120 meters
NATIVE WORLD:	Sathar Attack Monster - all terrains except mountains

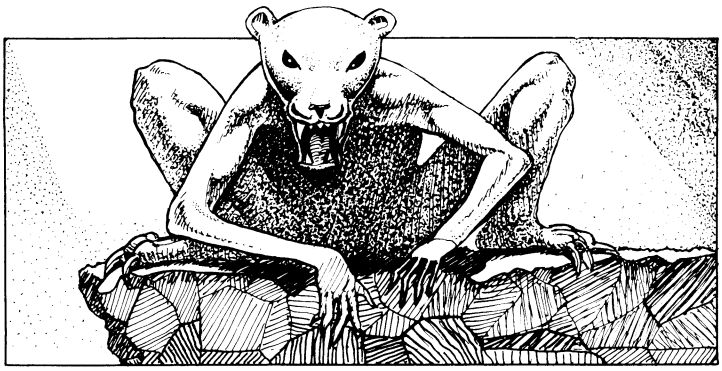
DESCRIPTION: The quickdeath is the ultimate land carnivore. This creature can propel itself at 100 kilometers per hour with its great legs, which resemble those of a jaguar. Quickdeaths keep the claws on these legs razor sharp, using them to attack prey as well as for climbing. Three sets of smaller, tentacle-like limbs ending in suction cups are attached to the quickdeath's sides. It uses these limbs to catch unwary prey and stuff the unfortunate creatures into its digestive maw. Any creature in the maw takes 10 points of damage until it frees itself (as if breaking free from a hold).

The quickdeath has a long, flexible neck that ends in a snout and large mouth. Its four eyes are mounted on retractable stalks atop the head, while its brain is located at the base of its neck. (The quickdeath is nearly blind when it strikes it prey because it retracts these eyes.) The creature has a long, whip-like tail that can fling a poisonous dart once every four hours. The outer hide of the creature is covered by a moist, reflective armor which provides such good camouflage that the creature is nearly invisible until it approaches within 120 meters. Quickdeaths are constantly on the move, seeking to appease their hearty appetites. They are found in all areas of Volturnus except the mountains, frequently travelling in mated pairs.

The female lays hundreds of eggs each year, burying them in deep in the sand or soil. These caches sometimes contain as many as 50 eggs. The first of the young to hatch eats the remaining eggs for his or her first meal, and immediately begins its lifelong search for more food.

Quickdeaths are not native to Volturnus. The Sathar used an advanced form of DNA manipulation to create these hideous beasts from a common type of housecat found throughout the universe. On the "Day of Death," they released thousands of quickdeaths on the surface of Volturnus to terrorize its inhabitants.

Rasties



TYPE:	Medium Carnivore
NUMBER:	2-20; up to 100
MOVE:	Medium
IM/RS:	7/65
STAMINA:	75
ATTACK:	**75**
DAMAGE:	2d10 bite
SPECIAL ATTACK:	Lock jaws and rend for 1d10 per turn
SPECIAL DEFENSE:	None
NATIVE WORLD:	Volturnus - caverns

DESCRIPTION: Rasties are vicious mammals of medium size that prey upon hapless shovelmouths and other gentle prey living in the caverns of Volturnus. They average 1 meter in length, and look like a cross between a rat and a small monkey. They have four legs, but can sit upright and use their forelimbs to grasp meat or small prey. Rasties are usually hungry, and will attack anything that looks edible to them.

Rasties are usually found in packs of 20 or more. Once they smell blood, the entire pack will fight until dead. They use their sharp, ripping teeth to bite their prey initially, but once they have locked their teeth into a piece of flesh, they clamp their jaws shut and do an additional 1d10 of damage every turn (automatically) until the creature frees itself or kills the attacking rastie.

Shovelmouth



TYPE:	Medium Herbivore
NUMBER:	2-20
MOVE:	Medium
IM/RS:	3/25
STAMINA:	60
ATTACK:	**45**
DAMAGE:	1d10 bite
SPECIAL ATTACK:	Stampede for 2d10 per shovelmouth
SPECIAL DEFENSE:	None
NATIVE WORLD:	Volturnus - caverns

DESCRIPTION: The shovelmouth is a four-legged reptile with a long, flat snout resembling a shovel. It uses this snout to scrape moss and fungi off the walls and floors of the caverns it inhabits. Shovelmouths breed in great numbers, but their population is kept in check by rasties, which prefer them as food.

Shovelmouths are normally quite harmless, but if a herd panics, they will stampede. If a character is unfortunate enough to be caught in a stampede, he will take 2d10 damage from every shovelmouth that trampels him. You must use your discretion to determine the number of shovelmouths that may trample a character. In narrow, confined areas, the panicked shovelmouths will have a difficult time avoiding characters, while in a more open area, they will attempt to run around an object as large as a man.

A shovelmouth stampede may be diverted or stopped by a 1 meter high barricade, as long as the barricade blocks the entire corridor. A blockade that is too low or has a breach in it will not stop the stampede. The shovelmouths will destroy the barricade as they rush past or over it.

Despite their tendency to stampede at awkward times, shovelmouths are generally quite docile, and even affectionate. When a character meets a herd of shovelmouths, one of the reptiles will follow the character for several miles. If confronted, the creature will gaze at the character with its soulful, reptilian eyes and wag its scaly tail. It will not leave until force is used to chase it away.

Volturnian Cave Bear



TYPE:	Large Omnivore
NUMBER:	1-2
MOVE:	Medium
IM/RS:	5/45
STAMINA:	200
ATTACK:	**60**
DAMAGE:	4d10 claw
SPECIAL ATTACK:	Hug for 2d10 per turn on roll of 10 or less
SPECIAL DEFENSE:	None
NATIVE WORLD:	Volturnus - caverns

DESCRIPTION: The Volturnian cave bear is a large (7 meters), hairless creature inhabiting the caverns of Volturnus. It attempts to eat any organic substance it finds, including the player characters.

The Volturnian cave bear normally attacks by slashing the victim with its massive foreclaws, attempting to sweep the unfortunate creature into a hug. If the bear's normal attack succeeds on a roll of 10 or less, it has caught the character in its hug. The cave bear does 2d10 points damage each turn until the victim dies or breaks the hold (at -20, due to the bear's great strength).

Other creatures, such as the timid roller or the loud-mouthed scraak, may be found on Volturnus, but are not in this module.

PLAYER CHARACTER BACKGROUND REPORT

The Zebulon star system was first investigated 20 years ago by an unmanned exploration probe launched by Truane's Star. This probe indicated that Volturnus was the only inhabitable planet in the Zebulon system. It also indicated that great mineral wealth might exist on the planet in the form of molybdenum, tungsten, gold, and other heavy metals. Truane's Star soon made a legal claim to the ownership of Volturnus, and completed exploration of a star route to the Zebulon system one year ago.

The first manned expedition to Volturnus from Truane's Star was launched nine months ago. The four member team of specialists was instructed to set up an outpost, gather data on the possible colonization and mining of Volturnus, and report back.

After passing into the star system, the starship carrying the specialists was never heard from again. The four members of this lost exploration expedition were:

Commander Louis V. Jameson, Truane's Star Military Exploration Force

RACE: Human HEIGHT: 1.9 meters WEIGHT: 88 kg. AGE: 43

SKILLS: 4th level computer

BACKGROUND: 22 years service Truane's Star military forces; combat veteran, Truane's Star Medal of Valor; commander two previous exploration missions

STR/STA	55/60
DEX/RS	45/35
INT/LOG	55/60
PER/LDR	55/70

Geeko-sur-Mang, professor of geology, Capital University

RACE: Yazirian HEIGHT: 2.1 meters WEIGHT: 50 kg. AGE: 52

SKILLS: 4th level computer

BACKGROUND: Recognized authority in geophysics, specialist in planetary crust formation

STR/STA	40/50
DEX/RS	50/50
INT/LOG	50/40
PER/LDR	55/55

Itklikdil, cartographer, Vrusk Atlas Manufacturing Corporation

RACE: Vrusk (female) HEIGHT: 1.5 meters WEIGHT: 85 kg. AGE: 32

SKILLS: 6th level environmental

BACKGROUND: Ph.D., Capital University; experienced explorer and cartographer; loaned to exploration mission by employer in exchange for rights to produce maps of Volturnus.

STR/STA	40/40
DEX/RS	50/60
INT/LOG	40/50
PER/LDR	30/40

Grod, technician, Truane's Star Civil Service

RACE: Dralasite HEIGHT: 1.3 meters WEIGHT: 65 kg. AGE: 85

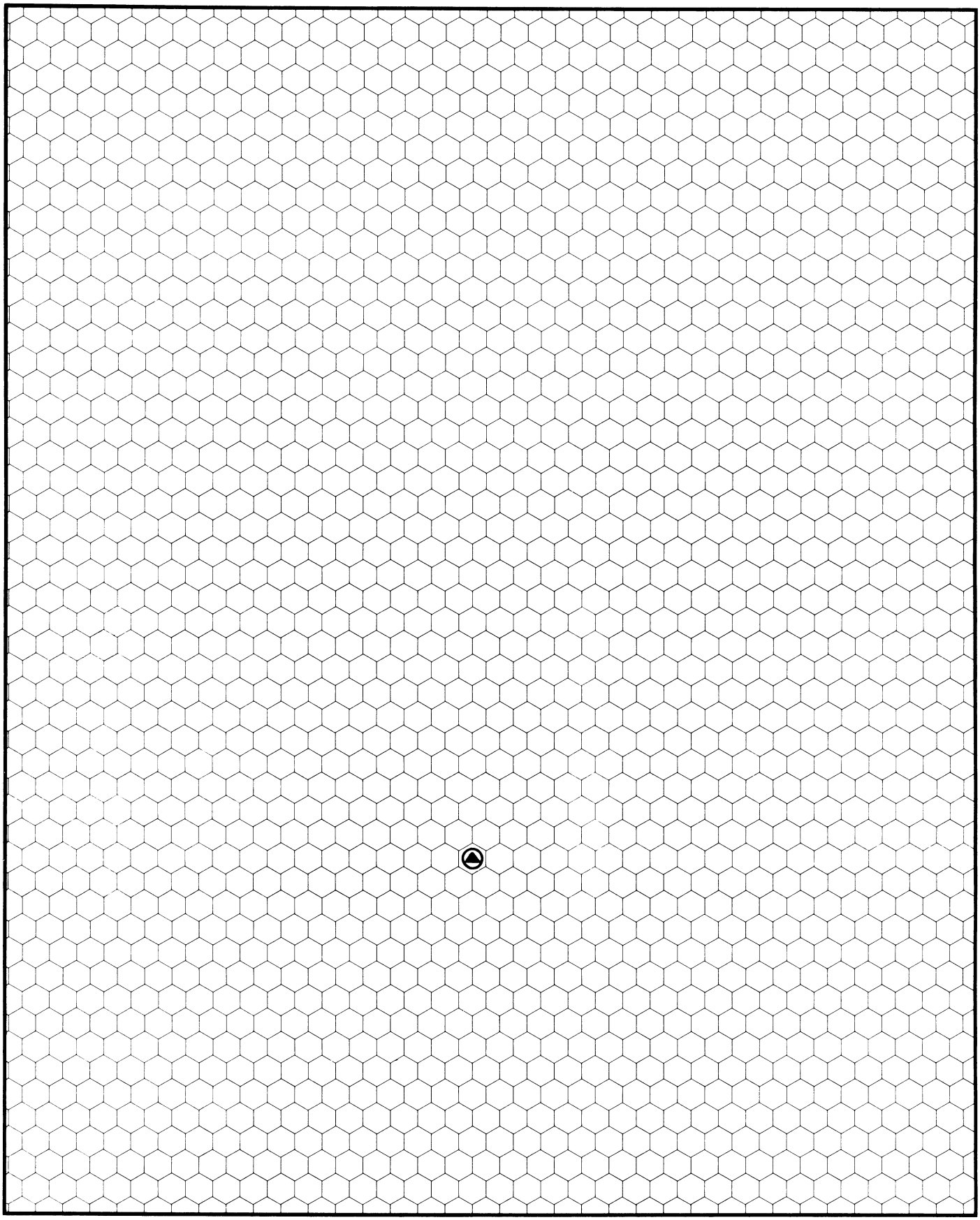
SKILLS: 5th level all skills, Technological Primary Skill Area

BACKGROUND: Developer, hydro-magnetic stabilization system in Dralasite air cars; author, "The Metaphysical Foundations of Dralasite Morality"

STR/STA	60/50
DEX/RS	45/45
INT/LOG	60/70
PER/LDR	40/40

Truane's Star has found itself short of personnel and funds due to colonial troubles and associated police action on Cygnus Omicron IX recently. They have hired you, a team of unknown adventurers, to mount a relief expedition to Volturnus. Your mission is to explore Volturnus, gathering as much information as possible about mineral deposits, life on the planet, and other items of interest to future colonists. You are also to find and rescue the members of the original exploratory mission if possible.

The government has provided you with a minimal amount of equipment, and transportation to Volturnus aboard the starliner Serena Dawn. After dropping you on Volturnus, the Serena Dawn will return in three months to transport you (and, with luck, the original exploration team) back to Truane's Star.



STAR FRONTIERS™ SYSTEM BRIEF

SYSTEM NAME: Zebulon **STAR COLOR:** Yellow

HABITABLE PLANETS: Volturnus

MOONS: 1.) Leo: Completes one orbit every three days, reddish-orange in color
2.) Lulu: Completes one orbit every 27 hours, bluish-silver in color

CLIMATE RANGE: Hot, arid to humid
ATMOSPHERE: 78% nitrogen, 21% oxygen, 1% argon
GRAVITY: 1.0013
DIAMETER: 12,895 kilometers
LENGTH OF DAYS: 24 hours, 03 minutes
AVERAGE SURFACE TEMPERATURE: 25 degrees C

COLONIZERS:

Unsettled; presently claimed by the government of the Truane's Star, explorers of the Zebulon star route.

NATIVE POPULATION:

1.) The Ul-Mor, desert-dwelling novepi (nine-limbed creatures). Number and range unknown.
2.) The Kurabanda, forest-dwelling bipeds similar to tarsier monkeys.(Encountered in a later module.)
3.) The Edestekai, hill-dwelling tripeds, trilaterally symmetrical. (Encountered in a later module.)
4.) The Mechanons, a mysterious race of intelligent machines. (Encountered in a later module.)
5.) The Eorna, a race of dinosaur-like bipeds. The original intelligence on Volturnus. (Encountered in a later module.)

PLANET HISTORY

Named after the Greek god of the southwest wind, Volturnus is a hot, dry world with many types of hostile terrain. The endless deserts, rugged mountains, volcanic wastes, and dangerous salt flats are constantly scoured by a strong southwesterly wind. Despite these harsh conditions, rare patches of forest and even a few lakes have managed to maintain a perilous existence.

The government of Truane's Star opened a star route to the Zebulon system recently, sending an expedition to the planet nine months ago. Unfortunately, all communication with the starship ceased shortly after it passed into the system. No clues as to the whereabouts of either the crew or the ship have been found.

Because of the cost and time involved in preparing an expedition, nine months have passed since the original mission disappeared. Nonetheless, the player characters have been assigned to locate the remnants of the first expedition, if any can be found. In addition, they are also charged with exploring and mapping the planet.

Only the future can tell what they will find, but the story of Volturnus is a strange one. Once the home of a gentle race of intelligent dinosaurs, it is now a barren, harsh world. The history of its downfall is outlined below for your reference.

The story of the fall of Volturnus begins when the Eorna, a race of intelligent dinosaurs, developed star travel. As soon as the Eorna launched their first colonization starships, they were attacked by a Sathar space armada. Like most Sathar attacks, this one came with no warning; the Eorna were not even aware of the presence of the Sathar until the mysterious worms invaded their system.

The Sathar space armada quickly overwhelmed the Eorna, wreaking destruction across the planet. Within a matter of days, the worms had nearly driven the gentle Eorna to extinction. Still, the Eorna fought valiantly, and were able to resist complete annihilation because the Sathar had overextended their supply lines.

The Sathar retreated, hoping they had destroyed enough of the Eorna civilization to prevent the gentle creatures from ever attempting interstellar travel again. In case they had failed, however, the Sathar left a mysterious artifact behind to alert them of any interstellar travel in the Zebulon system that might occur in the future.

Less than 150 Eorna survived the Day of Death. They soon realized they were doomed as a race, for they knew that their numbers were not large enough to provide a viable gene pool. The survivors chose to dedicate what remained of their lives to the evolution of other intelligent races on Volturnus. The Eorna hoped to prepare these races to meet and defeat the Sathar.

The Eorna are using a subtle process of hypnotic indoctrination and DNA manipulation to accelerate the development of three races toward intelligence. Most of the Eorna survivors have undergone cryogenic sleep, waiting to be awakened until they are needed to continue the project. Despite the fact that most of their young are born physically or mentally deficient because of the limited gene pool, the Eorna continue to breed, relying upon the few normal children to help continue the project.

The development of the star route by Truane's Star has completely upset Eorna plans. Though three races are intelligent, they have advanced only to a primitive state of technology.

More importantly, the presence of Truane's Star starships has triggered the Sathar's artifact, and, unknown to any, the Sathar are already travelling to Volturnus as the adventure begins. This time, the worms are determined to annilihate all life on Volturnus.

Meanwhile, a race of intelligent machines has evolved in the secret caverns. These machines, the Mechanons, are determined to eliminate or control the organic life forms infesting Volturnus. They will stop at nothing to insure their utter and total domination of the planet.

Yet, as merciless as the Mechanons and as wicked as the Sathar are, neither of these races had anything to do with the disappearance of the first Volturnian expedition. A ruthless band of space-pirates have established an illegal mining operation on the planet, and have enslaved Edestekai farmers and many members of the first expedition to work in their mines.

As the player characters explore Volturnus, they may discover all of this information, or none of it. As the referee, you must decide how much of this background information to release to them.

ALIEN CULTURE BACKGROUND REPORT

THE UL-MOR

PHYSICAL APPEARANCE

Ul-Mor resemble octopi adapted to life on land. Like octopi, Ul-Mor have eight large limbs. Each limb ends in five small tentacles useful for grasping and manipulation. They walk on the four largest limbs, using the other four to hold weapons and tools.

The Ul-Mor also have a ninth limb, a tentacle about 30 centimeters long. This tentacle is an extension of the spinal cord. The end contains a hard cartilage point encasing a series of nerve-endings. The Ul-Mor can insert the tip of this tentacle into the fatty tissue surrounding the spinal cord of other creatures, achieving a nerve link which allows them to communicate directly with the creature's mind. The Ul-Mor use this tentacle so effectively they can achieve a direct mind-link with any being.

They do not have a complex spoken language, since they communicate with each other using mind-link. The Ul-Mor have, however, developed a secret sign language used in situations where mind-link proves impractical.

CULTURE

The Ul-Mor are pastoral nomads inhabiting the deserts and rocky barrens of Volturnus, where they herd kwidges and cactus whompers. While tending their flocks, the Ul-Mor ride a 4 meter tall dinosaur called a loper. They control these animals using mind-link, and, as a consequence, very close ties develop between rider and beast. The Ul-Mor's high regard for lopers is apparent to anyone associating with them.

Much of the Ul-Mor culture is based on their religion. They believe in the "One Who is Many," a deity that encompasses all things. Though there are many different forms of the One, the Ul-Mor believe that all objects, no matter how strange, are part of the One.

As an Ul-Mor matures, he identifies with a particular object (such as a tree, rock, or bush). When he dies, he is buried near this object, and is believed to have been transformed into that object. The object is then named after the dead Ul-Mor. In this manner, the Ul-Mor avoid considering a tribe-member dead. Instead, dead Ul-Mor merely assume a new form of the One.

A special historian, called a Remember, memorizes the names and locations of those who have assumed a new form of the One. Usually, these names include a capsule history of the individual's life.

Ul-Mor life is filled with pageantry and ritual. The most important ritual is the Time of Oneness. When the two moons of Volturnus enter conjunction with its sun, the capacity for mind-link is increased greatly. The Ul-Mor then have a tribal mind-link known as the time of Oneness. During this mind-link, they undergo a mystical experience, seeing everything as a part of the great Oneness.

Another important ritual is the Great Game. At the end of each year, Ul-Mor males ride their lopers in a very rough contest called the Great Game. This contest is similar to a cross between polo, rugby, and fox hunting. The new year is then named after the victor.

The basic social unit of the Ul-Mor is the "clutch," a marriage unit consisting of several Ul-Mor that have found themselves compatible during the "Time of Oneness." The adult males of the clutch care for the herds and prepare themselves for combat, while the females take turns incubating the clutch's eggs and maintaining the camp.

Though most decisions affecting Ul-Mor life are made on the family level, they do have tribal and inter-tribal councils. These councils make decisions affecting the tribe and the nation. If a family does not agree with a council decision, they may leave the tribe and do as they please.

The Ul-Mor legal system is strongly objective, making no allowances for extenuating circumstances. Because the law is designed to protect the tribe, the Ul-Mor feel that extenuating circumstances are unimportant. If an individual violates the law, he has injured the tribe and must be punished.

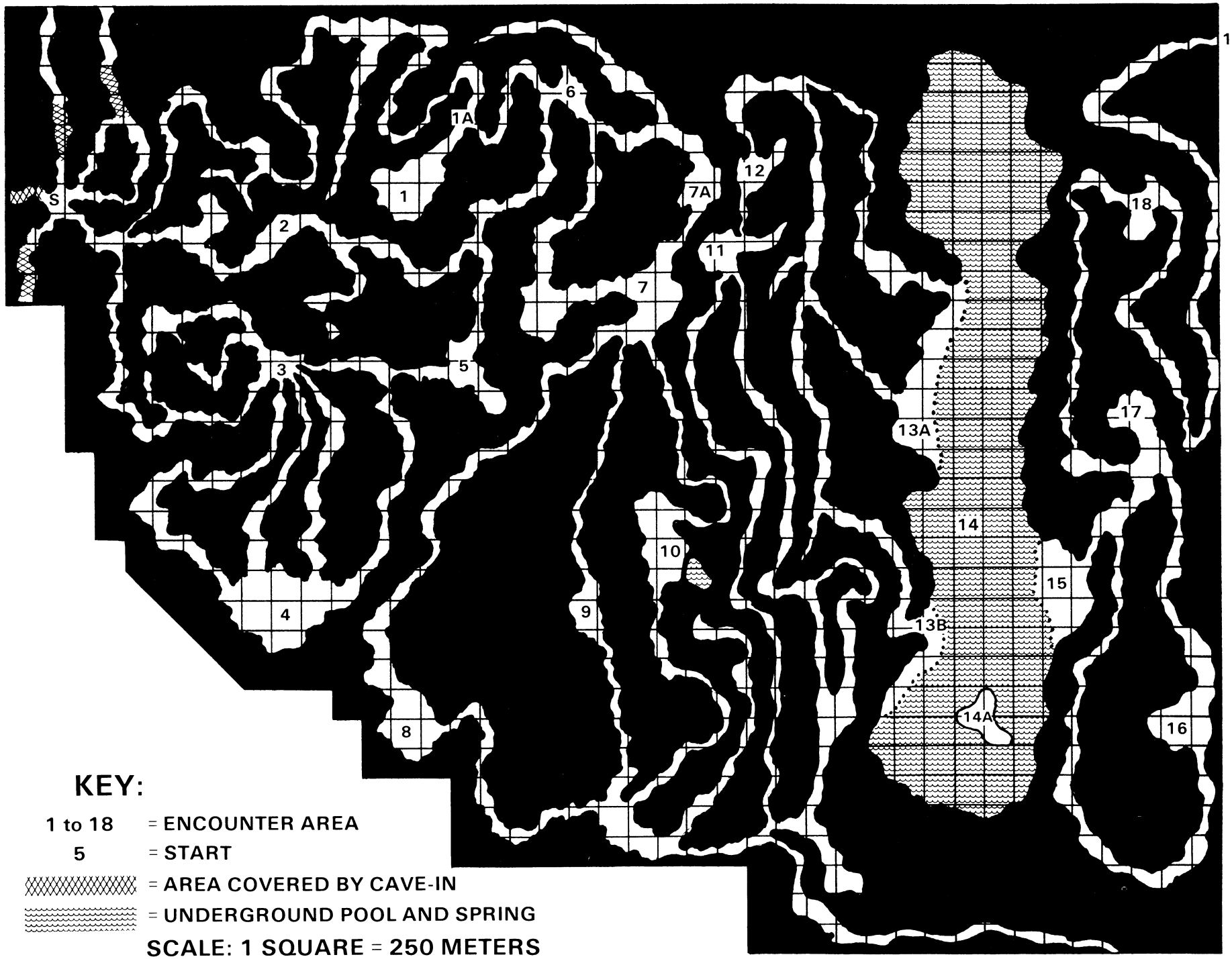
Punishment usually emphasizes compensation for injury inflicted upon the tribe. Some crimes, however, are so serious that the individual can never compensate for his transgression. Such crimes include wasting water, breaking eggs, and desecrating sacred objects. The punishment for these crimes is always banishment. (Most banished Ul-Mor quickly die without the comfort of mind-link.)

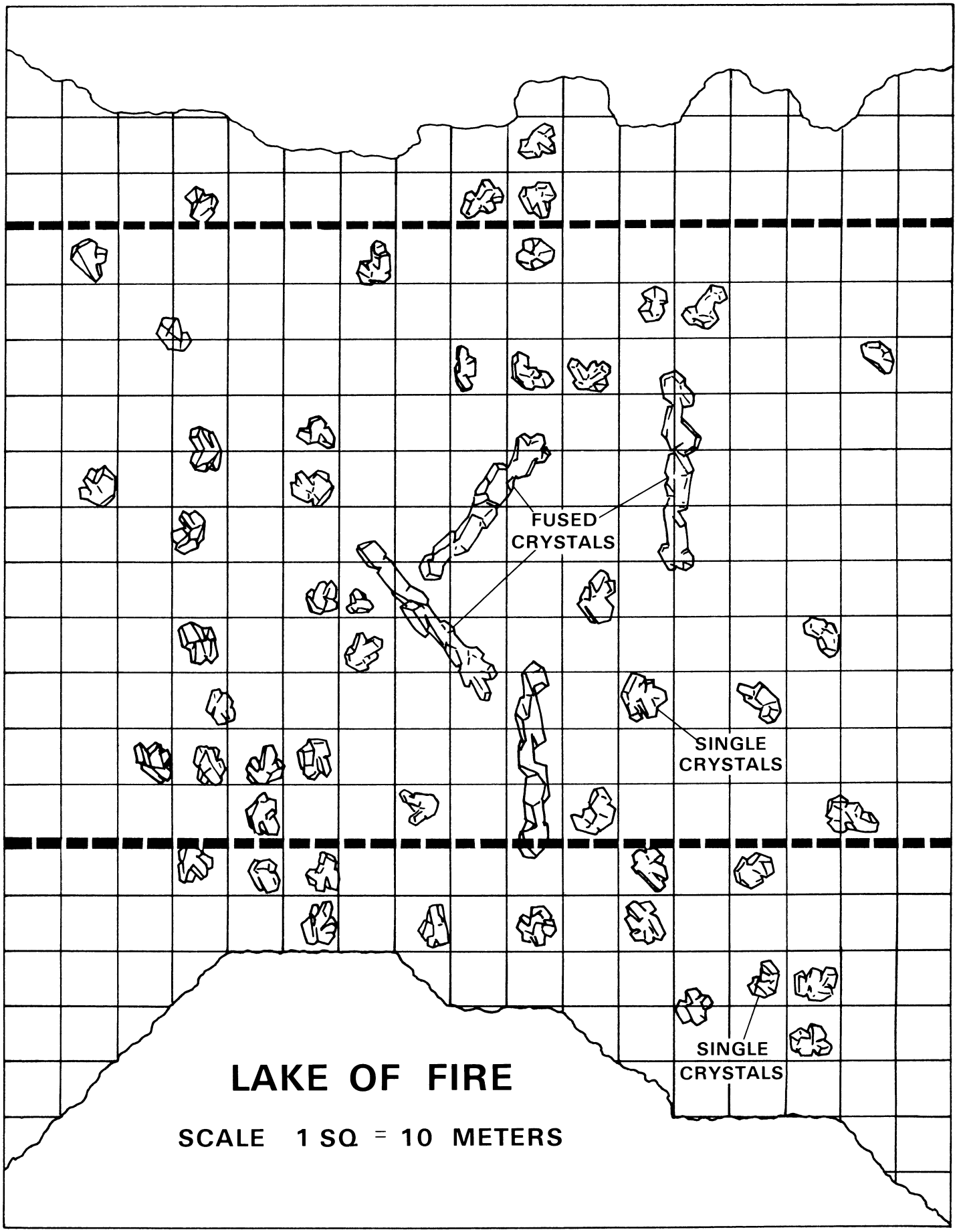
Though the Ul-Mor are basically communal beings, they maintain a facade of individualism. The Ul-Mor often wear brightly colored headdresses with dyed kwidge feathers, have decorative body tattoos, and engage in a form of ritualized theft designed to display their cunning and battle prowess. An individual may attempt to steal anything he wishes from any being who is not a friend of the tribe's. If he succeeds, the thief divides his prize among all members of the tribe. The easier it is to divide the prize, the more impressive the Ul-Mor consider the theft.

UL-MOR REACTIONS TO PLAYERS

Like most explorers meeting a new race, the player characters will find their smallest actions are likely to provoke strong reactions from the Ul-Mor. Any selfish or greedy action will be regarded with distaste by the Ul-Mor. The Ul-Mor will take immediate and forceful action to prevent wastage, but will not punish a character unless he does the same thing several times in a row. Any character who desecrates a sacred object or steals from a member of the tribe, however, will immediately be stripped of his equipment and left to die in the desert. (If an Ul-Mor marriage unit is willing to repair the damage and take responsibility for the character, however, the Ul-Mor will give the transgressor another chance.)

Any character who gives them gifts and cooperates easily will be well-liked, and treated with courtesy. A character who exhibits courage, battle prowess, or a showy display of ostentation will be greatly admired. The Ul-Mor will go to great lengths to impress this character.


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KEY:
1 to 18 = ENCOUNTER AREA
5 = START
= AREA COVERED BY CAVE-IN
= UNDERGROUND POOL AND SPRING
SCALE: 1 SQUARE = 250 METERS


FUSED
CRYSTALS
SINGLE
CRYSTALS
SINGLE
CRYSTALS
LAKE OF FIRE
SCALE 1 SQ = 10 METERS

PRE-ROLLED CHARACTERS

If the players do not wish to roll up their own characters, you may allow them to choose from the selection below.

Abbreviations:

STR = Strength	INT = Intuition	PS = Punching Score
STA = Stamina	LOG = Logic	RW = Ranged Weapon
DEX = Dexterity	PER = Personality	IM = Initiative Modifier
RS = Reaction Speed	LDR = Leadership	M = Melee

Character Name: Character Race: Human

STR/STA 50/50 PS 3
DEX/RS 55/55 IM 6
INT/LOG 50/50 RW 28
PER/LDR 45/35 M 28
Special Abilities: None
Skills: Military PSA, Beam Weapons 1, Gyrojet Weapons 1
Equipment: Gas mask, Magnigoggles

Character Name: Character Race: Human

STR/STA 50/50 PS 3
DEX/RS 45/45 IM 5
INT/LOG 50/60 RW 23
PER/LDR 50/50 M 23
Special Abilities: None
Skills: Technological PSA, Robotics 1, Computers 1
Equipment: Robcomkit, Solvaway

Character Name: Character Race: Human

STR/STA 25/35 PS 2
DEX/RS 65/55 IM 6
INT/LOG 55/55 RW 33
PER/LDR 50/50 M 33
Special Abilities: None
Skills: Biosocial PSA, Medical 1, Environmental 1
Equipment: Medkit

Character Name: Character Race: Yazirian

STR/STA 45/45 PS 3
DEX/RS 65/55 IM 6
INT/LOG 55/55 RW 33
PER/LDR 35/35 M 33
Special Abilities: Gliding, Battle Rage (05%), Night Vision
Skills: Military PSA, Technician 1, Beam Weapons 1
Equipment: Radiophone, Magnigoggles

Character Name: Character Race: Yazirian

STR/STA 25/35 PS 2
DEX/RS 65/55 IM 6
INT/LOG 60/60 RW 33
PER/LDR 45/35 M 33
Special Abilities: Gliding, Battle Rage (05%), Night Vision
Skills: Technological PSA, Robotics 1, Technician 1
Equipment: Gas mask, Techkit

Character Name: Character Race: Yazirian

STR/STA 45/45 PS 3
DEX/RS 45/45 IM 5
INT/LOG 50/50 RW 23
PER/LDR 70/50 M 23
Special Abilities: Gliding, Battle Rage (05%), Night Vision
Skills: Biosocial PSA, Medical 1, Environmental 1
Equipment: Medkit, Chronocom

Character Name: Character Race: Dralasite

STR/STA 65/65 PS 4
DEX/RS 55/45 IM 6
INT/LOG 40/50 RW 28
PER/LDR 55/55 M 28
Special Abilities: Form Change, Perception (05%)
Skills: Technological PSA, Computer 1, Technician 1
Equipment: Techkit, Solvaway

Character Name: Character Race: Dralasite

STR/STA 65/65 PS 4
DEX/RS 45/35 IM 5
INT/LOG 55/55 RW 23
PER/LDR 45/35 M 33
Special Abilities: Form Change, Perception (05%)
Skills: Military PSA, Martial Arts 1, Gyrojet Weapons 1
Equipment: Magnigoggles, Chronocom

Character Name: Character Race: Dralasite

STR/STA 45/45 PS 3
DEX/RS 65/55 IM 6
INT/LOG 45/45 RW 33
PER/LDR 50/50 M 33
Special Abilities: Form Change, Perception (05%)
Skills: Biosocial PSA, Medical 1, Environmental 1
Equipment: Medkit, Chronocom

Character Name: Character Race: Vrusk

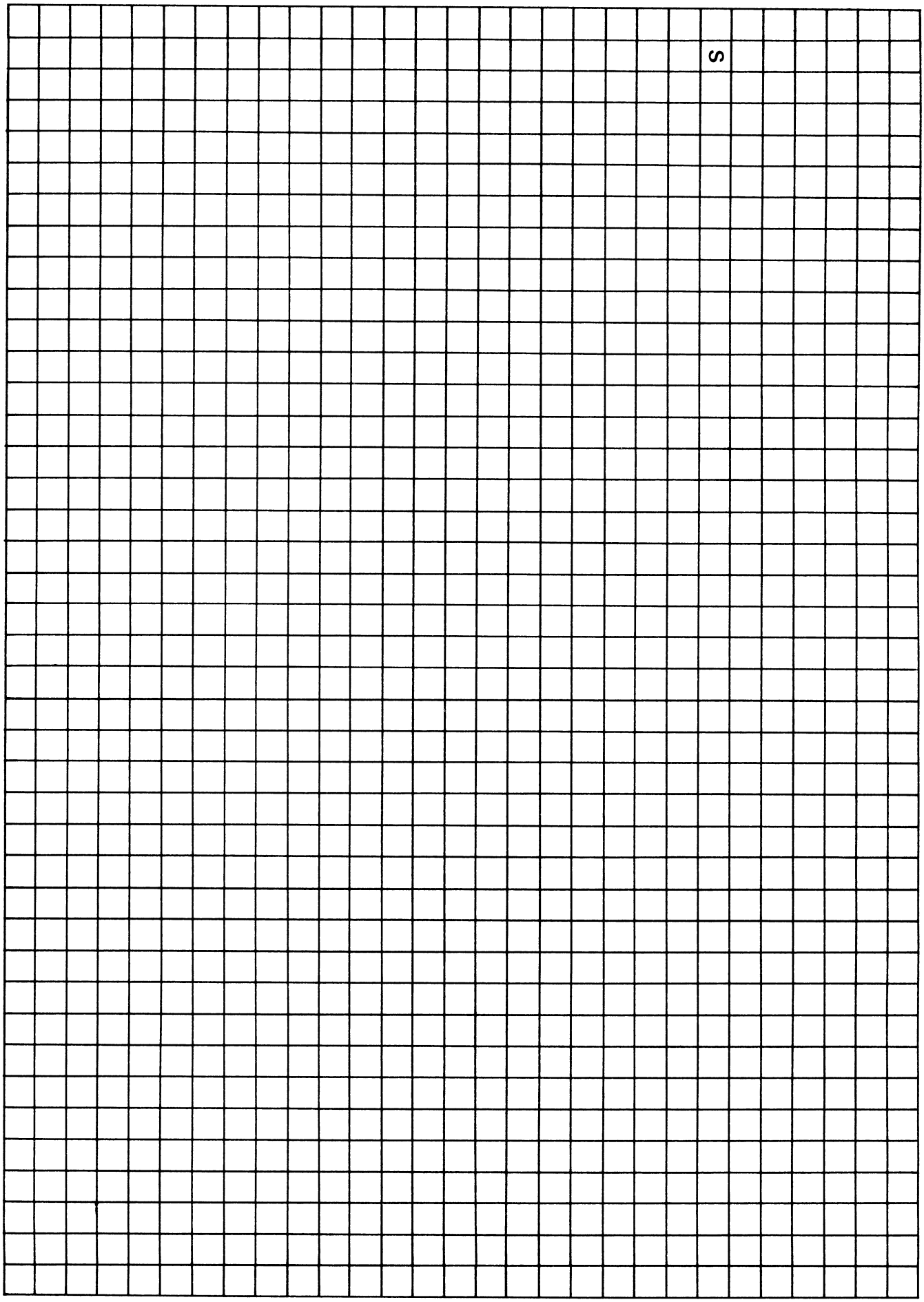
STR/STA 45/45 PS 3
DEX/RS 45/35 IM 5
INT/LOG 45/45 RW 23
PER/LDR 70/60 M 23
Special Abilities: Ambidexterity, Comprehension (20%)
Skills: Biosocial PSA, Medical 1, Environmental 1
Equipment: Medkit, Chronocom

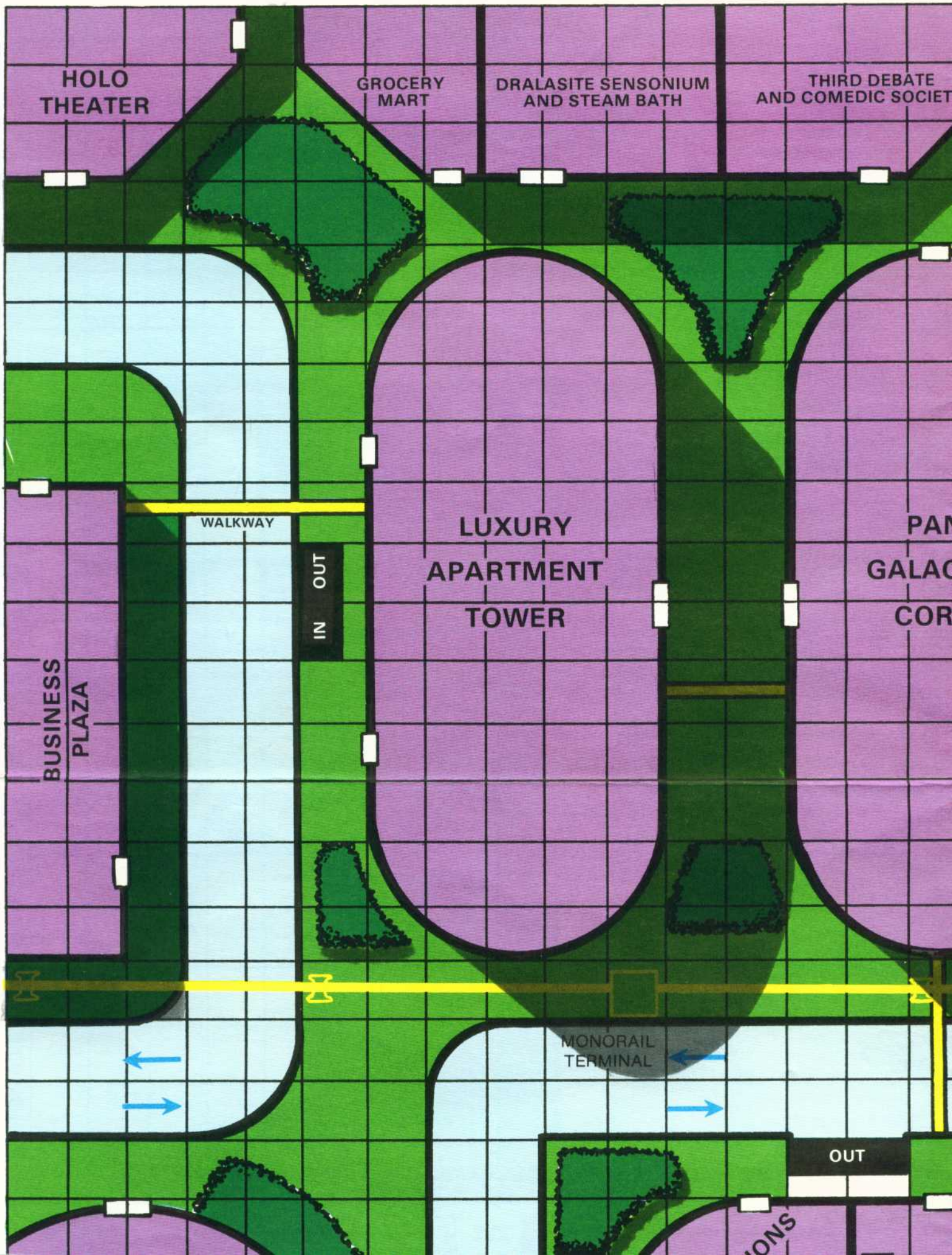
Character Name: Character Race: Vrusk

STR/STA 55/55 PS 3
DEX/RS 45/45 IM 5
INT/LOG 40/50 RW 23
PER/LDR 45/45 M 28
Special Abilities: Ambidexterity, Comprehension (24%)
Skills: Technological PSA, Robotics 1, Technician 1
Equipment: Techkit, Robcomkit

Character Name: Character Race: Vrusk

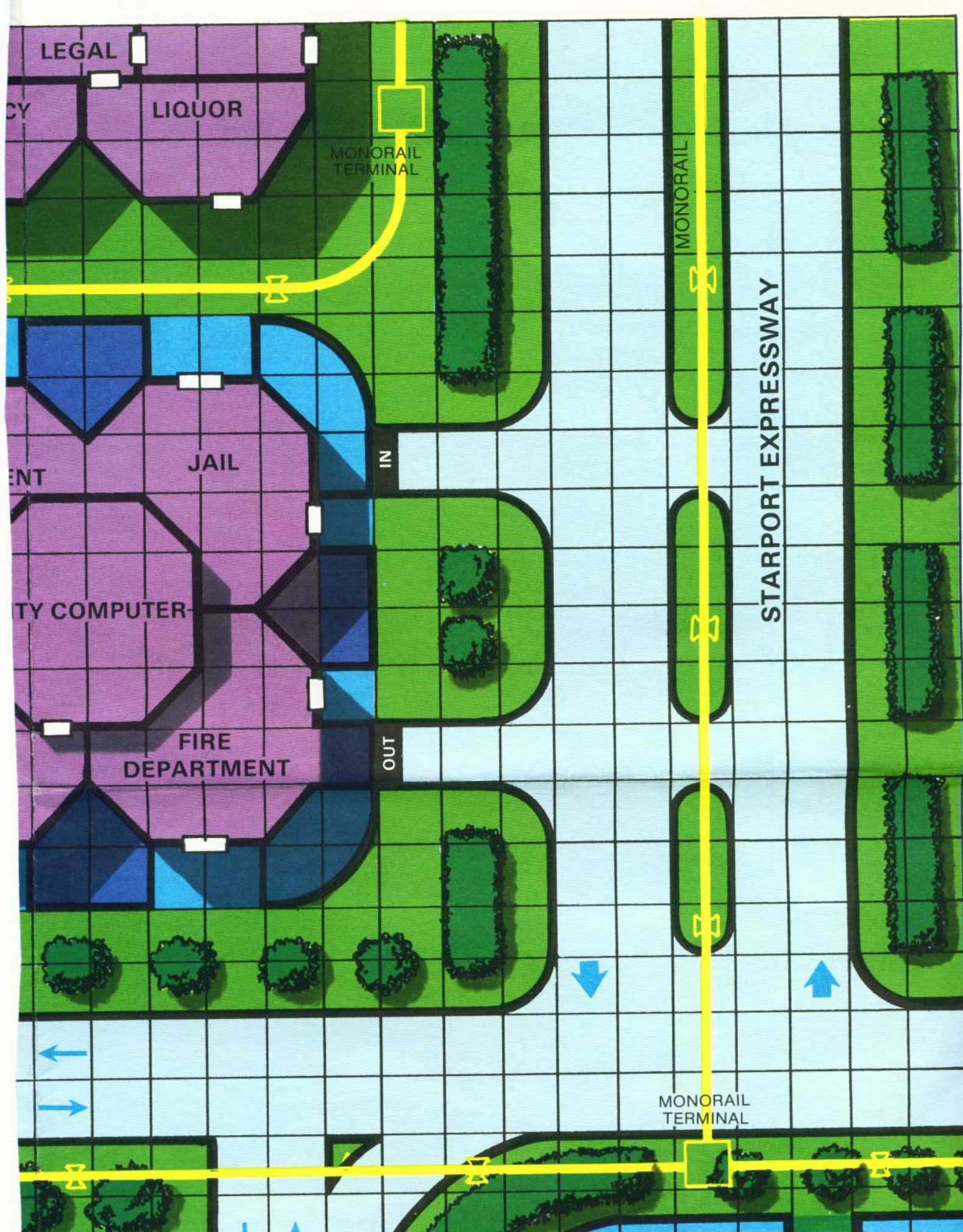
STR/STA 50/50 PS 3
DEX/RS 55/55 IM 6
INT/LOG 45/45 RW 28
PER/LDR 50/50 M 28
Special Abilities: Ambidexterity, Comprehension (11%)
Skills: Military PSA, Demolitions 1, Projectile Weapons 1
Equipment: Radiophone, Gas mask

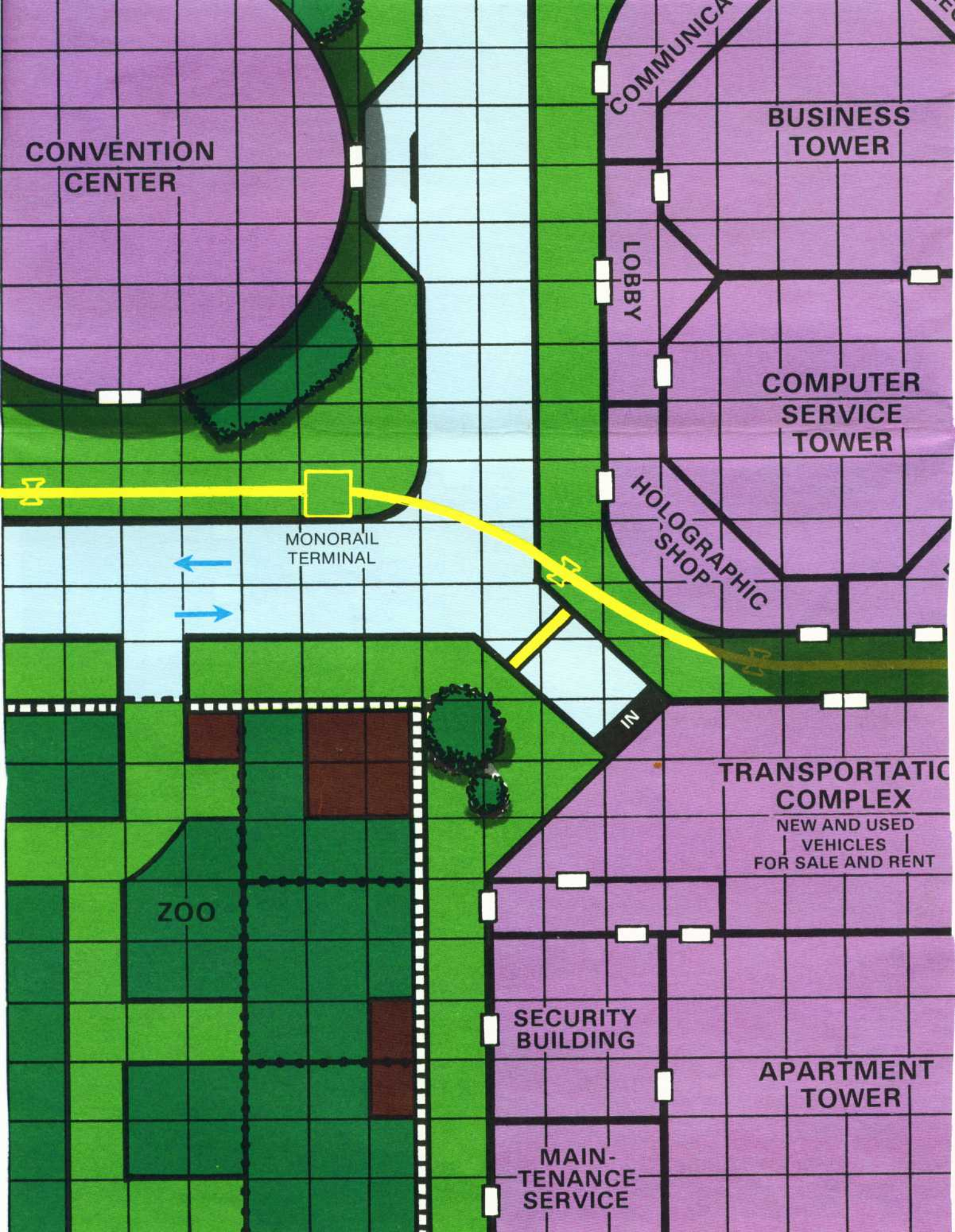

S


HOLO THEATER
GROCERY MART
DRALASITE SENSONIUM AND STEAM BATH
THIRD DEBATE AND COMEDIC SOCIET
WALKWAY
OUT
IN
LUXURY APARTMENT TOWER
PAN
GALAC
COR
BUSINESS PLAZA
MONORAIL TERMINAL
OUT

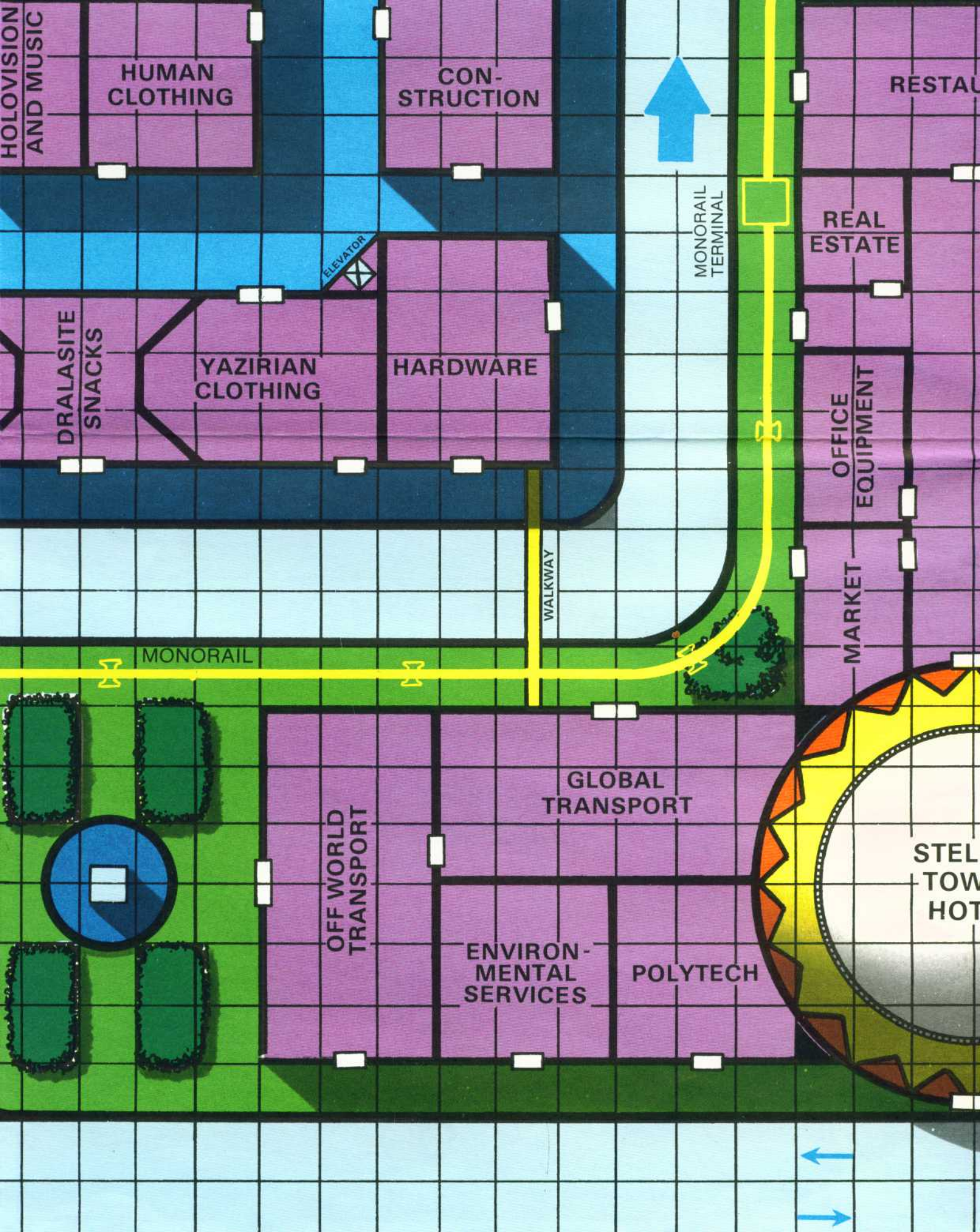

LIVE THEATER
NIGHTCLUB AND CASINO
BANK
MONORAIL
WALKWAY
OUT IN
OFFWORLD CLOTHING
OFFWORLD IMPORTS
WEAPONS
CAFE
CLEANERS AND LAUNDRY
ELEVATOR
ART GALLERY
TOYS/ HOBBIES
MEDICAL SUPPLIES
SMALL ROBOTS
OUT IN
FURNITURE
BAKERY

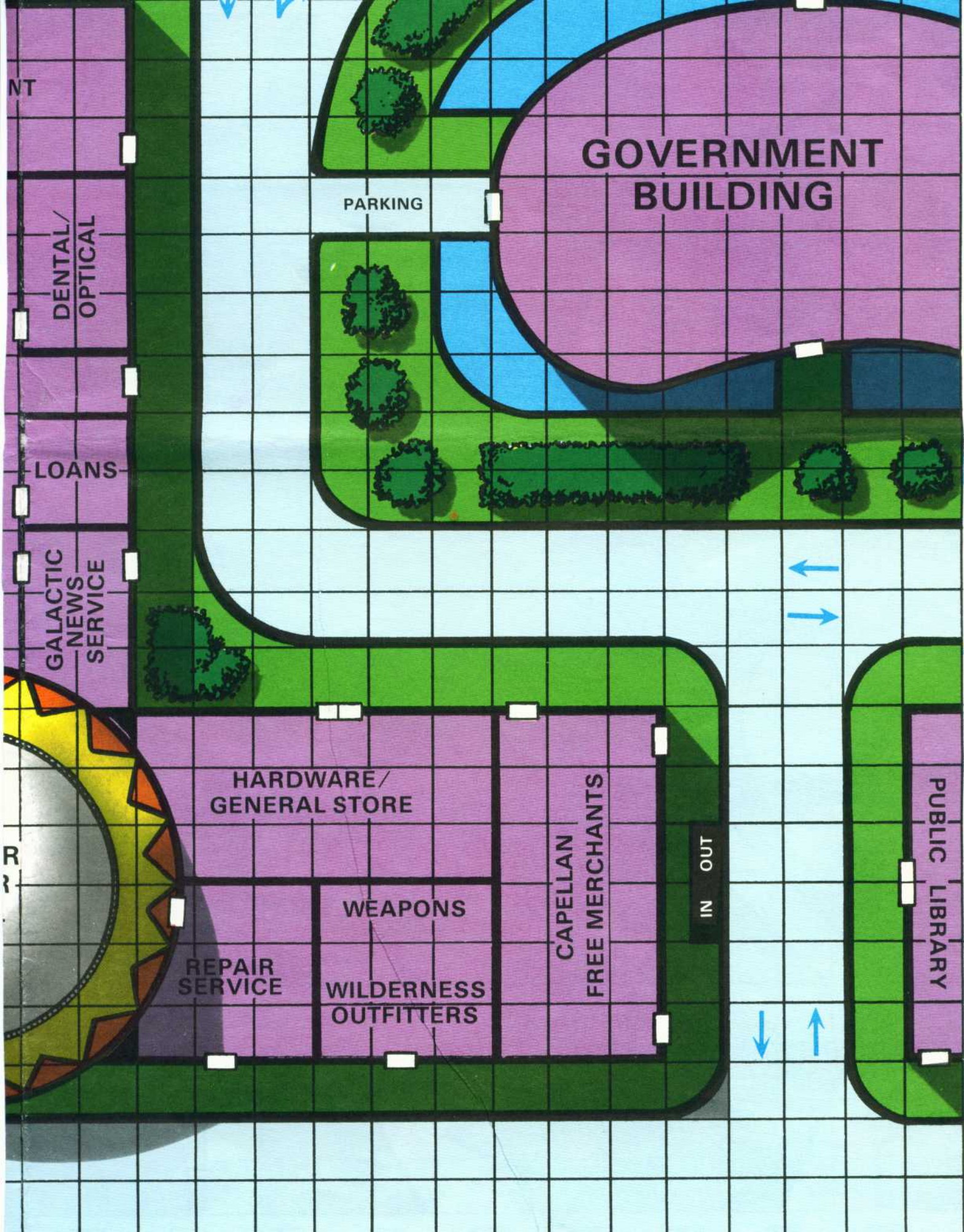

CENTRAL HOSPITAL
AND MEDICAL COMPLEX
PHARM
ONORAIL
ERMINAL
WALKWAY
WALKWAY
POLI
DEPART
GIFTS
AUTO AND
HOVER
SUPPLY
AGRICULTURAL
EQUIPMENT
STAR LA
MINING
EQUIPMENT
APPLIANCES
SPORTING
GOODS
TRAVEL
SERVICES
HOLOGAMES
NOVELTIES
OUT
IN
VRUSK FOOD
PUB
JEWELRY

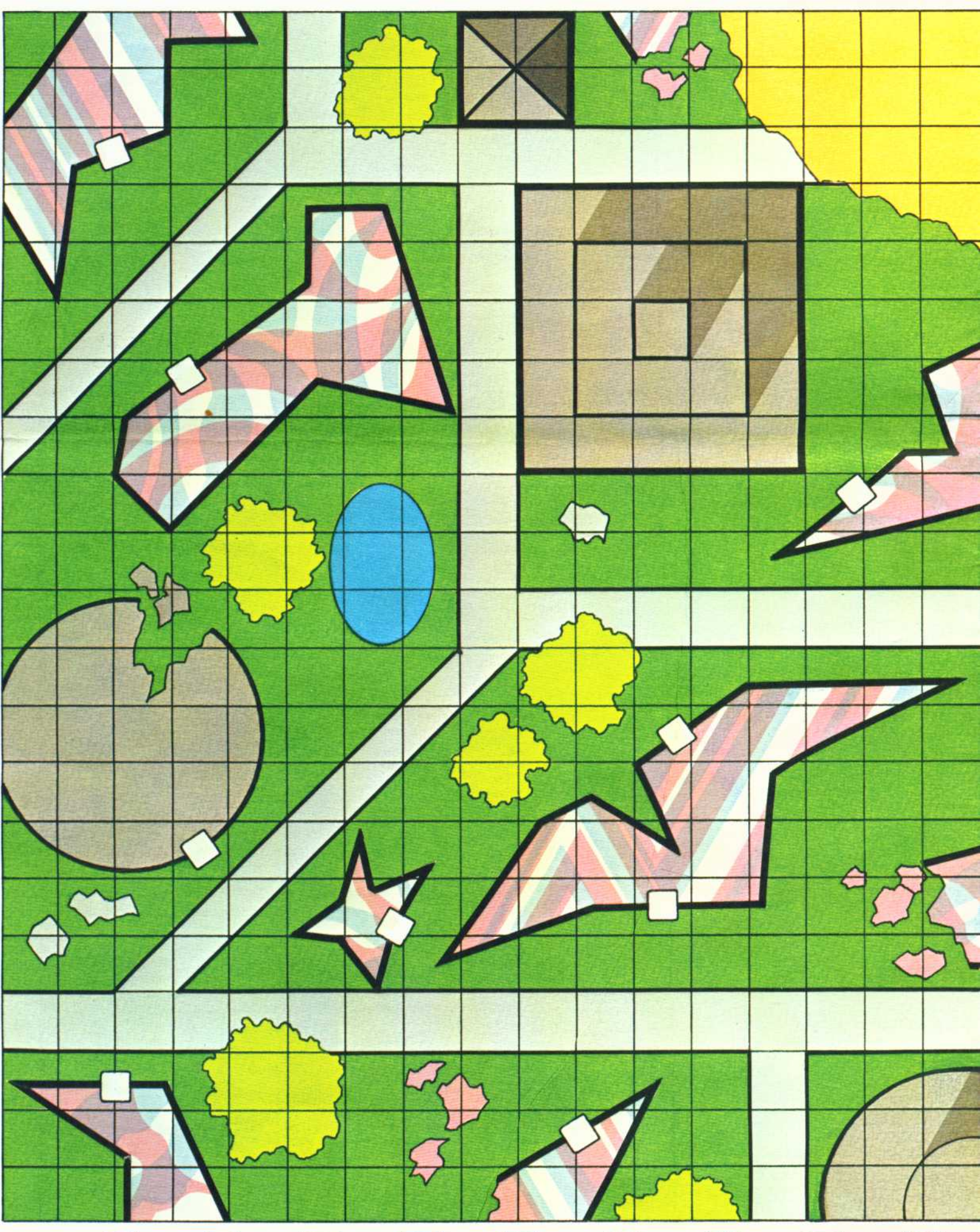

LEGAL
LIQUOR
MONORAIL TERMINAL
MONORAIL
STARPORT EXPRESSWAY
JAIL
IN
OUT
FIRE DEPARTMENT
MONORAIL TERMINAL

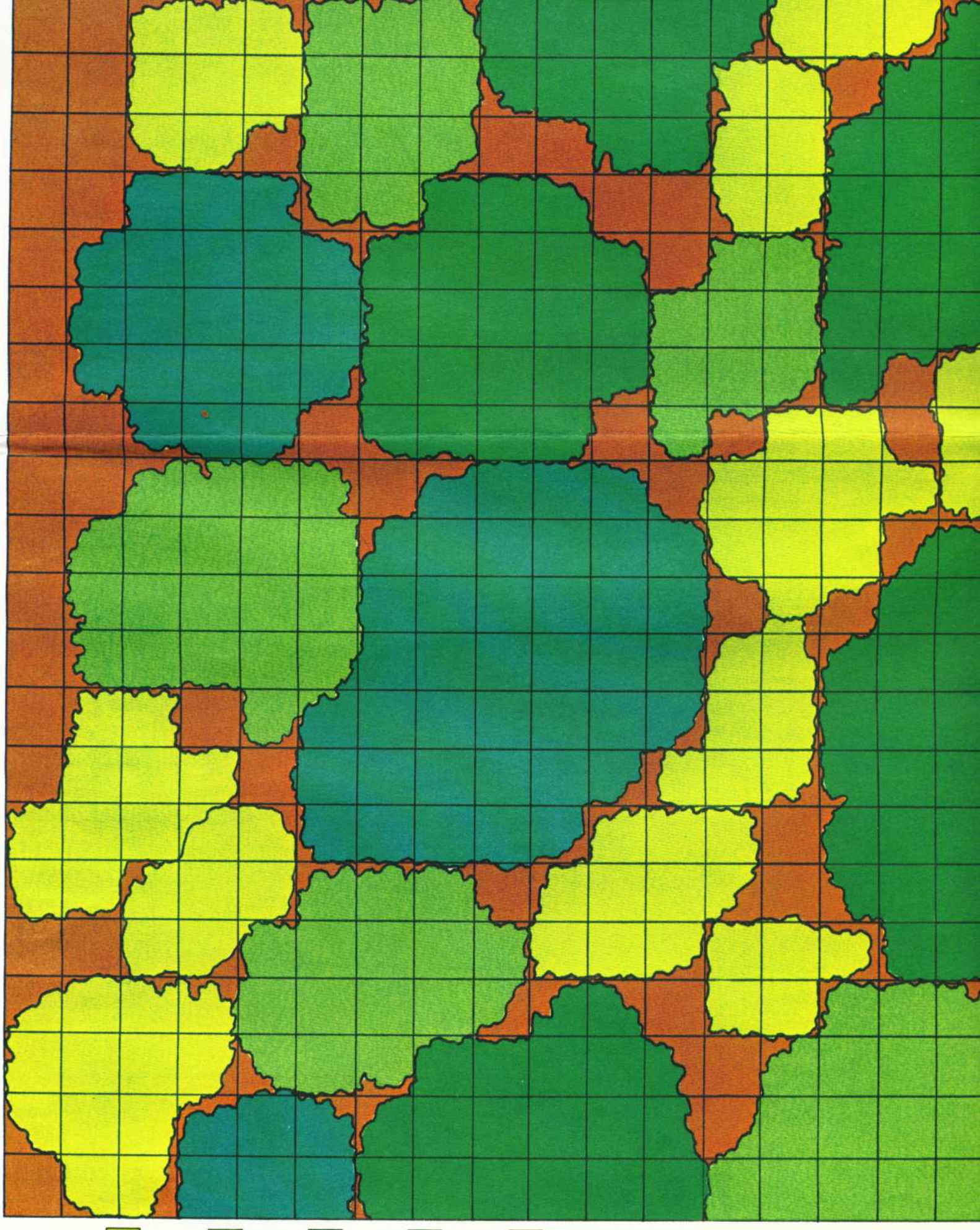

CONVENTION CENTER
COMMUNICA
BUSINESS TOWER
LOBBY
COMPUTER SERVICE TOWER
HOLOGRAPHIC SHOP
MONORAIL TERMINAL
IN
TRANSPORTATIC COMPLEX
NEW AND USED VEHICLES FOR SALE AND RENT
ZOO
SECURITY BUILDING
APARTMENT TOWER
MAIN-TENANCE SERVICE

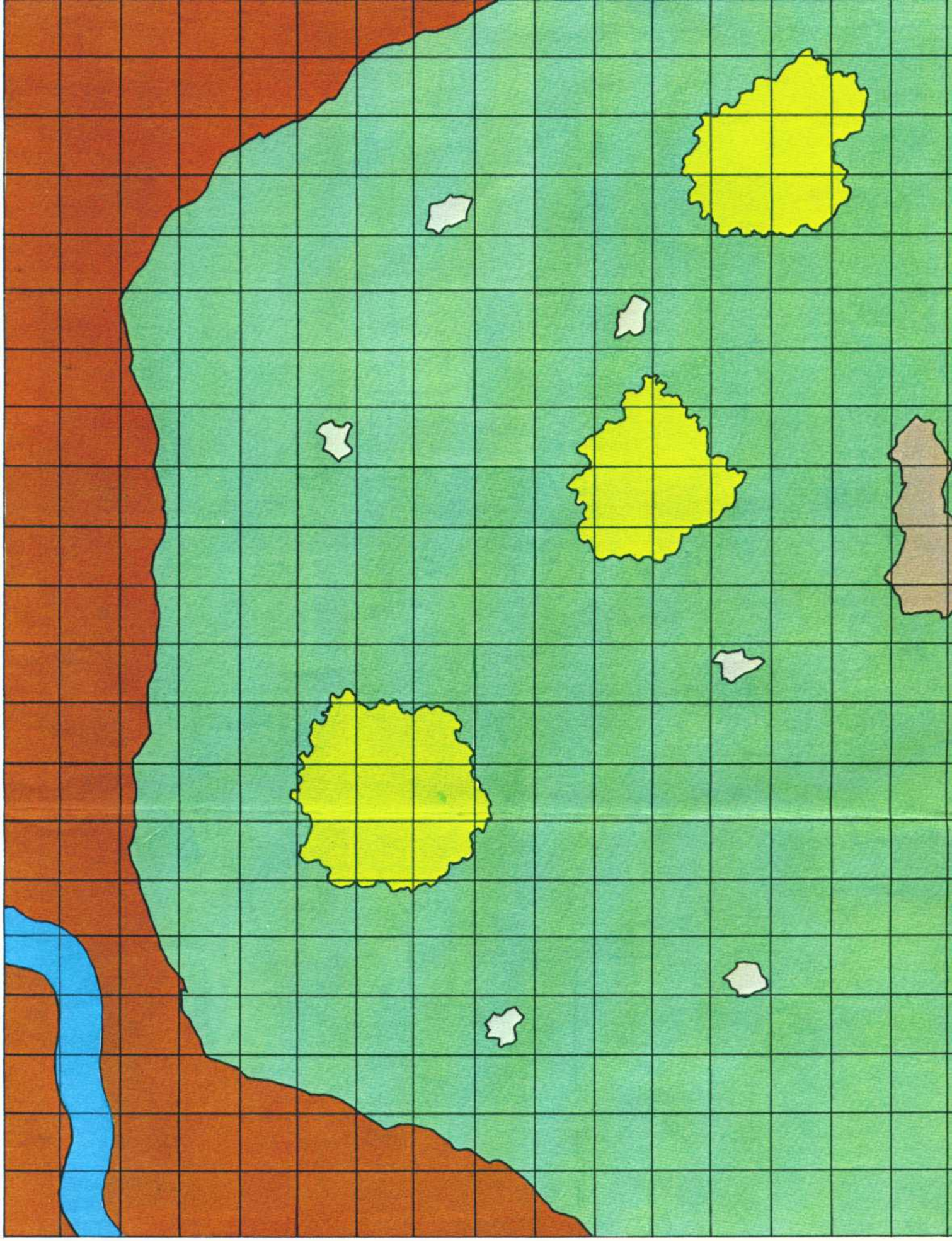

NEWS
JOKE SHOP
BANK
ELECTRONIC REPAIR
PERSONAL GROOMING SALON
CAFETERIA
IN
RESTAURANT
HOUSE WARES
GROMM NIGHTCL
WALKWAY
WALKWAY
MONORAIL TERMINAL
OUT
PHARMACY
HOLE-IN-THE-WALL
GAMING HALL
SHANGHAI KELLY'S
HEALTH FOODS
THE PLUTONIUM NUGGET
SPACER'S REST
FITNESS CENTER

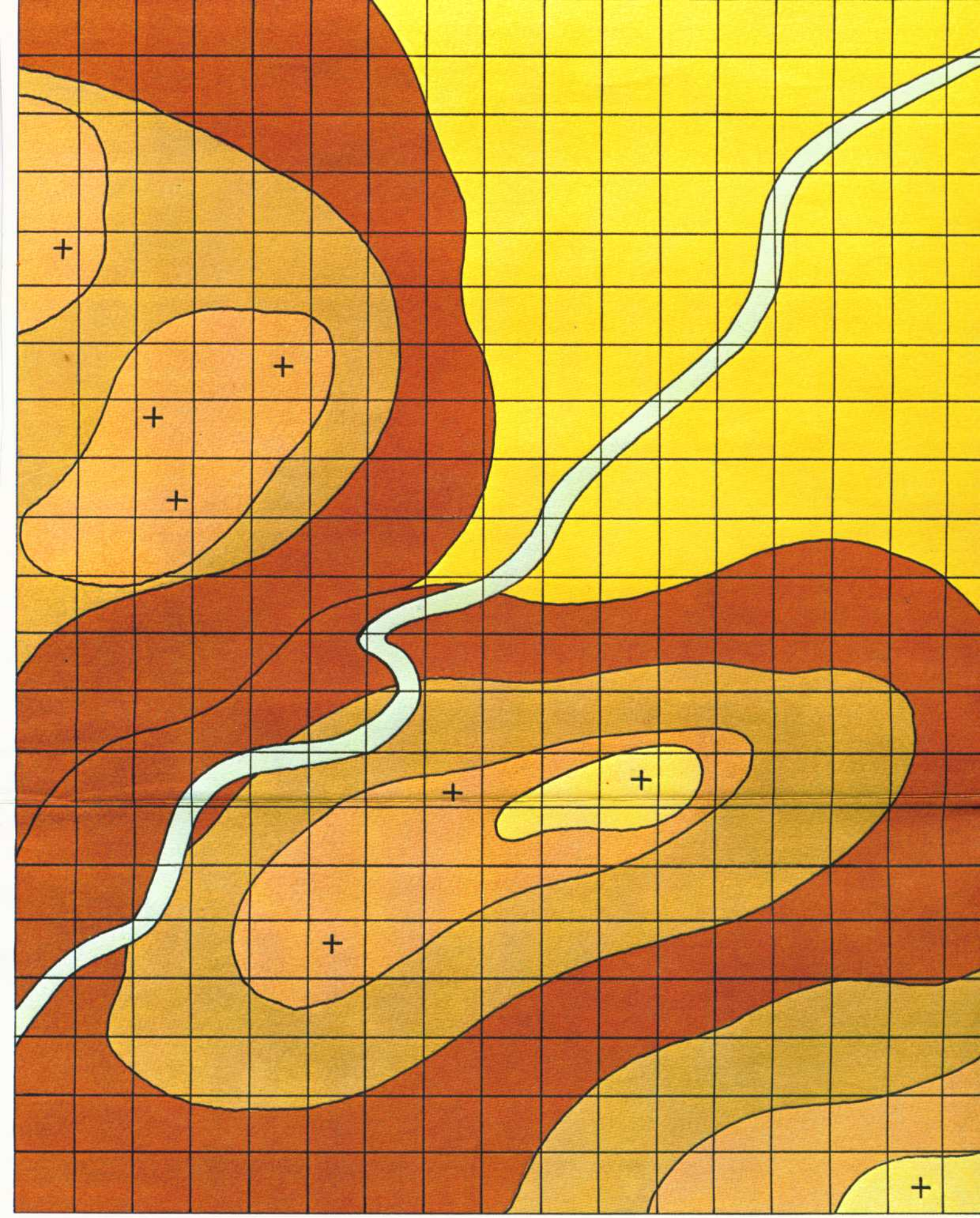

HOLOVISION AND MUSIC
HUMAN CLOTHING
CON-STRUCTION
RESTAU
MONORAIL TERMINAL
REAL ESTATE
ELEVATOR
DRALASITE SNACKS
YAZIRIAN CLOTHING
HARDWARE
OFFICE EQUIPMENT
WALKWAY
MARKET
MONORAIL
GLOBAL TRANSPORT
OFF WORLD TRANSPORT
ENVIRON-MENTAL SERVICES
POLYTECH
STEL
TOW
HOT

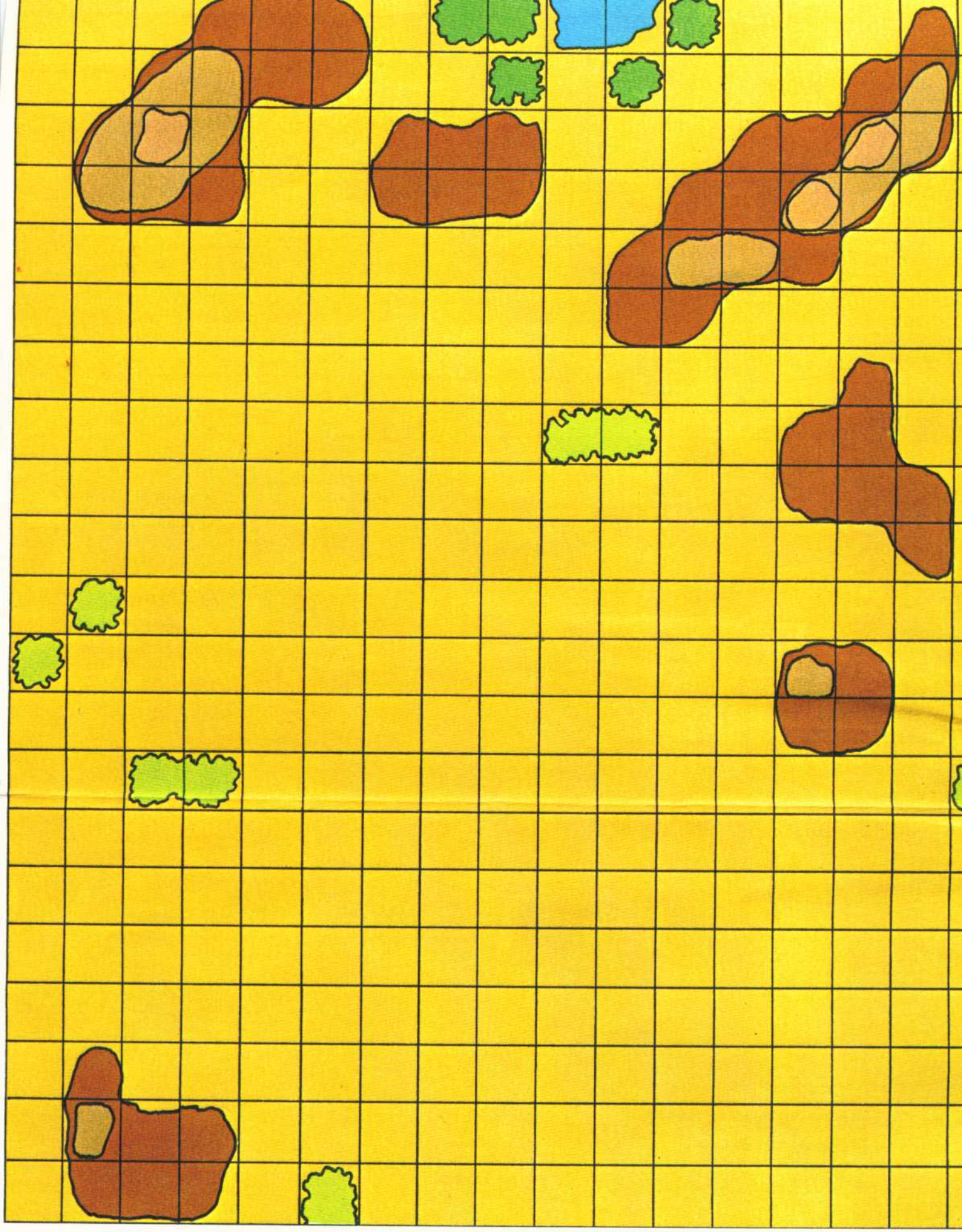

NT
DENTAL/
OPTICAL
LOANS
GALACTIC
NEWS
SERVICE
PARKING
GOVERNMENT
BUILDING
HARDWARE/
GENERAL STORE
WEAPONS
REPAIR
SERVICE
WILDERNESS
OUTFITTERS
CAPELLAN
FREE MERCHANTS
IN
OUT
PUBLIC LIBRARY

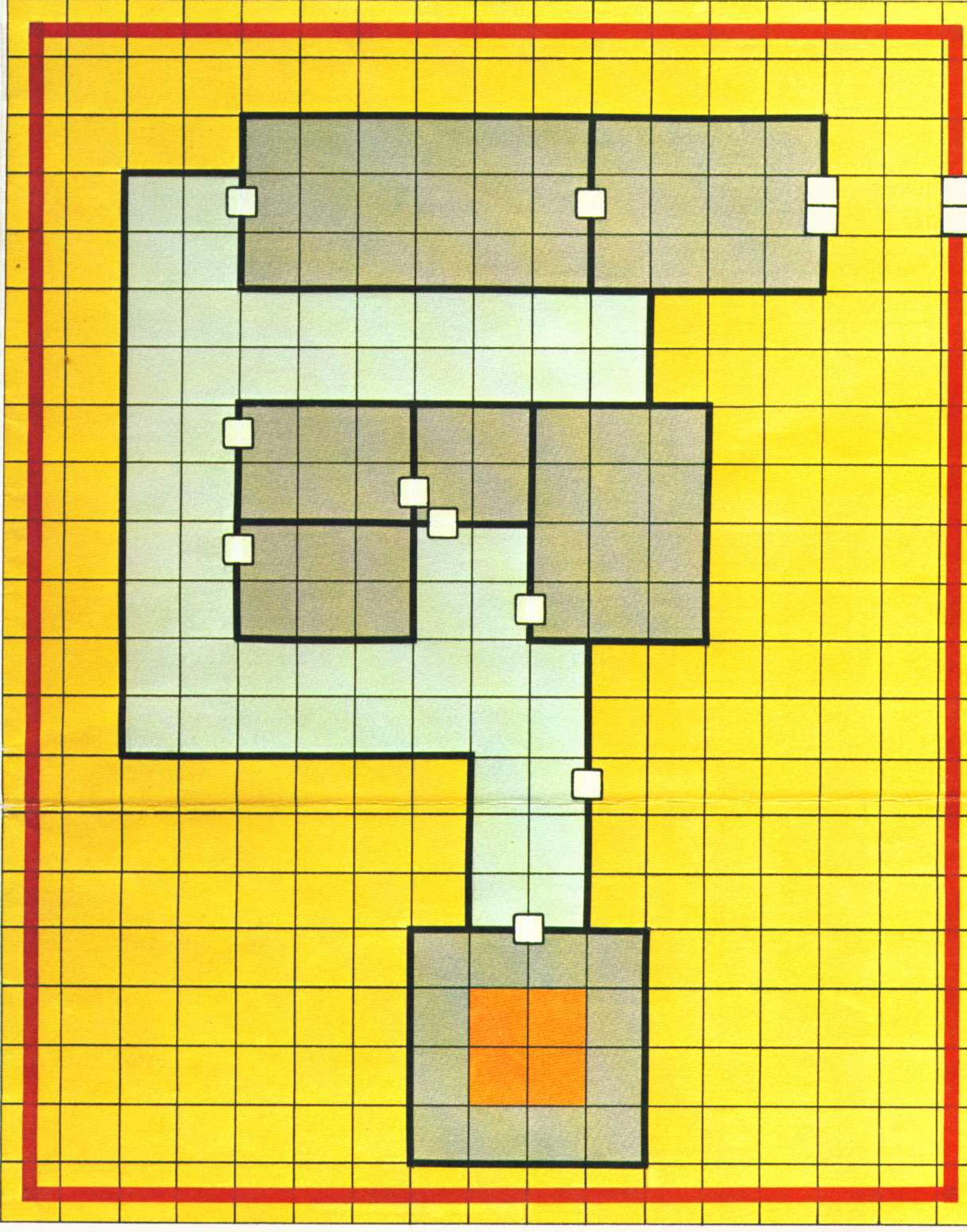

RUINS
TREE
GROUND
BUILDING
WATER
DRY CANAL
ROAD
RUBBLE
DOOR
CRYSTA
BUILDIN

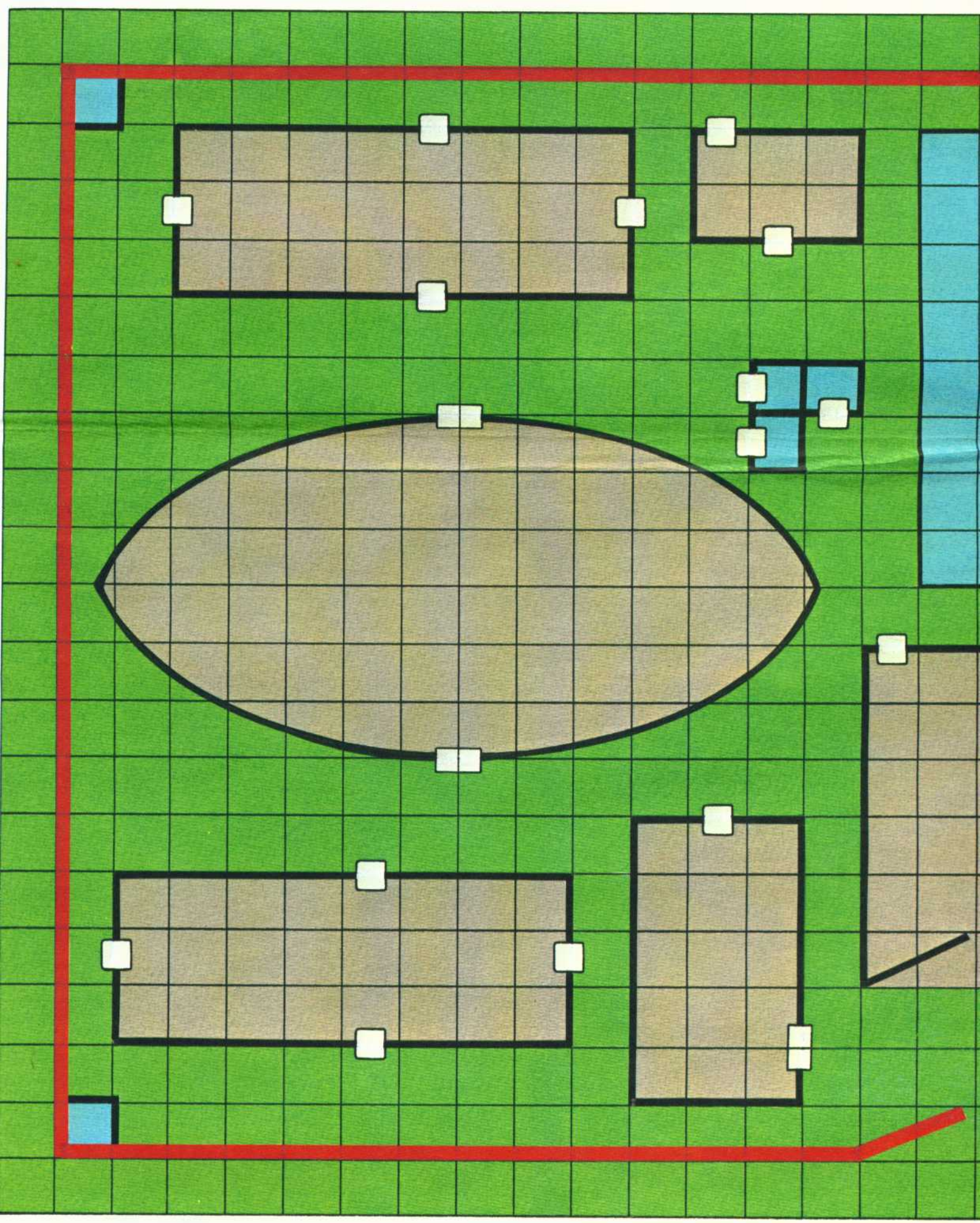

FOREST
LOW TREE (10 METERS)
MEDIUM TREE (20 METERS)
HIGH TREE (30 METERS)
VERY HIGH TREE (40 METERS)
GROUND


CRATER
DYING TREE
STREAM
SLOPE
FUNGUS
ROCKS
SPECIAL


MOUNTAINS
PLAIN
LOW
MEDIUM
HIGH
VERY HIGH
ROAD
MOUNTAIN PEAK


DESERT
FLOATER ROOT
TREE
WATER
SAND
LOW
MEDIUM
HIGH


FORT
ROOM
CORRIDOR
SAND
POWER
DOOR
SECURITY


TOWN
ARTIFICIAL
ROOM
CORRIDOR
SPECIAL
DOOR
GATE
SECURITY

