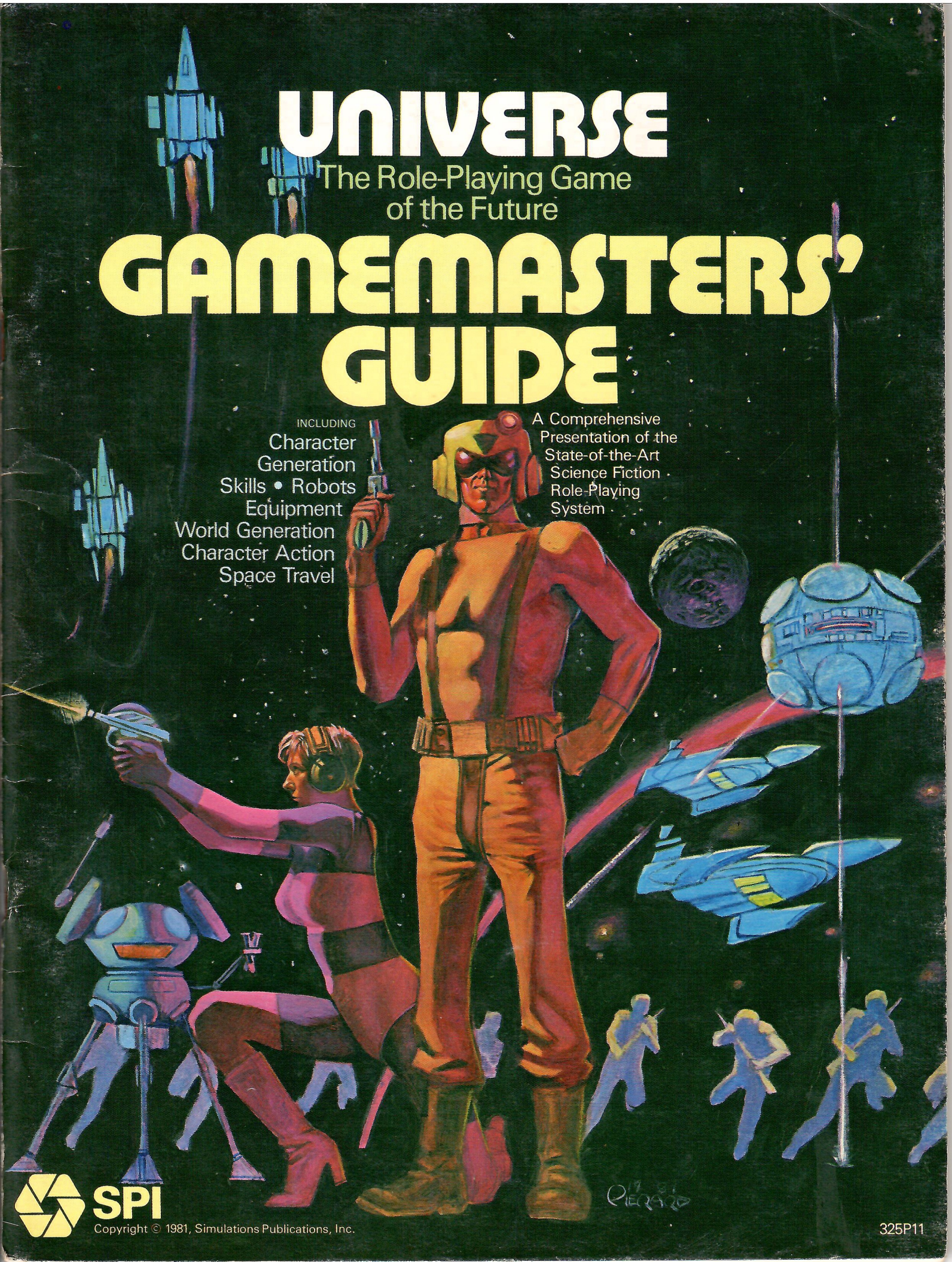
UNIVERSE

The Role-Playing Game of the Future

GAMEMASTERS' GUIDE

INCLUDING
Character Generation
Skills • Robots
Equipment
World Generation
Character Action
Space Travel

A Comprehensive Presentation of the State-of-the-Art Science Fiction Role-Playing System



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UNIVERSE

The Role-Playing Game of the Future

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I. Introduction

[1.0] The Universe and the Future

Rakal, the Expedition Chief, surveyed the hot, virulent terrain. The movement had set him on his guard; he worried for the eight other members of the Survey Team. Looking at his Biofficer he asked, "What form do you think it takes?"

"I think the creature is in great pain," replied Mylina. "The readings on my bio scanner indicate a skittishness; perhaps our scanning has caused it harm. May I send my Scoutbot over to inspect it at closer range?"

"Yes," answered Rakal hesitantly. At Mylina's verbal command the 'bot whirred through the thin atmosphere and began to traverse the 100 meters to the creature. "Do we know the chemistry of its energy transferences?"

"It is an alkaloid life form, Chief." The robot's metallic twang was clear through the respirator helmet speaker. This model had been with the crew a long time, Rakal thought. He squinted as he looked into the harsh blue-white sun, following the bot's flight.

Rakal was concerned. He had seen too many specimens damaged through ignorance. Equipment couldn't think for itself — man still must rely all too much on his instinct. If only the psion were along on the Survey. Why *had* he allowed Kk'rral, his navigator, to remain shipboard? "The Shuttlecraft needs no navigator to reach the surface," the psion had scorned. "Leave me my astrogation chores and our courses will be plotted by your return. Good hunting!"

Kk'rral, however, might have been able to communicate with this creature...where was the Scoutbot, anyway? It should have returned or at least given readings.

"Mylina, any readings from the 'bot?" Mylina was busy staring into the distance and paid Rakal no heed. "Mylina, any readings?"

He quickly looked around the perimeter at the remainder of the Survey Team. They, too, were staring at some point in the distance. Rakal quickly drew his Paint Gun. His instinct not to watch the creature had probably just saved his mind. His mind, however, now was filled with moans of great pain; pain that was not his own...he ran. Looking for cover by the ridge, he was stopped by an outcropping of cyan rock, so he turned north. The moaning increased. He dared not look back but knew the creature followed. Rakal needed to circle back to the Shuttle and return to the ship; unless he somehow managed to slow the creature down this would be impossible.

As he searched for higher ground, the moaning increased painfully. Realizing it was now or never, he turned to face his pursuer. He aimed the weapon at the beast. He touched the trigger lightly to activate the aiming beam. The creature approached rapidly. The aimer found the cortex, or what appeared to be the cortex; Rakal fired. The coherent light splashed as the creature's natural armor splayed the beam everywhere. Rakal retreated and fired again. Again the beam scattered wildly... Rakal felt a burn on himself from a reflection. Rakal thought of running, but the beast no longer seemed ugly; what a lovely melody he found running through his brain. Wasn't that the creature's song? He stood up as it drew very close. Looking up into the enormous open maw, his last thought was how warm and soft it would be once he got inside.

It is the 24th Century. Mankind, searching for its destiny, has begun to explore and colonize the Milky Way. The stars themselves are now man's playground; they are also the seat of his greed.

After having overcome the temptation to annihilate himself, man found the time to let science proceed with its work. The most important discovery of the 21st Century was the isolation of the chromosome controlling the intensity of psionic talent. Once this was isolated and brought out of its dormant state, the psionic abilities of some individuals could be awakened. This led to a long series of experiments in telekinesis, psychokinesis and, ultimately, in forms of aportation. It was thus that faster than light travel via mass teleportation (called hyperjump) was discovered. The Psions were found to act as catalysts for both travel and communications between the stars. They became very wealthy and aloof, as their talents tended to isolate them from society. Feared by the ignorant and the untalented alike, they guarded many secrets and controlled the throttle on man's outward expansion.

At last the dream of leaving behind the earth was within mankind's grasp. The final frontier was before him. The earth, politically united at last, funded the first colonizing missions. Each major national power sent its own ships to habitable worlds to explore and colonize. To govern these new worlds, the earth founded the Federation of Planets. Not to be caught in the old mistakes once again, the federation was a loose conglomeration of these worlds rather than a tight-fisted ruling body. Some of the larger colonies set themselves up as independent states, practically free from federal authority. The federal influence was exerted at the spaceports within the star systems. No direct control was insisted upon; rather light but very strictly enforced taxation was the method of the times. The armed might of the federation was considerable, consisting of far-reaching army and naval forces (both space-faring). Local forces resented their presence, but were usually no match in any combat situation.

The federation still controlled, to a large extent, the monetary systems. This was to insure fair trade amongst the stars. The unit of currency was the Tran, the abbreviation for one Transfer. This was the equal of 500 1980 dollars. The Tran was subdivided into one thousand Milli-transfers or Mils.

With fair (or at least reasonably fair) trade ensured by federal measures, business and technology flourished. Robots became economically feasible, as well as technologically, and they were as commonplace as the home computer of the 1980's. Business became the major sponsor of scientific missions, mainly to discover new resource sites and discover the means of bringing these resources back. This exploration spawned a new curiosity on the part of humankind: the capturing and exhibition of alien creatures discovered on these new worlds. Trade involving live specimens was lucrative, and every week brought the news of a new find.

The initial colonies met with mixed success; some floundered while others blossomed. Many kept their own national flavor; Russian, Chinese and Hindustan could just as easily be heard on a colony world as *Universal*, the business language of the era. Universal had its roots in the English of the 20th century, but was as closely related to that as English was to the Middle English of the 11th Century.

Amongst the languages which still existed were German, Japanese, Chinese, French, Italian, Spanish, Russian, Swedish, Afrikaans, Hindustani, Portugese, Danish, Dutch, Arabic, Greek, and Arctican.

As mixed as the national flavor of the colonies was, so was their level of economic and technological development. Although exploration was speeded exponentially due to hyperjumping, commerce between stars was still slow due to the long transit time from the jump points into a system and the world itself. This jump point had to be outside the system's gravity well; thus the distance was often very great.

The pressures facing mankind's first colonists were tremendous; the mettle of mankind's best and brightest was sorely tested. Some worlds found new strengths under this pressure while others reverted to old ways for the peace which they hoped simplicity would bring. Still others just could not match the spacefaring technology of the era with the resources at hand in the sometimes hostile environments. Thus the level of civilization in each colony found its own level. Worlds developed into major powers within their sector next to others who found it quite enough just to simply survive. As always, business found ways to make either situation pay off. And since business was now fronting almost all the scientific missions, the federals kept their interference to a minimum.

And what of Earth and its future history? The planet, much battered and misused, had survived pretty much intact into the era. Much of its life and livelihood revolved above the surface; the age of active space station technology had moved industry into orbit. Along with the many spaceports launching one colony ship after another, these working space factories cluttered the orbital lanes around the earth. This development had allowed much of the land to be reclaimed and enjoyed once again by the people; massive refertilization projects were undertaken and a green and beautiful Earth once again flourished.

No contact with intelligent alien life had occurred. Long having been both the dream and the nightmare of mankind's new star-faring mobility, discoveries of ruins and numerous artifacts and burnt out spaceship hulls of unknown design saw hopes (and fears) rise.

Civilization had progressed, but still man needed to strive and take risks to advance. The Universe held wonder and surprise; danger lurked around every outcropping of ore.

This vision of the future lies before you, as you own this game. These rules are your guide and your key to the Universe; the journey is yours to take.

[2.0] The Gamesmaster and the Players

Universe is a role-playing game, and in such a game there is no winner or loser; rather, the *Gamesmaster* and the *players* interact in a non-combative way to resolve *adventures*. The Gamesmaster acts as a referee. Within the framework of the rules, he objectively determines the effects of the players' actions. The players act out the part of their character as if that character actually existed in the universe the GM has created. The actions which the players take within the GM's universe may be grouped together to form *adventures*, which are similar in length and complexity to a short story.

The GM is a master storyteller, a weaver of tales which deal in the unknown: unknown worlds, uncharted star systems, unmapped reaches of the galaxy. These stories, strung together, form the campaign. Players yearn to lose themselves in this "alternate existence," and the GM is the one who creates it.

The rules of *Universe* are intended as a framework in which the GM creates adventures for the players. These adventures can exist individually or be strung together to form a campaign. Either method is viable; a coherent campaign takes much more of the GM's time to create and maintain but there are certain joys which come from seeing characters grow, story lines interweave, and history actually being created. The story is the GM's, and he has final say concerning anything to do with that story. This includes the rules, which he is free to alter to fit his individual needs. However, the GM should not take free license with the rules; they were not published to be disregarded. Rather, careful inspection by a conscientious GM will yield what modifications he can make without unbalancing play. The players are great sources of feedback on this; they will let the GM know loud and clear if something about play bothers them.

To feel confident enough to alter any rules, and to GM *Universe* well, the GM must know the rules intimately. Since he is the final arbiter, this knowledge is a must. Many concepts in the game will be foreign, and it is up to the GM to know and explain them to his players. If this means playing "unofficial" sessions to solve problems, do it! Without this familiarity with the rules, play will not flow smoothly.

This flow of play is critical to a well run adventure. Since the GM is an entertainer, he is putting on a performance. All the players must be kept interested and involved throughout play. If this is not done, play will bog down and become dull. An interesting flow of play supercedes almost all else; let the technical details slide. The players won't mind a detail flubbed if the story was really interesting. GM's should discourage things which slow down play (i.e., players leaving the room, talking too much amongst themselves, the GM having to look up too many rules).

Every player should be treated equally and fairly by the GM; all characters should be given chances to perform tasks, as this is how characters advance in *Universe*. Players respect a GM who is impartial and as interested in seeing the characters advance as he is in seeing his story work out. If the players think the GM is not treating them fairly, this will sow a seed of discontent which will end the campaign or instigate arguments. The players need to trust the GM.

In preparing the adventures for the players, give thought to the balance of danger and challenge. No player wishes to solve every problem all the time; on the other hand, no player wants to be beaten all the time. The GM should constantly challenge his players' abilities, both mentally and emotionally. Encourage role-playing by enacting the non-player characters to the hilt; the GM should use them to make the players think on their feet by engaging them in direct conversation.

The adventures must be varied, and the GM will need a lot of input to remain creatively fresh. Use many different sources: science fiction literature, television, movies, and your players. Take ideas and inspirations from these sources to make your own. The players will tire of a series of adventures all dealing with a similar theme; the ideas must be varied. If a campaign is created, very often ideas for new adventures will materialize right out of the play itself — the story takes on a life of its own.

Players have many responsibilities of their own; the creation of a well run science fiction campaign is the sum of all who play. The voices of the players must be heard loud and clear. After all, why play the game if not for enjoyment and escape? The GM must be made aware of what the players desire out of *Universe*.

If the players wish the GM to listen to their ideas and desires, they must be willing to take on their share of the burden for the game. The players must know the rules that they will use all the time (use of a skill, for instance). Also the players must respect the GM as the final arbiter of the rules and on events which occur within his universe. It is his creation and if he didn't know the secret reasons for things, who would? This knowledge, which the players are not entitled to, may cause things to occur the players do not understand. They must accept this convention and abide by all final rulings the GM may deliver. The player must take responsibility for keeping the record pertaining to his character. This burden should not concern the GM, who certainly has enough to worry about without keeping tabs on how much is in any character's bank account, for instance. And finally, the players must have respect for the time and enjoyment of the other players and the GM.

[3.0] Sequence of Events

When players and a GM get together to play *Universe*, a certain sequence of events will usually occur. These are outlined below, and most games will follow this sequence, more or less. The following are not rules; rather take them as guidelines which may or may not be adhered to.

1. The GM prepares the adventure. This may involve many hours of pre-play preparation on his part, creating the scenario the players will be involved in. The GM generates non-player characters (or NPC's), worlds, creatures, etc., in order to give the adventure the elements needed to flesh it out. This preparation is the most important part of the sequence for the GM, as mistakes or assumptions made at this point will be almost impossible to correct once play begins. The serious GM spends as least as much time preparing an adventure as it will take to play it.

2. The GM and the players agree to meet and play. All concerned parties should set aside a block of time 4 to 6 hours in length. This is the average amount of time it takes to play through a short-to-medium length adventure, and two of these sessions should finish off almost any adventure. Remember that the time from beginning to end is not all spent playing (human beings being what they are), and the GM should be aware of this when he estimates how long an adventure would take to complete.

3. The players then choose or generate characters. If the adventure is part of an extant campaign, most players will have characters already. A new player or a player whose character just died will have to generate a new one. It is advised that these individuals arrive early and take care of this, but it can be done just before the adventure starts. Any monetary maintenance which characters have to take care of is done now. This includes room and board, equipment purchase, spaceship upkeep, etc.

4. The GM presents the adventure. This may be done any number of ways. Some of the more common are through a pre-arranged meeting with a sponsor, picking up a story line left over from a previous adventure session, or letting the players go do what they wish and let them find adventure. A non-player character for instance, could approach the players and offer employment (see the adventure in the Adventure Guide, *Lost on Laidley*), or coerce the players, or drop a clue as to some interesting occurrence the players might become curious about. The goal for the GM is to *entice* (not force) the players into going on the adventure he had planned for them. Players do not often like being forced into doing something. Sometimes it is the only way (as in a hijacking scenario), but a constantly maneuvered player is an unhappy player. If the adventure created by the GM is interesting enough, the players will want to go without much provocation.

5. The adventure begins and continues until resolved. This may force the playing of an adventure beyond the time that a session must end. In that case, the GM "freezes" time, and the players pick up where they left off the next time they meet. Play will normally continue until either the characters succeed, they fail, or they aren't sure and return from whence they came. During play, the GM must act as narrator, describing the events as an impartial observer and giving the players all the information they would ordinarily become entitled to. The GM plays the parts of various NPC's, describes graphically locations the characters find themselves in, resolves combat (taking the side of the enemy or creature), and tells the players the results of their actions. During the adventure, the players have as much if not more control than the GM due to the decisions they must make.

6. The adventure is resolved. The characters have succeeded, failed, or staged a strategic

withdrawal. Any adjustment to the characters' records are made and plans discussed to meet and play again. If this was a single adventure, not tied in with an extant campaign, the GM may wish to give the players the answer to the adventure (such as it might be), if they did not find it themselves. In a campaign situation this would not occur, as many answers are yet to be discovered through continued play.

[4.0] Requirements for Play

[4.1] **A complete copy of *Universe* should include:**

1 22" × 33" Interstellar Display

1 Gamesmaster's Guide Book

1 Adventure Guide Book

The following parts are included in the boxed version only:

One 17" × 22" Tactical Space Combat gamemap

One *DeltaVee* rules booklet (tactical space combat)

One 200 die-cut *DeltaVee* countersheet

Two 20-sided dice

One Counter tray

One Game Box

Note that although the process used to manufacture the counters sometimes results in minor imperfections, SPI can supply replacement parts only in cases of gross error and illegibility.

Should you have any difficulty interpreting the rules, please write to SPI, phrasing your questions so they can be answered by a simple sentence, word, or phrase. You must enclose a stamped, self-addressed envelope. Write to:

SPI
Rules Questions Editor for Universe
257 Park Avenue South
New York, N.Y. 10010

[4.2] **The Interstellar Display shows the positions, in three dimensions, of every known star within 30 Light Years of earth.**

Each star's location is shown using three coordinates (**x, y, z**). Each coordinate represents a distance in light years from our sun (Sol). The **x** and **y** coordinates are also shown visually, by the star's actual position on the display. The **z** coordinate is a positive or negative number representing the star's distance above or below the plane of the display (the plane of the earth's equator). Also included on the display are a chart listing the distances between other stars. The Interstellar Display is not used as a playing surface. It is intended as an information source for the players and the GM. The GM chooses stars from the display (and uses the information provided with each star) when he generates worlds.

[4.3] **The Gamesmaster's Guide includes many masters of logs and records that must be photocopied before use.**

These include the Character Record, Star System Log, Environ Hex Map, and eight pages of different sized World Logs. The logs in this book should be carefully removed to facilitate photocopying. Note that World Logs 8 and 9 take up two pages each. SPI grants permission to photocopy all this material for personal use.

[4.4] **All die rolls in *Universe* are conducted with one or two 20-sided dice only.**

In a given situation, the GM or one of the players will be called upon to roll dice in one of three different ways: roll *one* die, roll *two* dice, or roll *percentile* dice.

One Die. Roll one 20-sided die and read the result. A result of **0** is *always* considered a **10**. Thus, a range of numbers from **1** to **10** is possible when rolling one die.

Two Dice. Roll two 20-sided dice and *add* the two results together. On both dice, a result of **0** is considered a **10**. A range of numbers from **2** to **20** is possible when rolling two dice. **Example:** If one die result is a **4** and the other is a **7**, the two-dice result is **11**.

Percentile Dice. Roll one die and read the result as the **10**'s result (i.e., multiply the result by **10**). Roll the second die and add its result to the first. When rolling percentile dice, a result of **0** is considered a **0** *unless both* dice show a **0** result, in which case the result is read as **100**. A range of numbers from **1** to **100** is possible when rolling percentile dice. **Example:** If the first die result is **5** and the second die result is **9**, the percentile dice result is **59**.

Note: By using two dice of different colors, a percentile number may be rolled quickly. One die is declared as the **10**'s die, and then both dice are rolled together.

[4.5] **The GM and the players must provide some miscellaneous play aids.**

All concerned should have a pencil with a good eraser. The GM should have a set of colored pencils or markers to draw world logs, environ hex maps, and other game displays. Plenty of scrap paper is also fervently recommended.

A large hexgrid map (with 19mm or 25mm hexes) is recommended for use as the Action Display (see 26.1). The tactical space combat maps may be used if nothing else is available. Miniature figurines or cardboard counters are recommended for conducting Action Rounds on the Action Display.

Additional 20-sided dice are helpful in speeding up play. Some players (and GM's) prefer their own personal pair of dice. The GM will find a pocket calculator most helpful.

II. Character Generation

Each player of *Universe* assumes the role of a character. The player develops the distinct personality and abilities of his character during adventures, as the character interacts with the other players' characters and the various entities controlled by the gamesmaster.

The player generates a character by using the rules in Sections 5, 6, and 7. By rolling dice and making choices in the order laid out in these Sections, the character is developed into an adult who is a result of the luck of his parentage, the pressures of his environment, and the decisions he has made throughout adolescence and young adulthood. A completely generated character is defined by a series of numerical *Characteristic Ratings* and *Skill Levels* that represent the character's strengths and weaknesses in all situations that might occur while playing adventures.

Each player keeps track of his character's attributes and acquisitions during character generation and throughout his adventuring life on a *Character Record*. The GM should provide each player with a photocopy of the Character Record included with this booklet. The players should use pencil to fill in their Character Record, as much of the information they record will be altered during play. At some point during character generation, the player must select a name and a sex for his character. These decisions are entirely up to the player, but it is suggested that a character's sex be the same as that of the player. The GM should supervise character generation and all record-keeping on each Character Record, to make sure the current status of a character is noted correctly. If the GM wishes, he may make a second copy of each Character Record to verify all character information and/or to note things about a character that he does not want the player to know (such as a price on his head or an undetectable alien disease).

Terms Used in Character Generation

Characteristic. A numerical *rating*, ranging from **1** to **12**, which describes a facet of a character's physical, mental, or emotional makeup. Characteristic Ratings are determined during character generation and may not be increased once play begins. The nine characteristics each character receives are:

Strength. The brute force a character can exert using the muscles of his arms, legs, and torso. Strength determines how much a character can carry, how far he can throw an object, and the force with which he may strike.

Endurance. The amount of punishment the character's body can absorb before he loses consciousness or dies. Endurance determines the length of time a character may keep up an exertive action (such as sprinting) and the amount of time required for the character to heal from wounds or diseases.

Dexterity. The character's digital control and eye-hand coordination. Dexterity affects the character's use of any hand-held weapon and the efficiency with which he may perform complex tasks with his hands.

Agility. The quickness with which the character uses his body. Agility determines

the speed with which a character can move and his ability to dodge and maneuver in close quarters.

Note: The preceding four characteristics are collectively referred to as the *Physical Characteristics.*

Intelligence. The character's intuitive and acquired knowledge. Intelligence affects the character's ability to note peculiarities and to deduce information in a situation.

Mental Power. The character's control of his mind and emotions, especially in stress situations. A character with high mental power (**4, 5,** or **6**) may be psionic. **Note:** The mental power Characteristic Rating ranges from **0** to **6**.

Leadership. The character's ability to lead others and to control a situation. Leadership determines whether or not a party of characters have the initiative during combat (see 29.1).

Empathy. The character's ability to interact with humans and other intelligent and semi-intelligent beings. Empathy affects the chances of communication with alien life forms and may allow a character to perceive another human's unspoken intentions.

Aggression. The base instincts a character exhibits, especially in a stress situation. A character with a low Aggression Rating will often behave in a cowardly or self-preserving manner, while a character with a high Aggression Rating will often take reckless actions in combat. A character's aggression may be controlled by his mental power.

Field of Study. One of seven areas of schooling that a character undertakes in his youth, including theoretical science, applied science, business, the humanities, the mind, the body, and the military. In addition, each character's basic education is represented by the *general* field of study. The fields of study a character undertakes affect his characteristics, the professions he may choose, and the skills he may acquire.

Habitat. The environment in which the character was raised. Each character's habitat consists of a home environ (expressed in terms of the contour of the land and its major features), a gravity type, a temperature range and, in some cases, an urban background.

Potential. A numerical rating, expressed as a multiplier from **½** to **4**, representing the strengths and weaknesses exhibited by the character in his childhood. There are four potentials: physique, coordination, intellect, and social background. Once character generation is completed, potentials have no effect on the character.

Skill. A specific area of expertise that may be acquired by a character. During character generation, each character receives *Initial* Skill Points, with which to acquire skills before entering a profession, and normal Skill Points, with which to acquire skills while practicing his profession. The proficiency that a character has with a given skill is represented by a numerical *level* ranging from **1** up to a maximum level that varies from one skill to another and is sometimes limited by one of his Characteristic Ratings. **Exception:** An Environ Skill Level or a Gravity Skill Level may be a negative number or **0**. Unlike characteristics, skills may be acquired and improved during play. The nature and use of all skills are detailed in Chapter III. Three skills are introduced in the early part of character generation:

Environ Skill. The character's knowledge and acclimation in a specific environ. Each character receives Skill Levels in all 33 environs listed on the Environ Skill Display of the Character Record during character generation. The single highest Environ Skill Level received is his Skill Level in his home environ.

Gravity Skill. The character's ability to function in a specific gravity type. Each character receives a Skill Level in all four gravity types on the Character Record during character generation. The single highest Gravity Skill Level received is his Skill Level in the gravity type of his home planet.

Urban Skill. The character's familiarity with the ways of city life and the upper classes. Certain characters receive an Urban Skill Level during character generation; those that do not are considered to come from essentially rural areas.

Study Point. A representation of a commitment by the character to a certain field of study. Each character receives **2** to **6** Study Points which he expends to enter any of the seven fields of study.

Character Generation Sequence

To generate a character, the player should conduct the following steps in order. The specific procedures mentioned in this outline are explained in detail in Sections 5.0, 6.0, and 7.0.

A. Character Heritage

1. Determine 4 Potential Multipliers. Each character begins as a series of four numbers, representing his potential in the areas of physique, coordination, intellect, and social background.

2. Calculate the number of Study Points the character receives. A character receives from **2** to **6** Study Points, depending on his potentials.

3. Determine the character's natural habitat. This includes the character's home environ, his Skill Levels in all environs, his Skill Levels in various gravities, his comfortable temperature range, and his Skill Level in urban areas. Certain characters may come from a deep-space environ.

4. Determine the character's social standing. Each character receives a particular family history and initial wealth. Each character receives from **1** to **5** Initial Skill Points, depending on his social standing.

B. Character Development

5. Choose fields of study for the character. Study Points are expended to choose any of seven fields of study.

6. Choose initial skills for the character. Initial Skill Points are expended to choose a variety of basic skills. Skills that may be chosen depend on the character's fields of study.

7. Determine the character's 9 Characteristic Ratings. The character's Potential Multipliers and fields of study affect the determination of his characteristics.

C. Character Professions

8. Choose a profession for the character. Any one of 23 professions is available, depending on the character's fields of study and Characteristic Ratings.

9. Declare how many years the character will practice his profession. A character may not be able to spend as many years at his profession as the player declares; he may be discharged or without work for part of the declared time.

10. Determine the effects of age on the character. His physical characteristics (strength, endurance, dexterity, and agility) may be reduced if the character is beyond the age of 24.

11. Calculate the number of Skill Points the character receives. The character's profession, his Intelligence Rating, and the number of years he spent at it affect the number of Skill Points received.

12. Choose skills for the character. Skill Points are expended to choose and improve a variety of skills related to the character's profession and his fields of study. Mark any skills for which the character is eligible that were not chosen for him.

13. Determine benefits the character receives from his profession. Weapons, equipment, money and/or prestige are available to a character, depending on how long he spent at his profession.

[5.0] Character Heritage

The early years of a character's life are very important in forming the basis of his physical and mental makeup. The well-being of his predecessors determines the opportunities the character will be able to exploit. Each character receives a series of potential values representing an early assessment of his attributes, skills in the habitat in which he was raised, and a financial endowment based on his family's social standing.

[5.1] **The player begins generating his character by determining the character's potential in the areas of physique, coordination, intellect, and social background.**

For each of these four, the player rolls one die and locates the result on the **Character Heritage Table** (page 26) to find the character's *Potential Multiplier* for that area.

The player must roll for each Potential Multiplier in the order listed above. As each potential is determined, its Multiplier is recorded on the Character Record.

After determining all four potentials, the player *adds* the multipliers together to find how many *Study Points* his character receives, in accordance with the **Character Heritage Table** (page 25).

Note the number of Study Points received on the Character Record.

[5.2] **The player uses the Habitat Table to determine the natural environment**

in which his character grew up and in which he will be most effective during play.

The player rolls one die to determine the column of the Table used and rolls a second die to determine the entry referred to in that column. The second die result is modified by *adding* the character's *Physique Multiplier* and *subtracting* his *Coordination Multiplier.* A multiplier of ½ is considered **0** for this purpose. Each entry on the Home Environ Table contains the following information:

The specific type of environ from which the character comes. Each environ type is stated as a two-part abbreviation, explained on the Table. The first part represents the contour of the land (flat, hills, mountains, or peaks). The second part represents the major features of the land (volcanic, craters, barren, light vegetation, woods, forest, jungle, marsh, or ice). Exceptions to this two-part system include the three *water* environs (inland waterways, sea surface, or sea submerged). Certain characters may be able to choose a *deep-space* environ (see 5.5).

The character's Home Environ Skill Level. Each character receives a Skill Level ranging from **1** to **6** in his home environ. This level may be reduced if the player chooses to increase his character's *Gravity* Skill Level (see 5.4). A character's Skill Level in his home environ affects his Skill Level in other environs and may be improved during play of the game.

The gravity on the character's home planet. Each gravity type is stated as an abbreviation, explained on the Table. *Near weightless* gravity represents from **0.0** to **0.4G**, *light gravity* represents from **0.7** to **1.0G**, *heavy gravity* represents from **1.3** to **1.7G**, and *extreme* gravity represents from **2.0** to **2.5G**. Each character is considered to be at Skill Level 1 in his own gravity type and at lesser Skill Levels in other gravity types (unless his Gravity Skill Level is increased per 5.4). Gravity Skills may also be improved during play.

The temperature range in the character's home environ. Each temperature range is stated as an abbreviation, explained on the Table. *Cold* ranges from **−50** to **0** degrees Fahrenheit; *normal* ranges from **25** to **100** degrees; and *hot* ranges from **125** to **175** degrees. Characters receive no Skill Level in their temperature range.

The character's Urban Skill Level. Certain results give a character an Urban Skill Level ranging from **1** to **4**. If a result from the Table lists no Urban Skill Level, the character receives none. A character's Urban Skill may be improved during play.

[5.3] **Habitat Table**
See page 26.

[5.4] **The player records the information obtained for his character from the Habitat Table on the Character Record as follows:**

- If an Urban Skill Level is obtained, note the number in the Urban Skill Level box.
- Place an **X** rather than a number in the Temperature space corresponding to the character's comfortable temperature range.
- Record a **1** in the proper Gravity Type box. If desired, a character's Gravity Skill Level may be *increased* at this time by *reducing* the *Environ Skill Level* the character received. Thus, a character that received an Environ Skill Level of **3** may receive a Gravity Skill Level of **2** (or **3**) in his gravity type by reducing his Environ Skill Level to **2** (or **1**). A character's Environ Skill Level may never be reduced below **1**. A character's *Urban Skill Level* may not be reduced to increase his Gravity Skill Level. After recording the character's Gravity Skill Level, *subtract* **2** from the Level and record this result in the Gravity Type boxes *adjacent* to the character's home Gravity Type box (even if the number is negative). Then subtract **2** *more* and note this result in the box adjacent to the boxes just filled in. Repeat this once more if necessary. These numbers represent the character's Gravity Skill Levels in gravity types other than the one in which he grew up. **Example:** A character has a Skill Level of **1** in *Light Gravity.* A **−1** is entered in the *Near Weightless* box and in the *Heavy* box. A **−3** is entered in the *Extreme* box.
- Record the character's Environ Skill Level in the proper box of the Environ Skill Display. The Level may be reduced if the character's Gravity Skills were increased (see preceding). Then *reduce* the Environ Skill Level by **1** and enter this number in every box on the Display *directly adjacent to a side* (not diagonal) of the character's Home Environ box. Reduce the Skill Level by **1** *again* and enter this number in every box on the display directly adjacent to the boxes just filled in. Repeat this process until the entire Environ Skill Display is filled. Negative numbers will be used in some boxes. However, an Environ Skill may never be below **−6**. These numbers are the character's Environ Skill Levels in environ types other than the one in which he grew up.

Example: The player has filled out the Display to show the Environ Skill Levels that his character (who has a Skill Level of **4** in his home flat/jungle environ) has in all possible environs.

[5.5] **The player may choose a deep-space environ for his character if the character meets the following prerequisites:**

- He has a *Physique* Multiplier of ½ or **1**.
- He has a *Coordination Multiplier* of **3** or **4**.
- His home planet gravity type is *near weightless.*

The player may voluntarily declare that such a character is from a deep space environ, such as an orbiting space station, a spaceport, or an asteroid mining complex. The character's Habitat Table result is ignored and his Character Record is *not* filled out in accordance with 5.4. Instead, the following steps are conducted:

1. The character receives an Urban Skill Level of **4**; note this in the Urban Skill Level box on the Character Record.

2. The character is accustomed to normal temperatures; place an **X** in the Normal Temperature space.

3. The character has a Near Weightless Gravity Skill Level of **3**; enter a **3** in the Near Weightless box, a **0** in the Light Gravity box, a **−2** in the Heavy Gravity box, and a **−5** in the Extreme Gravity box.

4. The character is accustomed to no natural environs; enter a **−4** in all 33 boxes of the Environ Skill Display.

When using the Social Standing Table (see 5.6), add twice the character's Social Background Multiplier to the die result *only* (the character's Urban and Environ Skill Levels are ignored).

When expending Initial Skill Points (see 6.2), the following skills may be chosen in addition to those listed for the character in 6.3: agriculture, EVA, and asteroid mining. These skills are *not* available to the character when expending Skill Points acquired from his profession (unless they are listed in his profession or one of his fields of study).

[5.6] **The player uses the Social Standing Table to determine his character's family history and the**

ENVIRON SKILL DISPLAY

	Volcanic (VO)	Craters (CR)	Barren (BN)	Lt Veg (LV)	Woods (WD)	Forest (FT)	Jungle (JU)	Marsh (MA)	Ice (IC
Peaks (PK)	-5	-4	-3	-2	-1	0			
Mountains (MN)	-4	-3	-2	-1	0	1	2		
Hills (HL)	-3	-2	-1	0	1	2	3	2	1
Flat (FL)		-1	0	1	2	3	4	3	2
Inland Water (IN)								2	
Water Surface (SF)								1	
Water Submerged (SB)								0	

amount of money with which he is endowed.

The player rolls one die and modifies the die result as follows:

• *Double* the character's *Social Background Multiplier and add* the product to the die result.

• *Add* the character's *Urban Skill Level* to the die result.

• *Subtract* the character's *Home Environ Skill Level* from the die result (use the number derived from the Habitat Table, before it was reduced to increase Gravity Skill Levels).

Note the social standing result corresponding to the modified die result on the Character Record.

Roll one die again and *multiply* the die result by the amount of money shown for the acquired social standing. Note this product on the Character Record. Remember, one Tran equals 1,000 Mils.

The Initial Skill Point Modifier shown for the acquired social standing is used in conjunction with 5.8.

Aside from determining how much money and how many Initial Skill Points he receives, a character's social standing will affect him during play. When encountering NPC's and when dealing with bureaucracy and government, the GM should take into account a character's social standing. Class distinctions in *Universe* are not as pronounced as in, say, a feudal society; but people still feel most comfortable with those of similar background.

[5.7] **Social Standing Table**
See page 27.

[5.8] The player determines how many Initial Skill Points his character receives for experience gained in the early part of his life.

The player rolls one die, adds the Initial Skill Point Modifier (listed with the character's social standing on the Social Standing Table) to the die result, and refers to the **Initial Skill Points Table** (page 27).

A player expends Initial Skill Points after choosing fields of study for his character (see 6.2).

[6.0] Character Development

Each character undertakes one or more fields of study during his teen years. His schooling provides him with basic skills and, along with his potentials, determines his final characteristics.

[6.1] The player expends Study Points to have his character undertake any of 7 fields of study.

These include theoretical science, applied science, business, the humanities, the mind, the body, and the military. An eighth field of study, general, is automatically undertaken by every character, with no charge in Study Points.

Each field of study costs **1** Study Point to enter (**Exception**: See the *mind*, following). The player declares which fields of study his character is entering and notes the choices on his Character Record. A character may enter any given field of study *twice* at a cost of **2** Study Points (representing heavy concentration by the character in that field). If this is done, write the field of study twice on the Character Record. A given field of study may not be studied more than twice.

Restrictions on the Study of the Mind: A character must have an *Intellect* Potential of at least **2** in order to study the mind. The expenditure of **2** Study Points is required to study the mind *once*; **4** Study Points must be expended to study the mind *twice*. A character may *not* study the mind if he is studying the *military* and/or *business*.

A player should expend all his available Study Points when generating his character. Unused Study Points are useless during play.

[6.2] The player expends Initial Skill Points to give his character basic skills acquired in youth.

The expenditure of **1** Initial Skill Point allows the character to receive any skill for which he is eligible at Skill Level 1 *only*. No more than **1** Initial Skill Point may be expended for a particular skill at this time.

The types of skills that may be chosen for a character depend on his fields of study. The skills listed in 6.3 may be chosen for a character that has undertaken the appropriate field of study. At this time, a character may receive no skill that is not mentioned in one of his chosen fields of study. All characters may receive skills in the *general* category on the skill list.

Initial Skill Points that are not expended before determining characteristics are lost.

[6.3] The following skills may be chosen for a character that has undertaken the appropriate field of study.

See Chapter III for a detailed explanation of each of these skills.

Theoretical Science: Chemistry, physics, programming, biology, geology, astronomy.

Applied Science: Suit tech, electro tech, construction, vehicle tech, programming.

Business: Programming, recruiting, law, economics, trading.

Humanities: Linguistics, diplomacy, law, teaching.

The Mind: Psionic boost, psionic communication, life sense.

The Body: Unarmed combat, ambush, EVA, gravity (home gravity type only), jet pack, survival.

Military: Battlefield, longarms, handguns, demolitions, grenades.

General: Streetwise, laser/stun pistol, gambling, blades, ground vehicles, urban (only if character already has an Urban Skill Level of **1** or greater), environ (home environ only).

[6.4] The player determines his character's 9 characteristics one at a time, by using the Characteristic Modifier Chart and the Characteristic Generation Table.

The Characteristic Modifier Chart is used to calculate the effect of the character's potentials and fields of study on each characteristic. The Characteristic Generation Table is used to find the actual rating of each characteristic.

For each characteristic, the player completes the following steps:

1. *Add together* all numbers listed for the characteristic on the Modifier Chart that correspond to the fields of study undertaken by the character. If a given field was studied *twice,* double the corresponding number. Note that every character is considered to have undertaken the *general* field of study and may add its number to the total.

2. Check the *potential* section of the chart to find which potential affects the characteristic and multiply the total determined in Step 1 by the Potential Multiplier. If *two* potentials affect the characteristic, multiply the total by the first Potential Multiplier and then multiply this product by the second Potential Multiplier.

3. Roll percentile dice and add the final product derived in Step 2 to the dice result. Locate this modified result on the Characteristic Generation Table to find the rating for the characteristic. Mark the rating on the Character Record.

Important: If an *Agility Rating* of *less than* **5** is received at this time, it is considered a **5**. The *Mental Power Rating* is *divided by* **2** (rounding fractions up) before being noted on the Character Record. The Mental Power Rating may range from **0** to **6**.

This procedure is conducted nine times when generating a character — once for each characteristic.

Note that no potentials affect the aggression characteristic. The modifiers listed under aggression on the Modifier Chart are simply added to (or subtracted from) the characteristic generation dice result, as appropriate.

[6.5] **Characteristic Modifier Chart**
See page 27.

[6.6] **Characteristic Generation Table**
See page 27.

[7.0] Character Professions

Every character in *Universe* undertakes a profession — a particular area of employment where he may hone his abilities, gain skills, accumulate wealth, and/or acquire weapons and equipment otherwise difficult to obtain. There are 23 professions, including seven branches of military service. However, the character must fulfill certain requirements to enter a profession, and sometimes these are quite strict. A character with poor attributes can always be a *colonist* for a short while and start his adventuring early, while still young and naive. Each character practices his profession for a number of years and, if he has been in the military, is then discharged; if he has been in a commercial profession, he is considered "for hire" at the end of his term of employment, and his life of individual exploits then commences.

Each character is considered to be 20 years old upon entering a profession. The player should look over the entire list of professions before choosing one, and then note

his choice on the Character Record. The procedures of the following Cases should be carried out in order by each player that is generating a character.

[7.1] **Each profession has a list of prerequisites that a character must fulfill in order to enter that profession.**

Certain fields of study must have been undertaken by the character. Some of his Characteristic Ratings must meet certain minimums. In some professions, a certain amount of initial wealth is required and/or other special requirements must be met. A character that does not meet all the prerequisites of a given profession may not enter that profession.

[7.2] **A character with a Mental Power Rating of 5 or 6 may enter certain professions whether or not he meets any prerequisites of that profession.**

Such professions list a *mental power waiver* in their prerequisites, and include star sailors, scouts, space pirates, armed traders, and merchant explorers.

A character that enters one of these professions in this manner is considered to be a *psionic navigator*, an interstellar pilot whose psionic powers enhance the efficiency and accuracy of hyperjumping. Such a character must spend **2** Skill Points acquired from his profession (see 7.5) to achieve *Navigator* Skill Level 2 and **2** more Skill Points to achieve *Pilot* Skill Level 2. If the character receives fewer than **4** Skill Points for practicing his profession, he must apply all the points to these two skills as evenly as possible. Other than these requirements, a psionic navigator undertakes his profession like any other character. If he wishes, however, he may choose additional Skill Levels in navigation and piloting within the restrictions of 7.6.

[7.3] **The player must declare how many years his character wishes to spend at his profession and then must use the Employment Table to determine how many years are actually spent in the profession.**

The player declares that his character wishes to spend **4, 8, 12, 16** or **20** years at his profession. Then he carries out one of the following procedures:

- *If the character is a colonist or a thinker,* the declared number of years is the *actual* number of years employed. The Employment Table is not used. Add **20** to the number of years spent in the profession and note this sum as the character's age on the Character Record.
- *If the character is in a military profession,* roll one die and cross-reference the die result with the column of the Employment Table corresponding to the declared years of employment. The result represents the *actual* number of years the character served before being discharged. Add **20** to the actual number of years employed and note this sum as the character's age on the Character Record. The character is considered to be at the point in his life immediately after his discharge; his declared years of employment has no further effect on play and does not count against him if greater than his actual years of employment.
- *If the character is in any other profession,* add **20** to the *declared* years of employment and note this sum as the character's age on the Character Record. Then roll one die and cross-reference the die result with the column of the Employment Table corresponding to the declared years of employment. The result represents the *actual* number of years in which the character was gainfully employed. If the result is less than the *declared* number of years, the difference in years is considered to be time of *unemployment*; the character does not receive the benefits of experience from those years, but has aged through them.

[7.4] **If a character is 28 years of age or older, the player must use the Effects of Age Table to determine if any of the character's physical characteristics are permanently reduced.**

The player rolls one die and *adds* the character's *age* to the die result. He then locates the modified result on the Table to find how many points must be removed from his character's Endurance, Agility, Strength, and/or Dexterity Ratings. Points must be removed from among the characteristics as evenly as possible *in the order indicated.* Erase the listed rating and replace it with the new reduced rating. **Example:** A 36 year old character receives a reduction result of **5** from the Table. The player reduces the character's Endurance Rating by **2** and his Agility, Strength, and Dexterity Ratings each by **1**.

A single rating may not be reduced below **1** in this manner. If this were about to happen, skip to the next characteristic.

[7.5] **Each profession description contains a Skill Point Modifier used with the Skill Point Table to determine the number of Skill Points the character receives.**

The player refers to the column of the table matching his character's *actual* years of employment. He then rolls one die, *adding* the character's *Intelligence Rating* and the *Skill Point Modifier* to the die result. Locating the modified die result in the proper column yields the number of Skill Points that the character receives for practicing his profession.

[7.6] **Skill Points are expended to purchase a variety of skills for the character, representing expertise acquired during his years of employment.**

A player may choose any skills for his character that are listed in his profession description. He may also choose any skills in the listings for the character's fields of study in 6.3. **Exception:** A character that studied the mind may choose or improve only a skill from that field of study if his Mental Power Rating is **4** or greater. Any skills listed in the *general* category of 6.3 are also available. The expenditure of **1** Skill Point allows the character to receive **1** Skill Level in any skill for which he is eligible. Skill Points may be expended to receive more than one level in a given skill (at the rate of **1** point per level), within the following restrictions:

- If the character was employed for **4** years, no single skill may exceed Level 3.
- If the character was employed for **8** to **12** years, no single skill may exceed Level 4.
- If the character was employed for **16** to **20** years, no single skill may exceed Level 5.

The skill list in each profession may place additional restrictions on specific skills or may require the acquisition of a certain skill. A character that received a skill by the expenditure of an *Initial* Skill Point (see 6.2) may now expend Skill Points to increase the level of that skill, but he is still subject to these restrictions.

A player may improve an environ skill (if allowed by his fields of study or profession) by expending a Skill Point. The expenditure of **1** Skill Point allows the player to increase the Skill Level in **1** environ *and the* **4** *environs directly (not* diagonally) *adjacent to it* on the Environ Skill Display by **1** level each. Thus, a Skill Point expended to increase woods/hills would also increase light vegetation/hills, woods/mountains, woods/flat, and forest/hills. Environ, urban, and gravity Skill Levels are not affected by the years of employment restrictions in this Case; however, the limits listed in 15.0 must be adhered to.

After all chosen skills have been assigned Skill Levels, the player places an **X** in each Skill Level space for every skill his character was eligible to receive but did not take. This includes all skills listed for his profession, his fields of study and, if from a deep space environ, those listed in 5.5. Skills marked in this manner are familiar to the character and he will be able to acquire them easily during play (see 8.2).

[7.7] **Each profession description contains a variety of material benefits the character may receive from practicing that profession.**

The player rolls one die and adds the character's actual years of employment to the die result. He then locates the modified die result on the Benefit Table to find his character's Benefit Level (a letter from **A** to **F**). The character receives the benefits listed for the acquired Benefit Level in the description of his profession.

Benefits include weapons, equipment and/or cash. The capabilities of weapons and equipment are detailed in Chapter **V**. Cash is received as *lump sum* (add this to any money the character may possess) or as a *multiplier* (multiply the listed amount of money by this number). Characters in a military profession also receive a *rank of office*, a duty uniform, a dress uniform (uniforms are not listed in the benefits) and, in some instances, an annual pension.

GM Note: The rank a character achieves in a military profession will help him during play when dealing with other military characters and non-player characters, especially if he is wearing his uniform. For example, a captain of the space sailors may receive special favors when travelling in a government spacecraft, such as preferential accommodations or extra information concerning the destination. The GM is responsible for handing out pensions (although the player should record the amount in the Money section of his Character Record). A character's first pen-

sion payment is received one game-year after the character is generated. See 26.2 for time-keeping guidelines.

[7.8] **The Profession Tables include the Employment Table, Effects of Age Table, Skill Point Table, and Benefits Table.**

See page 27.

[7.9] **Each player may choose one of the following 23 professions for his character.**

ASTROGUARD (Military)

A member of a planetary or star system spaceship force. The astroguards protect the spacelanes from privateers and monitor all ship traffic coming into and out of local space. Usually operating in groups of small craft, astroguards also respond to distress calls and are sometimes called upon for combat duty.

Prerequisites: Study of the military; Aggression Rating of at least **5**.

Skill Point Modifier: 1.

Skills Available: Gunnery, missile guidance, space tactics, pilot, air vehicles, EVA, spaceship tech (**1** Level only).

Benefits:

A. Corporal: 300 Mils cash.
B. Flight Sergeant: 1 Tran cash.
C. Flight Lieutenant: 3 Trans cash; internal gravity web.
D. Squadron Leader: 10 Trans cash; 250 Mils per year pension; internal gravity web.
E. Wing Commander: 25 Trans cash; 750 Mils per year pension; internal gravity web.
F. Group Captain: 60 Trans cash; 2.5 Trans per year pension; internal gravity web.

CIVIL INSPECTOR

A civilian employed by the federation's Agency for Interstellar Development. A civil inspector travels from world to world administering the progress of colonization programs. He watches for and prevents private exploitation of planets still in the early stages of development. Although he receives some self-defense training (in case of hostile merchants in isolated areas), a civil inspector usually calls for military aid when things get rough.

Prerequisites: Study of the humanities and business; Characteristic Ratings of at least Intelligence **6**, Leadership **4**, Empathy **6**, and Mental Power **2**.

Skill Point Modifier: 4.

Skills Available: Handguns, unarmed combat, agriculture, biology, planetology, urban.

Benefits:

A. 250 Mils cash.
B. 700 Mils cash; translator.
C. 2 Trans cash; translator or interstellar commlink.
D. 7 Trans cash; translator and interstellar commlink.
E. 20 Trans cash; Frazette Blue robot with information system and recorder system.
F. 40 Trans cash; Manner 23sd robot with information system, weapon targeting system, laser pistol system, recorder system.

COLONIST

A citizen of the federation, living and working on a newly settled planet.

Prerequisites: None.

Skill Point Modifier: 0.

Skills Available: Trading, air vehicles, marine vehicles, agriculture, mining.

Benefits:

A. Nothing.
B. 1 Tran.
C. 2 Trans; Civ Level 6 laser pistol.
D. 4 Trans; Civ Level 6 laser pistol.
E. 8 Trans; car.
F. 15 Trans; Civ Level 5 automobile; Civ Level 6 laser pistol.

DIPLOMAT

An employee of the federation or any planet government serving as a representative to other planets. Diplomats are "couriers" of official decisions and agreements. As a symbol of goodwill, diplomats enjoy great hospitality whenever visiting an area in an official capacity.

Prerequisites: Study of the humanities and the mind; Characteristic Ratings of at least Intelligence **7**, Empathy **7**, Mental Power **2**. The Aggression Rating may not exceed **6**. The character's initial wealth must be at least 1 Tran.

Skill Point Modifier: 8.

Skills Available: Recruitment, programming, computer/robot tech (**1** Level only), urban.

Benefits:

A. 300 Mils cash.
B. 1 Tran cash; audio-sealed case.
C. 3 Trans cash; audio-sealed case; translator.
D. 10 Trans cash; audio-sealed case; translator; interstellar commlink.
E. 25 Trans cash; Manner 38sdf robot with holographer system, language system.
F. 60 Trans cash; Soidistant V-201 with creative thought system, holographer system.

DOCTOR

An esteemed member of the medical profession. The state of medicine in the 24th Century allows MD's to perform feats of healing approaching the miraculous. Doctors work out of medical offices in urban areas or, in sparsely populated colonies, travel from settlement to settlement as called for.

Prerequisites: Study of theoretical and applied science; Characteristic Ratings of at least Dexterity **7**, Intelligence **8**, Mental Power **2**, and Empathy **6**.

Skill Point Modifier: 10.

Skills Available: Teaching, diagnosis, treatment.

Benefits:

A. First aid kit.
B. 3 Trans cash; first aid kit.
C. 1 Tran × Intelligence Rating in cash; Civ Level 6 mediscanner.
D. 4 Trans × Intelligence Rating in cash; Civ Level 6 mediscanner.
E. 10 × Intelligence Rating in cash; Civ Level 8 mediscanner.
F. 20 Trans × Intelligence Rating in cash; Manner 36sdf robot with medical system.

ENFORCER

A privately employed bodyguard, soldier, or security specialist. Enforcers usually work for corporations that control a large area of a world, executing the rules of the company or patrolling restricted lands. Enforcers are sometimes hired by backwater colonies to quell criminal activity or civil unrest. Enforcers are generally disliked by those they are watching over.

Prerequisites: Study of the mind and the body; all Physical Characteristics must be at least **4**; Intelligence must be at least **5**; Leadership must be at least **5**.

Skill Point Modifier: 6.

Skills Available: Battlefield, demolitions, machine guns, longarms, handguns, paint gun, recruiting, law, military ground vehicles.

Benefits:

A. 500 Mils cash.
B. 1.5 Trans cash.
C. 3 Trans cash; Civ Level 5 pistol.
D. 10 Trans cash; Civ Level 8 laser pistol.
E. 25 Trans cash; Civ Level 8 paint gun.
F. 60 Trans cash; Civ Level 8 paint gun; Civ Level 5 submachine gun.

EXPLORER

A crewman or part-owner of an interstellar exploration vessel. Explorers organize and carry out private expeditions to unsettled planets, gathering information to facilitate future commercial development. Often their efforts are financed by large corporations and private investors. Explorers are most concerned with the profitable gain of knowledge; they rarely transport large cargoes and their ships are not usually armed.

Prerequisites: Study of business and either theoretical or applied science; Characteristic Ratings of at least Intelligence **7**, Mental Power **3**, and Empathy **4**. The character's initial wealth must be at least 500 Mils. The mental power waiver applies (see 7.2).

Skill Point Modifier: 7.

Skills Available: Handguns, paint gun, gunnery, pilot, linguistics, survival, air vehicles, marine vehicles, planetology, biology, geology, astronomy, navigation, any environs, any gravity.

Benefits:

A. Nothing.
B. Initial wealth × 3.
C. Initial wealth × 5; Civ Level 8 bioscanner.
D. Initial wealth × 10; Civ Level 8 geoscanner.
E. Initial wealth × 25; neuroscanner.
F. Initial wealth × 50; Manner 50sd robot with bio system, self-activation system, and holographer system.

FREEFALLER (Military)

A soldier in the zero-gravity branch of the federal armed forces. Freefallers are usually assigned to a fleet patrolling a single star system. They attack and defend asteroid belts, small moons, and space colonies, and specialize in spaceship boarding operations.

Prerequisites: Study of **2** of the following fields: applied science, the body, and the military; Characteristic Ratings of at least Dexterity **6**, Agility **7**, and Aggression **4**. The character's home gravity type may not be *heavy* or *extreme*.

Skill Point Modifier: 3.

Skills Available: Near Weightless Gravity Skill Level is automatically increased to **2** (if not already equal to or greater than **2**) at no cost in Skill Points. Battlefield, body armor, machine guns, arc guns, longarms, handguns, jetpack, demolitions, EVA, suit tech, weapon tech, near weightless gravity (in addition to any levels received as described in the preceding).

Benefits:
A. Lancer: 300 Mils cash.
B. Corporal: 1 Tran cash; Civ Level 6 expedition suit.
C. Sergeant: 3 Trans cash; Civ Level 7 expedition suit.
D. Lieutenant: 10 Trans cash; 250 Mils per year pension; Civ Level 7 expedition suit.
E. Captain: 25 Trans cash; 750 Mils per year pension; Civ Level 7 expedition suit; arc gun.
F. Colonel: 60 Trans cash; 2.5 Trans per year pension; Civ Level 7 expedition suit; arc gun; jetpack.

HANDYMAN

An engineer or technician working with any kind of planet-based technology. Handymen build and repair electrical devices, protective suits, weapons, computers, robots, and vehicles. They are employed by all branches of government, military and commercial concerns.

Prerequisites: Study of applied science *twice*; Characteristic Ratings of at least Dexterity **6** and Intelligence **6**.

Skill Point Modifier: 5.

Skills Available: Agriculture, programming, physics, energy tech, spaceship tech (**1** Level only), weapon tech, computer/robot tech.

Benefits:
A. Basic repair kit.
B. 1 Tran cash; basic repair kit.
C. 3 Trans cash; Civ Level 7 electrokit.
D. 10 Trans cash; Civ Level 8 electrokit.
E. 20 Trans cash; Civ Level 8 vehicle kit.
F. 40 Trans cash; Civ Level 8 vehicle kit and robot kit.

INTERSTELLAR TRADER

A crewman or part owner of an interstellar freight vessel. Traders travel from world to world, purchasing and selling goods for profit. Trader ships are usually armed, as a defense against space pirates and unfriendly planet governments. Although traders stay on the right side of the law, they are always willing to venture away from established trade routes if good money can be made.

Prerequisites: Study of business; Characteristic Ratings of at least Intelligence **6** and Mental Power **2**. The character's initial wealth must be at least 1 Tran. The mental power waiver applies (see 7.2).

Skill Point Modifier: 4.

Skills Available: Longarms, handguns, arc gun, gunnery, missile guidance, space tactics pilot, linguistics, diplomacy, asteroid mining, astronomy, EVA.

Benefits:
A. Nothing; all initial wealth lost.
B. Civ Level 7 business computer.
C. Initial wealth × 2; business computer.
D. Initial wealth × 5; business computer.
E. Initial wealth × 12; business computer.
F. Initial wealth × 30; Brummagen II robot with spaceship tech system; business computer.

LAWMAN (Military)

A member of a planetary law enforcement agency. Lawmen perform the functions of today's policemen, protecting the citizenry and investigating crimes. However, the sparse and spreadout populations of most worlds often require lawmen to travel from settlement to settlement executing justice wherever necessary, much like the marshals of the old west.

Prerequisites: Study of the body and the humanities; all Physical Characteristic Ratings must be at least **4**.

Skill Point Modifier: 3.

Skills Available: Machine guns, longarms, handguns, paint gun, air vehicles, marine vehicles, urban, any environs, any gravity.

Benefits:
A. Patrolman: 250 Mils cash.
B. Constable: 700 Mils cash; Civ Level 6 laser pistol.
C. Sergeant: 2 Trans cash; Civ Level 8 laser pistol.
D. Marshal: 7 Trans cash; Civ Level 6 paint gun and used rover (ATV).
E. Inspector: 20 Trans cash; 500 Mils per year pension; Civ Level 8 paint gun.
F. Chief: 40 Trans cash; 2 Trans per year pension; Civ Level 8 paint gun and any handgun.

MERCHANT

A trader of goods on the local (planetary) level. Merchants travel from settlement to settlement on a sparsely populated world, or arrange for transport of goods from point to point on a world. Merchants handle everything from basic foodstuffs to fine electronic equipment to contraband.

Prerequisites: Study of business *twice* or study of business *and* applied science; Characteristic Ratings of at least Intelligence **5** and Empathy **7**. The character's initial wealth must be at least 1 Tran.

Skill Point Modifier: 5.

Skills Available: Diplomacy, air vehicles, marine vehicles, agriculture, electro tech, computer/robot tech, vehicle tech, urban, any environs.

Benefits:
A. Nothing; all initial wealth lost.
B. Civ Level 7 business computer.
C. Initial wealth × 3; Civ Level 7 business computer.
D. Initial wealth × 10; Civ Level 7 business computer.
E. Initial wealth × 20; Civ Level 5 truck.
F. Initial wealth × 40; Civ Level 7 jet.

RANGER (Military)

A soldier in the standard federal ground force. A ranger's responsibilities cover all aspects of line and garrison duty on a planet surface, including air and marine patrol. During combat, rangers come in as the "second wave" following the spacetroopers and carrying out any "mopping up" operations.

Prerequisites: Study of the military and the body; all Physical Characteristic Ratings must be at least **4**.

Skill Point Modifier: 2.

Skills Available: Artillery, machine guns, paint gun, bows, military ground vehicles, air vehicles, marine vehicles, weapon tech, vehicle tech, treatment, any environs.

Benefits:
A. Ranger: 300 Mils cash; respirator.
B. Corporal: 1 Tran cash; Civ Level 6 respirator helmet.
C. Sergeant: 3 Trans cash; Civ Level 8 respirator helmet.
D. Lieutenant: 10 Trans cash; 250 Mils per year pension; Civ Level 8 respirator helmet; Civ Level 6 laser pistol.
E. Captain: 25 Trans cash; 750 Mils per year pension; Civ Level 8 respirator helmet; Civ Level 8 laser pistol.
F. Colonel: 60 Trans cash; 2.5 Trans per year pension; Civ Level 8 respirator helmet and paint gun.

REPORTER/JOURNALIST

A newsperson or media personality, this individual can become widely known, can establish contacts on many levels of federation society, from the underworld to the high echelons of government, and can be sent to dangerous and exotic places on assignment at no cost to self (other than to his safety).

Prerequisites: Study of the humanities and either business or theoretical science; Characteristic Ratings of at least Intelligence **7**, Mental Power **2**, Aggression **5**.

Skill Point Modifier: 7.

Skills Available: Unarmed combat, survival, disguise, forgery/counterfeiting, urban, air vehicles, programming, electro tech, recruiting.

Benefits:
All reporters receive an audio recorder.
A. Nothing additional.
B. 2 Trans cash; photographic equipment.
C. Credentials with planetary news service; 500 Mils × Intelligence Rating in cash; superoid camera.
D. Credentials with star system news service; 3 Trans × Intelligence Rating in cash; basic holographer.
E. Credentials with federation-wide news service; 10 Trans × Intelligence Rating in cash; shoulder holographer.
F. Media celebrity throughout federation; 25 Trans × Intelligence Rating in cash; Manner 38sdf robot with information system, holographer system.

The GM should take a reporter's status into account when the character requests information, assistance, or financial backing from commercial, government, or media officials.

SCIENTIST

A researcher or inventor employed by the federation or by a private concern. Scientists specialize in any of the physical sciences and are the powers behind the advanced technology and discoveries of the 24th Century. As such, any expedition or venture of an exploratory nature will receive much more support if a qualified scientist participates.

Prerequisites: Study of **2** of the following: theoretical science, applied science, or the humanities; Intelligence Rating of at least **8**.

Skill Point Modifier: 9.

Skills Available: Teaching, agriculture, chemistry, planetology, programming (**1** Level only), biology, geology, astronomy, energy, computer/robot tech (**1** Level only).

Benefits:
A. 1 Tran cash.
B. 2 Trans cash; Civ Level 5 chemlab.
C. 500 Mils × Intelligence Rating in cash; Civ Level 6 chemsynthesizer.
D. 2 Trans × Intelligence Rating in cash; Civ Level 7 chemlab.
E. 6 Trans × Intelligence Rating in cash; Civ Level 8 bioscanner and geoscanner.
F. 15 Trans × Intelligence Rating in cash; Frazette Amber robot with geo system, chemical system, bio system, and information system.

SCOUT (Military)

A member of the exploration branch of the federal armed forces. Scouts lead the way to unexplored worlds, gathering specimens and information, forging the path for future colonization. Scouts usually work in small teams when conducting an expedition and sometimes work alone. Although administered by the military, the scouts rarely participate in actual combat.

Prerequisites: Study of theoretical or applied science; all Physical Characteristics must be at least **3**; Characteristic Ratings of at least Mental Power **2** and Empathy **6**; the mental power waiver applies (see 7.2).

Skill Point Modifier: 4.

Skills Available: Longarms, handguns, pilot, EVA, survival, air vehicles, marine vehicles, jetpack, planetology, treatment, biology, geology, astronomy, suit tech, any environs, any gravity.

Benefits:
A. Scout Second Class: 300 Mils cash.
B. Scout First Class: 1 Tran cash; Civ Level 6 expedition suit.
C. Masterscout: 3 Trans cash; Civ Level 7 expedition suit.
D. Single Scout: 5 Trans cash; Civ Level 7 expedition suit, neuroscanner, and rover.
E. Expedition Leader: 25 Trans cash; 750 Mils per year pension; Civ Level 7 expedition suit and crawler.
F. Scout Commodore: 60 Trans cash; 2.5 Trans per year pension; Civ Level 7 expedition suit and used explorer pod.

SPACE PIRATE

A crew-member or owner of an outlaw spaceship. Space pirates waylay commercial vessels in interplanetary space, smuggle legal and illegal goods, and terrorize asteroid mining operations and small colonies. Pirate vessels may sometimes be chartered for secret journeys to distant parts at exorbitant prices.

Prerequisites: All Physical Characteristics must be at least **4**; Characteristic Ratings must be at least Aggression **6** and Mental Power **2**. The character must *not* have studied the humanities. The mental power waiver applies (see 7.2).

Skill Point Modifier: 6.

Skills Available: Body armor, handguns, paint gun, arc gun, bows, unarmed combat, gunnery, missile guidance, space tactics, pilot, linguistics, disguise, forgery/counterfeiting, EVA, air vehicles, asteroid mining, planetology, astronomy, spaceship tech, weapon tech, near weightless gravity.

Benefits:
All space pirates receive an internal gravity web.
A. Nothing; all initial wealth lost.
B. Initial wealth × 2.
C. Initial wealth × 4; wanted by federation.
D. Initial wealth × 10.
E. Initial wealth × 10; *Terwillicker 5000* battlecraft; wanted by federation.
F. Initial wealth × 20; *Piccolo* spaceship with light weapon pod.

Before beginning play, a space pirate may turn any amount of his money into booty. He may purchase any weapons, robots, or equipment as if he were on a Civ Level 6 world with no law restrictions. No bargaining is allowed. If a space pirate is wanted by the federation, the GM should take this into account when the character encounters any planetary law enforcement NPC's, and especially when he encounters any federal authorities (see 27.0). The character should be kept constantly on the run.

SPACE TECHNICIAN

A specialist in the design, construction, and repair of spaceships and related equipment. Space techs are indispensable members of any lengthy space voyage. Usually employed by commercial shipping companies and ship manufacturers, space techs are sometimes called upon by governments and military branches for their specialized services.

Prerequisites: Study of applied science *twice*; Characteristic Ratings of at least Dexterity **7**, Intelligence **7**, and Mental Power **2**.

Skill Point Modifier: 8.

Skills Available: Psion tech (**1** Level only), EVA, programming, astronomy, physics, energy tech, spaceship tech, computer/robot tech.

Benefits:
A. 500 Mils cash.
B. 2 Trans cash.
C. 5 Trans cash; Civ Level 7 electrokit.
D. 15 Trans cash; Civ Level 8 electrokit.
E. 30 Trans cash; Civ Level 7 spaceship kit.
F. 60 Trans cash; Frazette Amber robot with spaceship tech system, electro tech system, self-activation system.

SPACETROOPER (Military)

A soldier in the federal assault force, specializing in body armor combat on planet surfaces. Troopers are famous for their mass assaults, rapid victories, and *esprit de corps*. Spacetroopers are always at the fore of any major attack and move on once the way is cleared for the standard military forces. Although their operations are sometimes launched from the air, spacetroopers are trained exclusively for ground combat.

Prerequisites: Study of the military and the body; all Physical Characteristics must be at least **6**; Aggression Characteristic Rating must be at least **5**. The character's home gravity type may not be *Near Weightless*.

Skill Point Modifier: 5.

Skills Available: All Gravity Skill Levels except Near Weightless are *automatically* increased to **0** (if not already equal to or greater than **0**) at no cost in Skill Points. Body armor (**1** Level required), artillery, machine guns, paint gun, arc gun, military ground vehicles, suit tech, any environs, any gravity except Near Weightless (in addition to any levels received as described above).

Benefits:
A. Trooper: 300 Mils cash; Civ Level 6 armor vest and respirator helmet.
B. Corporal: 1 Tran cash; Civ Level 6 reflective body armor.
C. Sergeant: 3 Trans cash; Civ Level 7 impact body armor.
D. Lieutenant: 10 Trans cash; 250 Mils per year pension; Civ Level 7 reflect/impact body armor.
E. Captain: 25 Trans cash; 1 Tran per year pension; Civ Level 8 reflective body armor.
F. Colonel: 60 Trans cash; 3 Trans per year pension; Civ Level 8 reflect/impact body armor and arc gun.

SPY

A member of a federal or planetary intelligence agency. Spies are used throughout the federation to gather information and to conduct secret missions on planets that the federation or rival planetary governments are suspicious of. Spies usually work alone, under a variety of identities.

Prerequisites: Study of the mind and the body; Characteristic Ratings of at least Dexterity **7**, Agility **5**, and Intelligence **6**; Urban Skill Level of at least **1**.

Skill Point Modifier: 7.

Skills Available: Demolitions, longarms, handguns, paint gun, arc gun, bows, linguistics, disguise, forgery/counterfeiting, weapon tech, urban.

Benefits:
All spies receive a set of false identity papers.
A. Nothing additional.
B. Civ Level 6 plastic pistol.
C. Any one handgun or laser pistol.
D. 700 Mils cash; Civ Level 8 laser pistol and any other handgun.
E. 4 Trans cash; Civ Level 8 paint gun and any one handgun.
F. 20 Trans cash; arc gun and any one handgun.

STAR SAILOR (Military)

A member of the federal navy, serving aboard a spaceship. Responsibilities may range from plotting courses to piloting a craft to manning the guns during battle. A star sailor is familiar with all manner of known space craft and is more comfortable in a zero-G environment than he is on the ground.

Prerequisites: Study of the military and either applied sciences or the body; Characteristic Ratings of at least Agility **5**, Intelligence **7**, and Mental Power **2**. The character's home gravity type may not be *extreme*. The mental power waiver applies (see 7.2).

Skill Point Modifier: 6.

Skills Available: *Near Weightless* Gravity Skill Level is *automatically* raised to **0** (if not already equal to or greater than **0**) at no cost in Skill Points. Pilot, astronomy, energy tech, suit tech, spaceship tech (**1** Level only), weapon tech, space tactics, gunnery, missile

guidance, EVA, near weightless gravity (in addition to any levels received as described above).

Benefits:
All star sailors receive an internal gravity web and free passage on any interstellar federal craft (for the distance listed in Light Years).
A. Midshipman: 500 Mils cash; no passage.
B. Ensign: 1.5 Mils cash; 10 LY passage.
C. Lieutenant: 4 Trans cash; 300 Mils per year pension; 20 LY passage.
D. Captain: 15 Trans cash; 1 Tran per year pension; 50 LY passage.
E. Commander: 36 Trans cash; 3 Trans per year pension; 100 LY passage.
F. Admiral: 80 Trans cash; 10 Trans per year pension; perpetual passage.

THINKER
A member of the exclusive psionic community. The advanced study of the mind has turned telepathy, telekinesis, and other extraordinary mental abilities into the premier science of the 24th Century. Thinkers effectively control interstellar travel and communications and are thus treated with great respect by government and corporate officials. Because of the freak nature of their powers, however, the general public greets them with a mixture of awe, fear, and mistrust. Thinkers often set up small colonies in luxurious isolation so that they may probe the mysteries of thought undisturbed. A thinker will keep his powers concealed when with non-psions.

Prerequisites: Study of the mind and either applied science or the humanities; Characteristic Ratings of at least Intelligence **7** and Mental Power **5**.

Skill Point Modifier: 10.

Skills Available: Navigation, mind control, psychokinesis, psion tech, teaching.

Benefits:
A. Nothing.
B. Interstellar commlink.
C. 1 Tran cash; interstellar commlink.
D. 3 Trans cash; psionic rig.
E. 10 Trans cash; psionic rig.
F. 25 Trans cash; augmented jump pod.

ZERO-G MINER
A prospecter of ores and precious metals in asteroid belts and on small planetoids. Miners work together in small groups, surveying the entire "ring" of an asteroid belt, staking claims on those rocks that appear promising. Actual mining operations range from a single miner with a rock blaster to orbital mining cities.

Prerequisites: Study of applied science or business; Characteristic Ratings of at least Dexterity **5** and Agility **3**. The character's initial wealth must be at least 500 Mils. The character's home gravity type may not be *extreme*.

Skill Point Modifier: 4.

Skills Available: Near Weightless Gravity Skill Level is automatically increased to **0** (if not already equal to or greater than **0**) at no cost in Skill Points. Pilot, economics, trading, EVA, mining, asteroid mining, geology, electro tech, near weightless gravity (in addition to any levels received as described above).

Benefits:
A. Nothing.
B. Initial wealth × 2.
C. Initial wealth × 3; rock blaster.
D. Initial wealth × 5; Civ Level 8 geoscanner.
E. Initial wealth × 10; rock blaster and Civ Level 8 geoscanner.
F. Initial wealth × 20; Manner 44 robot with force field system, geo system, pilot system, and chemical system.

III. Skills

Characters use skills in all aspects of play. Each skill provides a character with expertise in a specific area of endeavor. The skill descriptions in this Chapter explain when and how each skill can affect play. Each character receives skills during character generation and, once he begins adventuring, a character may improve those skills and acquire others.

Each skill description lists the *maximum level* that may be achieved in that skill (for example, the maximum level that may be achieved in the geology skill is **7**). Each skill also lists a *characteristic limit*, which is the highest level a character may achieve in a skill when his Characteristic Rating appropriate to a particular skill is lower than the maximum limit for that skill (thus, a character with an Intelligence Rating of **5** can increase his geology skill to a maximum level of **5**). These limits are summarized on the Character Record.

When the GM is organizing an adventure or offering employment to the characters, he should take their skills and professions into account (for example, a character with high scientific Skill Levels should have no problem finding a sponsor for a scientific expedition). During play, situations will surely arise that call for character abilities not specifically explained in these skills. After familiarizing himself with how the skills work, the GM should easily be able to determine the chances and effects of any task the characters wish to attempt.

Many skills are presented in the form of one or more *tasks*, each representing a particular use to which a character may put the skill during play. Each task is noted with a **T►** symbol and has a *base chance* of success expressed as a percentage. Each task is carried out according to the following procedure and any special rules listed with the skill or task description.

1. The character declares which specific task listed in the appropriate skill description he is undertaking. In most cases, he must have access to a particular piece of equipment.

2. One of the character's *Characteristics Ratings* (specified in the skill description) is added to the *square* of his *Skill Level*, and the total is *added* to the *base chance* listed for the task. In some instances, the Skill Level may be increased by a piece of equipment or decreased if the task is especially difficult. The base chance may be further modified by the task description or at the GM's discretion (in some cases, he may apply a modifier secretly).

3. The character rolls percentile dice (the GM should roll if he wishes the outcome to remain secret). If the dice result is *equal to* or *less than* the modified chance, the character succeeds at the task. When a task requires a certain amount of time to perform (listed with the equipment description or with the task description), the time required to perform the task is *reduced by* **1%** for *each* percentage point below the chance the dice result indicates. If the dice result is *greater than* the modified chance, the character either fails outright, must spend more time at the task to succeed, or suffers some other disappointment. Each skill description lists different effects for failing a task. Many skills introduce a variety of results depending on how far above or below the modified chance a dice result falls.

Unless specifically prohibited, a character that does not possess a given skill *may* attempt a task or other use of the skill. However, the base chance of success is *not* increased by a Characteristic Rating or any other attribute of the character, nor will equipment increase his Skill Level. **Exception:** Treatment, 12.03

A character that fails at a task in a given situation may *not* attempt that specific task again. Another character *may* attempt the task. However, his chance of success is *reduced* by **1%** for each percentage point by which the previous attempt failed (for example, if a character had a **60%** chance of success at a task and failed by rolling an **80**, the next character to attempt the task has his chances reduced by **20**). This reduction is cumulative; if a third character attempted the task, his chance would be reduced for both the first and second characters' failures. The GM should not allow an additional task attempt until all the time required for the previous attempt has passed.

[8.0] Acquiring and Improving Skills

Once generated, a character possesses a variety of skills at Level 1 or higher. During play, he will be able to improve these skills and acquire others by collecting *Experience Points* (EP's). As a character conducts actions related to a skill, he slowly amasses EP's in that skill; when he has collected enough EP's, he expends them to increase his Skill Level. When a Skill Level is increased, further improvement becomes more difficult as the number of EP's required to advance to the next level increases with each advance.

A character that has no Skill Level in a given skill is *unskilled* in that area. He is also unskilled if he has an **X** in the skill space on the Character Record, but he is somewhat familiar with the skill and may learn it more easily than a character with nothing marked in that skill space. The fact that a character is unskilled does not prevent him from conducting actions related to that skill or gaining EP's for the skill. **Exceptions:** An unskilled character may not undertake a task from a

psionic skill at all (see 10.0). An unskilled character may not undertake a task from a *scientific* skill unless he is familiar with the skill (has an **X** in the skill space; see 12.0).

Each character keeps track of all his current Skill Levels and the number of EP's he has for each skill on his Character Record. Pencil should be used, since Skill Levels change and EP's are collected and expended.

[8.1] **Each time a character uses a skill, he has a chance of receiving an Experience Point.**

Certain die results obtained by a character when using a skill reward him with one Experience Point. Each skill description or section lists the die result needed and the type of rolls that are eligible to provide the character with an EP in that skill. **Example:** As explained in 12.2, a character that is attempting a *treatment* task receives an EP if either die of his percentile dice result shows a **0**, **1**, or **2**. Thus, he would receive one EP if the dice result were **01** through **32** or any higher result ending in **0**, **1**, or **2**.

When a character receives an EP, he immediately notes it in the EP space for the skill just used on the Character Record.

No more than one EP may be gained from a single die or dice roll, even if the appropriate number appears on both dice of a percentile dice roll. An EP may be gained by a character whether or not the skill was used successfully, as long as the appropriate number is rolled. (**Exception**: An *unskilled* character who is attempting a *scientific* task receives an EP only if he *succeeds* at the task *and* rolls the appropriate number.) Certain skill descriptions contain additional methods by which Experience Points may be gained.

[8.2] **A character may increase a given Skill Level by amassing a number of EP's equal to the next level in that skill.**

Each character keeps track of the EP's he has gained in each skill on his Character Record. When he has collected a number of EP's for one skill *equal to the next level* in that skill, he erases all those EP's and increases the Skill Level by **1**. Thus, a character must acquire **2** EP's to increase a Skill Level from **1** to **2**, **3** *more* EP's to go from level **2** to **3**, **4** more EP's to go from level **3** to **4**, and so on. Skill Level increase may not take place during an *Action Round* or procedure; the character should wait until a pause in the action to implement an increase.

Exceptions: A character that does *not* possess a skill, but has an **X** in the skill's space on his Character Record (noted during character generation, see 7.6) must collect **3** EP's to attain Level 1 in that skill. A character that does *not* possess a skill, and does *not* have an **X** in the skill's space, must collect **8** EP's to attain Level 1 in the skill. If a character reaches Level 1 in a skill by either of these methods, subsequent Skill Level increases occur normally.

When an EP is gained for using a skill, it may only be assigned to that skill. Note that the four *vehicle* skills are divided into *subskills* (see 11.11). An EP gained for a vehicle skill is assigned to the skill, not to a specific sub-skill.

When a skill reaches the maximum level that a character may attain, he may no longer earn any EP's for that skill. Skill Levels may never be permanently reduced, even if the characteristic limit for the skill drops below the current Skill Level attained by the character. This could happen if a Characteristic Rating is permanently reduced by injury (see 12.3). Temporary reduction of a characteristic has no effect on Skill Level increase; characteristic limits for Skill Levels are based on the Characteristic Ratings of a character at his best health.

Experience Points should not be confused with *Skill* Points and *Initial Skill* Points, both of which are used during character generation only.

[9.0] Military Skills

Military skills include all those used in character combat (fighting NPC's, creatures, or other characters on a planet or in a spaceship), space combat (spaceship vs. spaceship), and other action-related situations. Specific personal weapon skills are explained in 9.1, and space combat skills are explained in 9.2. Explanations of other military skills follow.

AMBUSH
7 Levels/Limit: Agility

The character may move silently and swiftly and may approach and attack a target undetected. The location of a character that conducts ambush successfully will be unknown to those he is hiding from. The character's *Agility Rating*, *Battlefield Skill Level*, *Environ Skill Level*, and the *square* of his *Ambush Skill Level* are added to the base chance of any ambush task. The highest *Environ Skill Level* and the *square* of the highest *Battlefield Skill Level* in the *enemy* force are *subtracted* from the base chance. The GM may secretly apply other modifiers as the situation warrants. A character who is performing ambush movement may move as far as normally allowed (see 29.2), but may not fire a weapon while moving. An unskilled character may attempt only the first task listed, and nothing is added to his base chance.

T► Move secretly during an Action Round in which the enemy is unaware of the character's current location: (**15** × the Terrain Value)%, with addition for darkness, if applicable.

T► Move secretly during an Action Round in which the enemy is aware of the character's location: (**5** × the Terrain Value)%.

T► Attack enemy being in close combat without being detected (see 29.9): **30%**. Character must be undetected by all except victim in order to attempt this task.

T► If currently undetected, fire at enemy being with a silent ranged weapon (such as a bow or thrown knife) without being detected: **50%**.

An ambush task may not be attempted in an area with a Terrain Value of less than **2** (including any modifier for darkness). When a character successfully performs an ambush attack, the GM controls the enemy force as if they had no idea of the character's whereabouts. A dice result for any ambush task that is above the modified chance indicates failure; the character's location is known.

A character who rolls a **0** or **1** on either die when attempting an ambush task receives an Experience Point.

ARTILLERY
6 Levels/Limit: Intelligence

The character is familiar with all aspects of mounted gun use. He may spot targets and aim stationary artillery, tank guns, and self-propelled artillery.

The base chance to hit a target with artillery fire is **50%**. From this chance, **1** *is subtracted* for every *100 meters* away the target is located. The character's *Intelligence Rating* and the *square* of his *Skill Level* are added to the base chance. If the percentile dice result is greater than the modified chance for a given artillery fire, the shell strikes **2** *hexes* (ten meters) away from the target for each percentage point over the chance the dice result indicates (GM determines direction).

An unskilled character adds nothing to his base chance when firing artillery and, if he misses is target, the shell strikes **4** hexes away from the target for each percentage point over the chance the dice result indicates.

A character who rolls a **0** or **1** on either die when attempting to strike a target with artillery fire receives an Experience Point.

BATTLEFIELD
6 Levels/Limit: Leadership

The character is experienced in ground combat and the execution of successful strategies and tactics. He recognizes the signs of battle and the warning signs of battles to come. Battlefield skill affects various procedures during encounters with NPC's and creatures.

- The highest Battlefield Skill Level among the characters in a party is subtracted from the *awareness chance* during a creature encounter. The *square* of the highest Battlefield Skill Level among the characters in a party is subtracted from the *awareness chance* during an NPC encounter (see 28.2).
- The character chosen as the party's *leader* during an Action Round (see 29.1) adds his Battlefield Skill Level to his *Initiative* die roll. If NPC's are the enemy, *twice* his *Skill Level* is added.
- A character may use his Battlefield Skill Level *instead* of his Mental Power Rating when making a *Willpower Check* (see 29.8). The battlefield skill is not used when making a *Shock* Check.

Battlefield skill also aids a character who is planning strategy for a battle ahead of time. The GM should take the character's Skill Level into account, as well as the quality of his stated plans, when determining the reaction and performance of the enemy force.

A character who rolls a **0** on the die when making an *Initiative Check* receives one Experience Point for his battlefield skill. The GM may also give a player who successfully plans an attack (as described in the previous paragraph) an Experience Point. No other die or dice rolls concerning a character's battlefield skill may provide him with an Experience Point.

BLADES
7 Levels/Limit: Dexterity

The character is skilled in the use of daggers and swords.

When attacking or defending in close combat, a skilled character adds his *Dexterity* or *Agility Rating* (his choice) and the *square* of his *Blade Skill Level* to the Hit Strength of his blade (see 29.9). An unskilled character uses the strength of his blade only.

A dagger (but not a sword) may be thrown as a ranged weapon as described on the Weapon Chart and in 9.1.

A character that rolls a **0** on the die when attacking with a blade in close combat receives an Experience Point. A character who rolls a **0** on either die when attempting to hit a target with a thrown knife receives an Experience Point.

BODY ARMOR
6 Levels/Limit: Agility
The character has experience maneuvering and fighting in body armor and other protective attire. The body armor skill *contains all the attributes of the EVA skill*, plus the following:

The movement rate of a skilled character wearing augmented body armor may be increased if his Skill Level is high enough (see 26.4 and 29.2).

A character with body armor skill may add his *Strength Rating* and the *square* of his *Skill Level* to the Hit Strength of his body armor or battle sleeve when participating in close combat (see 29.9).

A character who rolls a **0** or **1** on either die when attempting to avoid a body armor accident receives an Experience Point. A character who rolls a **0** on the die when using body armor to attack in close combat receives an Experience Point.

DEMOLITIONS
6 Levels/Limit: Dexterity
The character is skilled in the use of plastic explosives and dynamite to blow holes through walls and doors or simply destroy a structure. If the character has sufficient demolitions equipment, he may attempt to prepare explosives so that when detonated, they will destroy all that the character wishes destroyed while leaving surrounding structures unharmed. When setting explosives, he should declare whether detonation will be triggered by radio, wire, or timer.

The base chance to destroy a declared structure and nothing but that structure is **45%**. The GM may reduce this chance if the structure to be destroyed is smaller than a trap door. The character's *Dexterity Rating* and the *square* of his *Skill Level* are added to the base chance. A percentile dice result that is greater than the modified chance by **30** or less indicates that the explosion occurs when planned but is too powerful (if an even dice result) or too weak (if an odd dice result). The effect of such a result is left up to the GM. A percentile dice result that is greater than the modified chance by more than **30** indicates that the explosives failed to detonate and are now defective (if an even dice result) or that the explosives went off while being set, thus injuring the character (if an odd dice result). The nature of such an injury is left up to the GM.

An unskilled character adds nothing to his base chance when setting explosives and, if his dice result is greater than the base chance at all, the explosives go off while being set (whether the result is even or odd).

A character who rolls a **0**, **1** or **2** on either die when attempting to set explosives receives an Experience Point.

EVA (Extra Vehicular Activity)
6 Levels/Limit: Agility
The character is able to operate and maneuver in an expedition suit on the surface of a planet and in a zero-G environment.

When a character is wearing body armor or an expedition suit with an Encumbrance Rating (see the Protective Attire Chart, 20.0), his EVA Skill Level is *subtracted* from the Rating to determine the Movement Rate (see 26.4 and 29.2). A character wearing augmented body armor may not use his EVA skill to increase his movement (the body armor skill is used for augmentation). A character without EVA skill suffers the full effects of an Encumbrance Rating.

A skilled character's *Agility Rating* and the *square* of his *Skill Level* are added to his base chance to avoid a suit/armor accident (see 27.8). The base chance to avoid an accident and the procedure undertaken are similar to that of a vehicle accident (see 11.2). An unskilled character has nothing added to his base chance of avoiding such an accident.

A character who rolls a **0** or **1** on either die when attempting to avoid an accident in an expedition suit or respirator helmet receives an Experience Point.

JET PACK
6 Levels/Limit: Agility
The character is able to operate a jet pack, a device strapped to the back that allows flight. A character's Jet Pack Skill Level affects the speed and maneuverability he may attain with the pack (see 29.3). A skilled character's *Agility Rating* and the *square* of his *Skill Level* are added to his base chance to avoid a jet pack accident (see 27.8). An unskilled character has nothing added to his base chance of avoiding such an accident. A character who rolls a **0** or **1** on either die when attempting to avoid a jet pack accident receives an Experience Point.

UNARMED COMBAT
8 Levels/Limit: Agility
The character is skilled in fighting with his hands and body. When attacking or defending in close combat, a skilled character uses his *Dexterity, Strength,* or *Agility Rating* (his choice) plus the *square* of his *Unarmed Combat Skill Level* (see 29.9). An unskilled character uses one half (round up) of his Strength, Dexterity, or Agility Rating only.

A character in close combat with a creature has his Unarmed Combat Skill Level reduced by **1** (to a minimum of **1**).

A character that rolls a **9** or **0** on either die when attacking unarmed in close combat receives an Experience Point.

[9.1] **Weapon skills allow a character to use a weapon effectively during combat.**

All weapon fire is conducted in accordance with 29.5 and the Weapon Chart (19.0). The chance to hit a target with a weapon is equal to the *base chance* listed for the weapon on the Fire Chart plus the character's *Dexterity Rating* plus the *square* of his *Skill Rating* with the weapon. A character that is skilled with a weapon may often fire it more than once in a single Action Round (depending on the weapon).

A character that is *not* skilled with a weapon may use the weapon with the following restrictions:

- His chance to hit is equal to the base chance listed on the Weapon Chart *only*; nothing is added for his Characteristic Ratings.
- He may fire the weapon only *once* per Action Round.
- He may *not* fire while moving or controlling a vehicle (he may fire while riding in a vehicle, see 29.6).

The following skill descriptions list the specific types of weapons that each skill allows the character to use (if more than one).

ARC GUN
8 Levels/Limit: Dexterity
The character may fire an arc gun.

BOWS
7 Levels/Limit: Dexterity
The character may shoot a short bow, long bow, or crossbow. When shooting a long distance with a short bow or long bow, the character's Strength Rating (as well as his Dexterity Rating) is added to his hit chance (see Weapon Chart).

HANDGUNS
5 Levels/Limit: Dexterity
The character may fire a pistol, needle pistol, laser pistol, or stun pistol. Note that the latter two weapons are also included in the laser/stun pistol skill listing. A character may use either Skill Level when firing a stun or laser pistol; however, any Experience Points gained when doing so may only be applied to the laser/stun pistol skill.

GRENADES
8 Levels/Limit: Dexterity
The character may throw fragmentation, smoke, illumination, and gas grenades. When throwing a grenade a long distance, the character's Strength Rating (as well as his Dexterity Rating) is added to his hit chance (see Weapon Chart).

LASER/STUN PISTOL
5 Levels/Limit: Dexterity
The character may fire a laser or stun pistol.

LONGARMS
6 Levels/Limit: Dexterity
The character may fire a musket, rifle, carbine, or needle rifle.

MACHINE GUNS
5 Levels/Limit: Dexterity
The character may fire a sub-machine gun or an emplaced machine gun (see 29.3).

PAINT GUN
7 Levels/Limit: Dexterity
The character may fire a paint gun.

A character rolling a **0** on either die when attempting to hit a target with a ranged weapon receives an Experience Point. A character may not receive an Experience Point when using the Hit Table or rolling dice for any purpose other than actually attempting to make his hit chance. A character conducting more than one fire in a single Action Round considers only his *first* hit chance dice roll of the Round for possible Experience

Point gain. If a character is firing in a non-combat, non-pressure situation (such as putting holes in an immobile, helpless target), the GM should invalidate any dice rolls he conducts for EP purposes.

[9.2] **The following four skills are used aboard a spaceship or battlecraft during space combat.**

These skills modify the procedures outlined in the *DeltaVee* rules and 34.0. Any character aboard a spaceship or battlecraft that is participating in combat may be assigned to the functions that any of these skills entail. However, if the character is not skilled at his function, his performance will threaten the spaceship's chances of survival.

A character may use two space combat skills at the same time, if he is skilled at both, in the following instances:

- *Pilot* and *gunnery* when in a battlecraft.
- *Pilot* and *space tactics* when in a spaceship's bridge.
- *Missile guidance* and *space tactics* when in a weapon or arsenal pod.
- *Gunnery* and *space tactics* when in a spaceship's bridge, weapon, or arsenal pod.

When a character is using two skills at once, the level of each is *reduced by* **2** (to a minimum of **1**).

GUNNERY

9 Levels/Limit: Dexterity

The character may effectively use shipboard laser and particle weapons against enemy craft. A character may be assigned to any single weapon aboard the spaceship (for instance, to the ship's burster, or to one of its pods that contains laser and particle weapons or to a battlecraft's burster. The character's Skill Level modifies any fire conducted from his assigned location as follows:

Unskilled: The Target Value is increased by **4.** No Target Program modifier is applied.

Level 1: No Target Program modifier is applied.

Level 2: One half the normal Target Program modifier is applied.

Level 3,4: Fire conducted normally.

Level 5: A **−4** modifier or the Target Program modifier (whichever is greater) is applied.

Level 6: A **−6** modifier is applied (instead of the TP modifier).

Level 7: A **−6** modifier is applied (instead of the TP modifier) and may be used to reduce the range (exception to DV 8.5).

Level 8: A **−8** modifier is applied (instead of the TP modifier) and may be used to reduce the range.

Level 9: As in Level 8. In addition, every hit achieved by the gunner is considered a critical hit.

A gunner assigned to an arsenal pod may conduct two fires in a single Fire Phase (see DV 8.1). When doing so, his Skill Level is reduced by **1.** A gunner may also conduct two fires in a single Fire Phase if assigned an additional fire from a battle communications pod.

A character receives an Experience Point for gunnery each time he rolls a **1** when using the Fire Results Table (DV 8.6). He may not receive an Experience Point when using the Hit Table.

MISSILE GUIDANCE

9 Levels/Limit: Intelligence

The character may effectively launch missiles control their course, and spot their targets. Any character may be assigned to oversee missile fire in a hunter, weapon, or arsenal pod of a spaceship. The character's Skill Level affects the launch and performance of missiles from that pod.

Unskilled: MIMS and Intelligent Missiles may not be launched at all. A guided missile may not receive Maneuver Commands once launched. **2** is subtracted from every missile interception chance.

Level 1: MIMS may not be launched at all. A guided missile may receive only one Maneuver Command for each control Guided Missile Command issued to its spaceship. **1** is subtracted from every missile interception chance.

Level 2: MIMS may not be launched at all. **1** is subtracted from every missile interception chance.

Level 3: 1 is subtracted from every missile interception chance.

Levels 4, 5: No modifications.

Level 6: Prepare Missile Command not required to launch unguided or guided missile.

Level 7: As in Level 6 and **1** is added to every missile interception chance.

Level 8: Prepare Missile Command not required to launch unguided, guided, or intelligent missile. Each missile possesses **1** extra Energy Unit. **1** is added to every missile interception chance.

Level 9: Prepare Missile Command not required to launch any type of missile. Each missile possesses **2** extra Energy Units. **1** is added to every missile interception chance.

A character receives an Experience Point for missile guidance each time a missile he launched successfully intercepts a target (even if the target has an active force field). In addition, at the end of a space combat, the character rolls percentile dice. If the result is equal to or less than the total number of missiles launched by the character (counting a MIMS as on missile), he receives an Experience Point.

PILOT

9 Levels/Limit: Intelligence

The character may effectively maneuver a spaceship or battlecraft. Any one character may be assigned to pilot a spaceship or battlecraft, and when doing so is considered to be in the bridge. The character's Skill Level modifies the number of Maneuver Commands he may issue to the ship each Command Phase and affects the performance limits of the craft.

Unskilled: No more than one Maneuver Command may be issued in a single Command Phase; no Weave Commands may be issued. The spaceship is destroyed upon entering a planet hex and automatically collides with an asteroid upon entering an asteroid field (see DV 6.6).

Level 1: No more than two Maneuver Commands may be issued in a single Command Phase; no Weave Commands may be issued. The spaceship may not receive "free" Maneuver Commands upon entering a planet hex (see DV 6.5).

Level 2: No more than three Maneuver Commands may be issued in a single Command Phase; no Weave Commands may be issued.

Level 3: No Weave Commands may be issued.

Level 4,5: No modifications.

Level 6: Ship's Maneuver Rating increased by **1.**

Level 7: Ship's Maneuver and Velocity Rating increased by **1** each.

Level 8: As in level 7, and the chances of missile interception and asteroid collision are reduced by **1** each.

Level 9: As in level 7, and the chances of missile interception and asteroid collision are reduced by **3** each.

Pilot skills may also be used when controlling a shuttle or any craft in low planet orbit, as described in 11.0

A character receives an Experience Point for pilot skill at the conclusion of any space battle in which he piloted a craft that was fired upon. He may also receive an Experience Point when attempting to avoid an accident while controlling a craft in low planet orbit, as explained in 11.3

SPACE TACTICS

9 Levels/Limit: Leadership

The character may effectively direct battle strategies undertaken by a spaceship he is commanding during space combat. Space tactics may not be used aboard a battlecraft. Any one character may be assigned to space tactics, and a character so assigned must occupy the ship's battle communications pod, if the ship has one. If not, he must be in the bridge, a weapon pod or an arsenal pod. The character's Skill Level affects the number of Battle Commands that may be issued to the ship and the number of fires that may be conducted from the ship.

Unskilled: No more than **1** Battle Command may be issued to the spaceship in a single Command Phase and no more than **1** fire may be conducted from the spaceship in a single Fire Phase. Active Search, Rendezvous and Tractor Beam Commands may not be issued at all.

Level 1: No more than **1** Battle Command may be issued in a single Command Phase and no more than **1** fire may be conducted in a single Fire Phase.

Level 2: No more than **2** Battle Commands may be issued and no more than **2** fires may be conducted.

Level 3: No more than **3** Battle Commands may be issued and no more than **3** fires may be conducted.

Level 4,5: No modifications.

Note: If the number or Commands of fires a ship may normally receive or conduct is less than listed above, the ship's limitations take precedence.

Level 6: 1 additional Battle Command may be issued.

Level 7: 1 additional Battle Command may be issued and **1** additional fire may be conducted.

Level 8: As in level 7, and the Civ Level of the ship is increased by **2** when attempting to activate a force field during missile interception (see DV 9.8).

Level 9: 2 additional Battle Commands may be issued, and **2** additional fires may be conducted, and the ship's Civ Level is increased as in Level 8.

A character receives one Experience Point for space tactics at the conclusion of any space battle in which he commanded a spaceship that was fired upon.

[10.0] Psionic Skills

Psionic skills allow a character to use the powers of his mind in tangible ways. These skills are *restricted*; that is, unless a character possesses a psionic skill or is eligible to possess the skill (has an **X** in its space), he may *not* attempt the skill *at all*. Furthermore, a character with a Mental Power Rating of *less than* **4** may never receive Experience Points for any psionic skill he uses.

With the exception of navigation, none of the psionic skills require any special equipment. However, a *psionic rig* may enhance a character's use of certain psionic skills.

Using certain psionic skills puts a terrific strain on the character's mind. If the skill is used poorly, the character may suffer *psionic backlash*, the effects of which range from a temporary blackout to insanity or death.

LIFE SENSE
8 Levels/Limit: Intelligence

The character is sensitive to the living energy emanations of all living beings.

During the Encounter Procedure, the *square* of the single highest *Life Skill Sense Level* among the characters in the party is automatically subtracted from a creature's or NPC's *Surprise Ambush Chance* (see 00.00). If the GM rolls a **9** on either die when checking for surprise/ambush, he should inform the character that contributed his life sense (if any) that he has gained an Experience Point.

T► When *perception* of a creature is possible (see 28.1), a character with life sense may attempt to perceive if the creature is *intelligent:* **20%.** The creature's *Intelligence Rating* (if any), the character's *Mental Power Rating*, and the *square* of his *Skill Level* are added to the base chance. If the attempt is successful, the GM immediately reveals the creature's Intelligence Rating (or lack thereof) to the character. A dice result that is greater than the modified chance indicates failure; the character cannot perceive the creature's mind and may not try again. A character who rolls a **0** on either die when attempting to perceive creature intelligence receives an Experience Point.

MIND CONTROL
9 Levels/Limit: Intelligence

The character may attempt to interfere with or actually take control of another individual's mind. During an Action Round, a skilled character, NPC, or creature (however, see 10.2) that is within his natural sight. A character wearing a psionic rig may attempt to control an individual within 100 km whose exact location is known to him. A character attempting mind control may not move, fire, or attack during the Action Round.

The base chance of successful mind control is **10%**. To this is added the character's *Mental Power Rating* and the *square* of his *Mind Control Skill Level*. The *square* of his target's *Mental Power Rating* is subtracted from the chance. The attempting character rolls percentile dice. If the dice result is greater than the modified chance, the attempt fails; *check for psionic backlash.* If the dice result is equal to or less than the modified chance, **1** is *temporarily subtracted* from the target's Mental Power Rating for every **10** (or fraction thereof) below the chance the dice result indicates. One of the following two procedures is then carried out:

If the target's modified MP Rating is now **1** *or higher,* the target must immediately check for shock (see 30.3), using the modified Rating. If shocked, the target does *not* collapse; he remains motionless in place for one Action Round.

If the target's modified MP Rating is now **0** *or less,* the target is controlled by the attempting character. A controlled individual may be moved or commanded to perform any other actions possible in an Action Round (see 29.3) in any way the controller wishes. A controlled individual may not be directed to do anything suicidal (such as walking off a cliff or firing a weapon at himself). He may be directed to do such things as attack his allies, toss aside his weapons, or run wildly away. An individual remains controlled for one Action Round only.

A character who rolls a **0** or **1** on either die when attempting mind control receives an Experience Point.

NAVIGATION
9 Levels/Limit: Intelligence

The character has learned the secrets of hyperdrive thought. He is familiar with the concepts, design and use of spaceship hyperdrives. If aboard a spaceship that has an explorer, hunter, jump, or augmented jump pod — and the spaceship is at a valid *jump point* — the character may attempt a hyperjump, within the limitations of 32.0. The character declares his destination star system (and planet within the system, if known) and calculates his chance of success as follows:

The *square* of his *Navigational Skill Level* (a jump or augmented pod jump increases the Skill Level),

plus the *square* of his *Mental Power Rating,*

plus **10×** the highest *Starport Class* in the destination system (if the character has been to the star system before, increase the Starport Class by **1**; if the character frequents the star system, increase the Starport Class by **2**; both of these increases may be applied to a **0** Class Starport, but may not increase the Class of any starport above **4**),

minus the distance between the spaceship's current position and the destination star system (in light years).

The character rolls percentile dice, and the GM refers to the Hyperjump Table (see 32.3), using the difference between the dice result and the calculated chance to locate the outcome of the hyperjump. If the outcome includes Psionic Backlash Modifier, the GM rolls percentile dice again, adds the modifier to the dice result, and locates the result on the Psionic Backlash Table (10.4).

A character who rolls **0, 1, 2** or **3** on either die when attempting a hyperjump receives an Experience Point. An EP may not be gained from a dice roll for the Psionic Backlash Table.

PSIONIC BOOST
8 Levels/Limit: Intelligence

The character may attempt to call upon the powers of his subconscious to improve his performance in a stress situation. In any situation where the character is called upon to use a military skill or a vehicle skill, he may declare that he is attempting to temporarily improve that skill with a psionic boost. Only those skills in 9.0 and 11.0 that the character possesses at Level 1 or higher are eligible for psionic boost.

The base chance of successful psionic boost is **25%.** To this is added the character's *Mental Power Rating* and the *square* of his *Psionic Boost Skill Level* (may be increased if wearing a psionic rig). The character rolls percentile dice. For every **10** points (or fraction thereof) *below* the modified chance the dice result indicates, the declared Skill Level is *increased* by one. Thus a character with a **50%** chance of psionic boost who rolled a **36** would increase the declared skill by **2** levels. For every **10** points (or fraction thereof) *above* the modified chance the dice result indicates the declared Skill Level is *decreased* by one. If an unsuccessful boost attempt reduces the declared Skill Level below **1**, the character is considered unskilled at the task. The effects of psionic boost (successful or unsuccessful) last for one use (one die roll) of the declared skill only.

A character who rolls a **0** on either die when attempting psionic boost receives an Experience Point. A character may not receive an EP for a skill if he attempted to improve its current use with psionic boost.

PSIONIC COMMUNICATION
8 Levels/Limit: Intelligence

The character can send and receive thoughts with other individuals. At any point during play, the character may declare that he is attempting to send a psionic (unspoken) message to another character. NPC, or creature (however, see 10.2) within his sight. A character wearing a psionic rig may attempt to send a psionic message to an individual anywhere on the same world or within 200,000 km. The character declares the intended receiver and the GM calculates the chance of success as follows: To the base chance of **10%** is added the character's *Mental Power Rating,* plus the *square* of his *Psionic Communication Skill Level*, plus the *receiver's MP Rating,* plus the *square* of the *receiver's Psionic Communication Skill Level.*

The GM rolls percentile dice. The GM subtracts the modified chance from the dice result and locates the difference in one of the following outcomes:

– 20 or less: Successful communication has been established. The two individuals converse silently for the equivalent of one minute (adjudicated by GM).

– 19 to 0: The character may send one message to the receiver. The receiver may not return a message except to acknowledge receipt.

+1 to +10: The receiver is aware that the character is attempting to contact him, but cannot receive a message.

+11 to +20: The receiver is aware that someone, somewhere is attempting to contact him. The sender is not aware of this fact.

+21 or more: No contact is acheived at all.

A character may not attempt psionic communication with a specific individual more than once per day.

A character that rolls a **0** on either die when attempting psionic communication receives an Experience Point. If successful psionic communication is established and the *receiver* has (or is eligible to acquire) the psionic communication skill, he also receives an Experience Point on a roll of **0**. The GM should not allow EP gain for psionic communication if the skill is being used when normal or radio conversation could be safely used.

PSYCHOKINESIS
9 Levels/Limit: Intelligence
The character is able to move and manipulate objects with the power of his mind. The character may declare that he is attempting to lift and/or move any unattached object within his sight. A character attempting psychokinesis during an Action Round may not move or fire.

The base chance of successful psychokinesis is **10%** minus the size (0–9) of the world the character is on (considered **0** if in a zero-G environment). The character's *Mental Power Rating* and the *square* of his *Skill Level* are added to the chance. The character rolls percentile dice. If the dice result is *less* than the modified chance by *at least* a number of percentage points equal to the *kilogram weight* of the object (rounded up) to be moved, it is successfully lifted. Any *additional* amount that the dice result falls below the chance may be converted to movement of the object: Divide the difference by the whole kg weight of the object (rounding the quotient to the nearest whole number) to determine the number of hexes (five-meter increments) the object may be moved in one Action Round (ten seconds). **Example:** A character with a **45%** chance of lifting a three kg object rolls a **25**. He may lift the object and has **17** percentage points with which to move it. Dividing **17** by **3** provides the character with the ability to move the object **6** hexes in an Action Round. If the object had weighed between **14** and **20** kg, he would be able to lift it a short distance but would not be able to move it.

A character that is able to move an object with psychokinesis may hurl the object at a target. The Hit Strength of a hurled object is calculated as follows: (**10+** the *Agility Rating of the target*) is subtracted from the *speed* of the hurled object (the number of hexes it moves in an Action Round). If this number is **0** *or less*, the object may not harm the target. If the number is **1** *or greater*, multiply it by the whole kg weight of the object and then divide this product by **20**. If this quotient is **1** *or greater* (after rounding fractions *down*) it is used as the Hit Strength on the Hit Table or the Equipment Damage Table (depending on the type of target); see 30.0. If this quotient is **less than 1**, the target is not harmed. In summary:

$$\frac{\text{Weight} \times [\text{Speed} - (10 + \text{Target Agility})]}{20}$$

A dice result for a psychokinesis attempt that is above the modified chance at all indicates failure; check for psionic backlash.

If a character is wearing a psionic rig while attempting psychokinesis rolls less than his modified chance, the number of percentage points below the chance the die result indicates is *multiplied by* **10**. Thus, if the character in the preceding example were wearing a psionic rig, his dice result would be considered **200** *percentage points* below his chance. He could then move the three kg object **66** *hexes* in one Action Round and strike an NPC (Agility Rating of **6**) with a Hit Strength of **7**. A psionic rig does not increase the actual psychokinesis chance.

A successful psychokinesis attempt lasts one Action Round *only*. If a character wishes to continue controlling an object, he must conduct another attempt.

A character who rolls a **0** on either die when attempting psychokinesis receives one Experience Point. However, a character may receive no more than one EP when controlling an object through more than one Action Round.

[10.1] **A character may enhance certain of his psionic skills by wearing a psionic rig.**

If wearing a psionic rig while attempting *psionic boost*, a character's skill level is *increased by* **2**. A psionic rig greatly increases the range (to 100 km) over which a character may attempt *mind control* and greatly increases the range (anywhere on the world) over which the character may attempt *psionic communication*. A psionic rig increases the effect of successful *psychokinesis* by a factor of **10**. These effects are detailed in the specific skill descriptions. A psionic rig does not aid navigation, psion tech, or life sense. If a psionic rig is being worn by a character that must use the Psionic Backlash Table, **10** *is subtracted* from the result on the table.

A psionic rig may be purchased in a psionic institute at a cost of **25** Trans.

[10.2] **If a character is aware that a creature has an Intelligence Rating, he may attempt mind control or psionic communication with the creature.**

Such a creature is considered to possess a Mental Power Rating of **1** unless otherwise specified. A character's Mind Control and Psionic Communication Skill Levels are reduced by **2** when dealing with a creature. If a creature has no Intelligence Rating or the characters are not aware that it has an Intelligence Rating, mind control and psionic communication cannot be attempted with it.

[10.3] **A character must sometimes check for psionic backlash after attempting navigation, mind control, or psychokinesis.**

If a dice result for mind control or psychokinesis is above the modified chance, the difference is located on the Psionic Backlash Table and the listed effect is applied to the character (no additional dice roll is made). If the outcome of a hyperjump includes a psionic backlash modifier, the character must roll percentile dice again, apply the modifier to a roll, and locate the modified result on the Psionic Backlash Table to determine the effect on the character.

If a character is wearing a psionic rig, **10** is subtracted from the result on the Psionic Backlash Table. However, the rig may become damaged, as listed in certain outcomes.

A stun result from the table is carried out in accordance with 30.3. If a stunned character is not in an action situation, it can be assumed that he blacked out for a few moments and then came to with no long term effects.

A character that suffers Mental Power loss as a result of psionic backlash may regain the lost points only if he is healed at a psionic institute (see 10.5). Lost Mental Power Points may be regained at the rate of one per month (once healing has begun). If a character's Mental Power Rating is reduced by **2** or more, he may use none of his skills (psionic or otherwise) until healed; he is temporarily insane. The manifestation of his insanity is determined by the GM.

[10.4] **The Psionic Backlash Table is used to determine the effects of psionic backlash.**

See page 28.

[10.5] **A psionic institute is a secluded center of research and meditation controlled by psions.**

Any world with a class **3** or **4** spaceport has a psionic institute (see 25.5). The location of an institute on a given world is determined by the GM. Any character that is a psionic navigator or a thinker may always enter a psionic institute. Any character with a Mental Power Rating of **3** or greater may enter a psionic institute if accompanied by a psionic navigator or thinker. A character in an institute may be healed of any ill effects of psionic backlash and any physical ailments as well. Psionic rigs may be purchased and repaired at an institute.

[11.0] Vehicle Skills

Vehicle skills allow a character to safely drive or pilot all types of planet-based vehicles on the ground, in the atmosphere, or on or below liquid.

Any character may attempt to operate a vehicle. However, in situations that require skillful maneuvering or quick decisions, a character with the proper skill will be much more likely to see himself and his passengers through safely.

Vehicle skills are organized in a different way than other skills. There are four vehicle skills: ground vehicles, air vehicles, marine vehicles and military vehicles. Each of these skills is divided into five or six sub-skills, each representing proficiency with a particular type of vehicle in the skill category. As a character increases a vehicle skill, he receives Experience Points to assign to its sub-skills.

The following vehicle skills and sub-skills are available to the characters:

AIR VEHICLES
9 Levels/Limit: None
The character is familiar with the theories of atmospheric flight and the operation of all

types of air vehicles, broken into the following sub-skills:

Direct Lift. Any jet-powered craft designed for point take-off and landing.

Glider. Any air vehicle powered only by air currents or human strength. Also includes "mechanical birds," such as an ornithopter.

Helicopter.

Jet Plane.

Propeller Plane.

Shuttle. A rocket-powered vehicle designed to fly from a planet surface to low orbit and back. A character with pilot skill is considered to have this skill at the same level.

GROUND VEHICLES
9 Levels/Limit: None
The character is experienced with all unarmed ground vehicles, broken into the following sub-skills:

All-Terrain Vehicle.

Animal Drawn. Includes all vehicles drawn by horses, oxen, and alien beasts of burden, and the riding of any such animals.

Automobiles.

Sled. Any powered or non-powered vehicle designed for travelling over snow and ice. If an animal-drawn sled is being used, the driver uses the lowest of his Animal Drawn and Sled Skill Levels.

Tractor.

Truck. Any vehicle, designed for road use, with more than two axles.

MARINE VEHICLES
9 Levels/Limit: None
The character is familiar with all aspects of maritime transport and the operation of a wide range of marine vessels, broken into the following sub-skills:

Motorboat. Any small engine-powered craft.

Oar boat. Any craft powered by human strength.

Sailing ship. A craft of any size powered by wind.

Submarine. Any submersible vessel.

Supervessel. Any large engine-powered ship, such as an ocean liner, supertanker, or aircraft carrier.

MILITARY VEHICLES
9 Levels/Limit: None
The character is familiar with the operation of a wide range of military vehicles, broken into the following sub-skills:

Armed All-Terrain Vehicle. A character with this sub-skill may operate an unarmed ATV at the same skill level. When doing so however, any Experience Points gained must be applied to the Ground Vehicles Skill, not to Military Vehicles.

Armored Personnel Carrier.

Half Track.

Self-propelled Artillery.

Tank.

[11.1] **Each level a character achieves in a vehicle skill allows him to increase his sub-skills by a number of points equal to the new Skill Level.**

For example, a character at Skill Level 1 in Ground Vehicles could assign **1** point to the automobile sub-skill. When he achieves Level 2, he could assign **1** point to the truck sub-skill. Upon reaching Level 3, he assigns **3** more points to any of the ground vehicle sub-skills, and so on until he reaches Level 9, when he receives **9** points to assign to any of the sub-skills (he would then have a total of **45** points assigned to all the ground vehicle sub-skills). Points received when reaching a new Skill Level may be assigned to sub-skills in any manner as long as a single sub-skill does not exceed Level 9, and as long as points are assigned only to sub-skills for vehicles that have been used by the character in some capacity since the last Skill Level increase.

Note: When choosing a vehicle skill during character generation, the player receives and assigns points to sub-skills as follows: At Skill Level 1 he receives **1** sub-skill point; at Level 2 he receives a total of **3** points; at Level 3, a total of **6** points; and at Level 4, a total of **10** points.

[11.2] **When a potential vehicle accident is imminent, the character driving the vehicle may attempt to overcome the hazard, using his vehicle skill.**

The base chance to avoid an accident is **25%, 50%,** or **75%** (see 38.0). The Performance Modifier of the vehicle is added to the base chance. The character's *Dexterity Rating* and the *square* of his *Sub-Skill Rating* are added to the base chance. If an unskilled character is driving the vehicle, nothing is added to the base chance.

1. The character driving the vehicle rolls percentile dice. If the dice result is less than or equal to the modified chance, no accident occurs at all, and this procedure is concluded (the GM might wish to describe some sort of "close call" to the players). If the result is greater than the chance, an accident occurs and the following steps are conducted.

2. The GM subtracts the modified chance from the dice result and locates the difference on the Hit Table (30.9) to secretly determine the type of damage incurred by the vehicle. He does not add a die roll to the difference (as is stated on the table). The GM should then describe the nature of the accident to the players in colorful terms.

3. If the vehicle incurs *heavy* damage or worse as a result of the accident, any characters aboard may be hurt. Each character must roll one die, applying the following modifiers: subtract the character's Agility Rating; add **10** if the vehicle is partially destroyed; add **20** if the vehicle is totally destroyed. Locate the modified die result on the Hit Table and apply any hits incurred by the character as explained in 30.2. Characters are not hurt in a vehicle accident resulting in *superficial* or *light* damage.

[11.3] **A character who rolls a 0 or 1 on either die when attempting to avoid a vehicle accident receives one Experience Point.**

The character may also check for Experince Point gain after every 30 hours (or so) of driving time in which no accident check occurs. The GM and/or the driving character should keep track of "safe" driving time since the last accident check for this purpose. After 30 hours have passed, the player rolls percentile dice and gains an Experience Point if a **0** or **1** appears on either die. The dice roll has no purpose aside from checking for Experience Point gain.

[11.4] **The type of vehicle sub-skill used for a specific vehicle is listed on the Vehicle Chart.**

Two sub-skills are listed for certain vehicles on the chart. In this case, the driver must use the one sub-skill that applies to the current use of the vehicle. If the GM introduces a vehicle into play that is not covered by the Vehicle Chart (21.1, 21.2, or 21.3), he must assign one (or two) of the applicable sub-skills to it, and announce this to the players.

[12.0] Scientific Skills

Scientific Skills allow a character to attempt a wide variety of analyses, syntheses, studies and treatments that will often be of vital importance to the party.

A character may undertake a scientific task only if he possesses the appropriate skill, or if he is eligible to acquire the skill (that is, if there is an **X** in the Skill Level space on his Character Record, see 7.6). **Exception:** Any character may attempt to *diagnose* an ailing person.

Unless otherwise stated, all scientific tasks require a particular lab, scanner, or other piece of equipment. Some of these devices provide the character with a temporary increase in his Skill Level (as explained on the Personal Equipment Table). This increase is not applied if the character does not possess the skill required for the task. **Exception:** An unskilled character attempting *treatment* may receive an increase when using a mediscanner (his Skill Level is considered to be **0** for this purpose).

Each task requires a certain amount of time to perform. In most cases the time required is listed with the description of the equipment that must be used. If the task requires no equipment other than for its primary function, the time required is listed in the task description. The time required to perform a task may be reduced or increased, as explained in the chapter introduction.

The GM may have an NPC or service that the party has encountered attempt a task that the party previously failed. The GM should discourage repetitive use of a task (such as scanning for geological resources every 50 meters) by informing a character doing so that he is not eligible to receive Experience Points.

ASTRONOMY
6 Levels/Limit: Intelligence
The character is learned in the study of celestial bodies and the geography of known space. His services are required when attempting to locate an unexplored planet or when attempting to locate one's own position after a hyperjump error. All spaceships contain equipment necessary to survey the stars. A Civ Level 8 spaceship or explorer pod increases a character's Astronomy Skill Level by **1**. A survey pod increases the Level by **2**.

T► Locate unexplored planet (when in system space): **90%.**

T► Locate uncharted planet (when in system space): **70%.**

T► Locate own position after minor jump error: **60%.**

T► Locate own position after major jump error: **40%.**

T► Locate own position after randomized jump: **20%.**

The time required for any of the above tasks is **6** hours. A dice result for any of the above tasks that is no more than **10** above the modified chance indicates success with a **20%** increase in the time required for each extra percentage point. A dice result that is more than **10** above the modified chance indicates failure.

BIOLOGY
9 Levels/Limit: Intelligence

The character is familiar with the science of living matter in all its forms, and is learned in botany, zoology, biochemistry, and xenobiology (the study of alien life). By observing a creature, he may discover its unique attributes, the danger it presents (if any), how it eats, and where it fits into its ecological "niche." By examining a creature with a bioscanner, the character may learn details of its inner structure (it could be edible or of commercial value). A character's biology skill is reduced by **2** (to a minimum of **1**) when dealing with non-carbon creatures (in some cases this fact is know only by the GM).

T► During a creature encounter, when a character gets his first sight of the creature, he may attempt to perceive information about it (see 28.1): **10%.** A bioscanner is not required for perception, nor is time expended. For every **10** percentage points or fraction thereof that a dice result for perception is greater than the modified chance, the information is revealed to the character one Action Round (10 seconds) later. Thus, if the dice result were **22** higher than the chance, the GM would reveal the information three Rounds after perception was attempted, or when the Action Rounds are concluded (whichever comes first).

T► Perceive a creature with a bioscanner: **20%.** Same as preceding; however, the character must be within five meters of the creature (in the same hex) and must spend one Action Round at the task (this time may not be reduced). This task may be performed after the above task against a given creature, if the information has not yet been revealed.

T► Examine creature with a bioscanner: **30%.** Requires one hour. This task may be performed only if the creature is dead, unconscious, or safely restrained. If examination is successful, the GM reveals the appropriate information about the creature to the character (see 35.0). A dice result for examination that is no more than **10** above the modified chance indicates success with a **20%** increase in the time required for each extra percentage point. A dice result that is more than **10** above the modified chance for examination indicates failure.

Biology skill is also required to diagnose and/or treat ailments suffered by an alien life form (see diagnosis and treatment).

CHEMISTRY
9 Levels/Limit: Intelligence

The character is knowledgeable in all aspects in the study of chemical substances and elements. If he has a chemlab, he may analyze atmosphere, soil samples, or liquid samples for all chemical elements and compounds. If the character has a chemsynthesizer and the proper raw materials, he may attempt to synthesize any chemical compound. A dice result for chemical *analysis* that is no more than **10** above the modified chance indicates successful analysis with a **10%** increase in the time required for each each extra percentage point. A dice result that is more than **10** above the modified chance for analysis indicates failure. A dice result for chemical analysis that is above the modified chance at all indicates failure.

T► Analyze sample to find all abundant chemicals: **70%.**

T► Analyze sample to find all abundant and trace chemicals and complex compounds: **25%.**

T► Synthesize simple compound (water, oxygen, explosives, acids): **20%.**

T► Synthesize complex compounds (such as drugs or edible proteins): **−5%.**

DIAGNOSIS
9 Levels/Limit: Intelligence

The character is familiar with the theories of medicine and the nature of all ailments suffered by humans. His services are essential before a patient may be healed. If the character has a first aid kit or a mediscanner, he may attempt to diagnose injury or disease suffered by another person (not himself) and thus allow and aid the medical treatment of that person.

T► Diagnose ailing being for treatment: **90%.** From this chance the GM *subtracts* (**3** × the total number of hits received by the patient); **7** hits would be a subtraction of **21.** If the patient is suffering from something other than hits to his physical characteristics (such as poison or disease), the GM secretly determines how much is subtracted from the chance. The modified chance may exceed **100%** after adding to it for the character's skill. No time is required to perform this task. The time listed on the Equipment Chart to use a first aid kit or mediscanner is for treatment only.

A dice result for diagnosis that is above the modified chance indicates that diagnosis has failed; treatment may *not* be conducted by the characters at all. If the dice result is *less* than the modified chance by *more than* **20,** the Skill Level of the character that will treat the patient is *increased by* **1** (this may be the diagnosing character or any other with treatment skill). If the dice result is less than the modified chance by *more than* **40,** the Treatment Skill Level is *increased by* **2.** If the dice result is less than the modified chance by *more than* **70,** the Treatment Skill Level is *increased by* **3.**

A character without diagnosis skill may attempt to diagnose. When doing so, the **90%** chance (with the subtraction for the ailment) may not be increased at all. Successful diagnosis by an unskilled character may not increase a character's Treatment Skill Level.

When attempting to diagnose an ailing alien life-form, a character uses the *lower* of his *Diagnosis* and *Biology Skill Levels.* If he does not possess both of these skills, he is considered unskilled at the task. The GM may also apply this rule when a character is diagnosing a human with an alien disease.

GEOLOGY
7 Levels/Limit: Intelligence

The character can identify all known types of rocks and minerals and has studied the forces that compose and control planetary crusts and mantles. If he has a geolab or geoscanner, he may analyze a sample for mineral and resource content. If he has a geoscanner, on a planet surface, he may also survey the area for minerals, other resources, fissures, or volcanic activity. A dice result for any geology task that is no more than **10** above the modified chance for the task indicates success with a **10%** increase in the time required for each extra percentage point. A dice result that is more than **10** above the modified chance indicates failure.

T► Analyze sample to find all abundant minerals and resources: **70%.**

T► Analyze sample to find all abundant and trace minerals and resources: **30%.**

T► Scan area to locate three minerals or resources that the geoscanner is set for: **60%.**

T► Scan area to locate all tunnels and fissures at least three meters wide: **50%.**

T► Scan area to locate all tunnels and fissures: **20%.**

T► Scan area to locate volcanic activity: **60%.**

All resources listed on the World Resource Table (25.8) may be found with geology skill and geological equipment, except for light-fiber plants, wood, arable land, edible plants, and edible game. If a character has declared that he is scanning an area for a resource that is located only at a site, the resource is found only if the dice result is more than **30** *less* than the modified chance to locate resources.

PHYSICS
6 Levels/Limit: Intelligence

The character is educated in the study of matter, energy, motion , and force. If he has an energy scanner, he may analyze an object, an area or an occurrence for the type of forces and energy that caused or might affect it. Unlike most other scientific tasks, the time required to conduct a physics task depends on the task itself, not on the attributes of the energy scanner. A dice result for any physics task that is above the modified chance at all indicates failure.

T► Determine the type, intensity, and possible danger of energy picked up by the energy scanner in an area: **80%.** Time required: **1** Action Round (no reduction possible).

T► Determine the type of energy powering an unknown device or a non-protein based creature: **70%.** Time required: **1** Action Round (no reduction possible).

T► Determine the type of force or energy that caused a phenomenon (such as a blast crater or some other unobserved act of destruction): **50%.** Time required: **1** hour.

T► Determine in advance what the application of a given force or energy might do to an object: **40%.** Time required: **1** hour.

T► Tap an energy source for use by the party: **20%.** Time required: **2** hours. When attempting this task, a character uses the lower of his Physics and Energy Tech Skill Levels.

If he does not possess both of these skills, he is considered unskilled at the task. The kit that would normally be used to repair the object that the character is attempting to provide power for is also required. The character must identify the energy source (with one of the above tasks) before he may attempt to tap it. Whether or not an energy source may be tapped is left up to the GM. This task is not required in order to use a common energy source, such as an electrical outlet or battery pack.

The physics skill is also required in order to attempt repair of a force field (see Energy Tech, 13.0).

PLANETOLOGY
7 Levels/Limit: Intelligence
The character is well versed in the geography, meteorology, and other general physical features that make up a world. If he is orbiting a world in a spaceship capable of carrying *at least* **4** *pods,* or that has an *explorer* or *survey* pod, he may analyze the world to gain information about its climate, atmosphere, geographical layout, and natural resource distribution. When the character wishes to analyze a world, he chooses one of the following tasks. That task, and all listed above it (if not already known), may be determined in a single analysis attempt. If the character's analysis dice result is greater than the modified chance listed for the chosen task, analysis is still successful, but the time required is increased by **10%** for each percentage point over the chance the dice result indicates.

T► Determine hydrograph percentage and distribution of land and liquid masses on entire world: **85►.**

T► Determine temperatures of all environs of world: **76%.**

T► Determine atmosphere of world: **65%**

T► Determine general resources of world (all those resources that exist throughout two or more environs, not number of environs per resource or environ location): **50%.**

T► Determine the contour of all environs individually (peaks, mountains, hills, or flat): **40%.**

T► Determine the dominant terrain feature of each environ individually (such as barren, forest, craters, ice,): **20%.**

T► Determine the presence of general resources in all environs individually (all resources except those that exist only at a *site* in an environ, see 00.00): **10%.**

T► Determine the detailed geography/geology of all environs individually, including the presence of resources found only at a *site* (the GM may provide the character with a detailed environ map or maps, if available): **−5%.**

An explorer or survey pod is required for any world analysis with less than a **40%** base chance. A survey pod is required for any analysis with less than a **10%** base chance. The GM may wish to reduce some of these percentages if the world has thick cloud cover, or has a side that never receives light from its star. The GM should provide the players with a world log that varies in detail, depending on how much of the world they have analyzed. Survey of a world from orbit will not reveal the exact location of any resource, and will not reveal the presence of the following resources at all: spices, light-fiber plants, wood, edible plants, and edible game.

PROGRAMMING
8 Levels/Limit: Intelligence
The character is familiar with the dynamics and operation of computers and robots. A character with programming skill may always use a computer or robot that he owns to its full potential (no chances are assigned and no dice rolls are made). He may use a robot that he does not own in the same way, as long as he has the robot's *controller* (see 16.2). If the character has access to a computer or robot owned by another person, company, or government agency, he may attempt the following tasks. When dealing with a robot, a character's Programming Skill Level is *reduced by* **2** (to a minimum of **1**).

T► Gain control of robot not controlled by character (without controller): **30%.** Time required: **1** hour. An electrokit or robot kit is necessary, although neither provides a Skill Level increase.

T► Call up unrestricted information in computer: **90%.**

T► Call up restricted information in computer: **30%.**

T► Call up top-level secrets in computer: **10%.**

T► Alter protected information in computer: **10%.**

A dice result for any of the preceding tasks that is above the modified chance indicates failure. A dice result that is more than ten above the modified chance may cause the computer or robot to alert its owners (openly or secretly) that the character is using the device in a way that may not be to their liking. The repercussions of such an occurrence are left up to the GM. A character must have the *compu/robot tech* skill in order to attempt any task not listed above that involves computer or robot *hardware,* or he must work with a character who has the tech skill (as ruled by the GM).

TREATMENT
9 Levels/Limit: Intelligence
The character is familiar with all forms of paramedical and surgical procedures. If he has a first aid kit or a medi scanner, *and successful diagnosis has been performed,* the character may treat an ailing person, thus speeding his recovery or even saving his life.

T► Treat an ailing being: **1%.**

Effects of treatment (whether successful or not) are explained in 12.3. A character's Treatment Skill Level may be increased if diagnosis was successfully performed (in addition to any increase for using a medi scanner; see diagnosis, above). A character who is eligible to acquire treatment skill but has not *may* attempt to treat a patient. When doing so, his Skill Level (**0**) may be increased by successful diagnosis and use of a mediscanner (unlike most tasks performed by an unskilled character). However, treatment by an unskilled character is not as effective (see 12.3).

When attempting to treat an alien lifeform, a character uses the lower of his Treatment and Biology Skill Levels. If he does not possess both of these skills, he is considered unskilled at the task.

[12.1] **A character who is skilled in any scientific task he is attempting adds his Intelligence Rating and the square of his Skill Level to the base chance.**

An eligible unskilled character who is attempting a scientific task adds nothing (not even his Intelligence Rating) to the base chance.

[12.2] **A character receives an Experience Point when attempting a scientific task as follows:**

- If he rolls a **0** or **1** on either die for a *chemistry, geology, or biology task.*
- If he rolls a **0, 1,** or **2** on either die for a *diagnosis, treatment, programming* or *energy* task.
- If he rolls a **0, 1, 2,** or **3** on either die for a *planetology* or *astronomy* task.

Note: A character that is unskilled at a scientific task receives an Experience Point for attempting the task only if it is successful *and* fulfills the preceding requirements.

[12.3] **The rate at which a character heals from wounds incurred depends on his Endurance Rating and the quality of treatment he receives.**

- A wounded character who receives *no* treatment or who receives *unsuccesful* treatment from an *unskilled* character regains lost Physical Characteristic points at the rates indicated on the **Treatment Results Table** (see page 28).

- A wounded character who receives *successful* treatment from an *unskilled* character has the time required to regain each characteristic point divided by *one half* his *full* Endurance Rating (rounded down). Thus, a character with a full Endurance Rating of **6** (regardless of his current rating) who had lost five points from his Strength Rating would regain one point every two days.

- A wounded character who receives *unsuccessful* treatment from a *skilled* character has the time required to regain each characteristic point divided by his full Endurance Rating.

- A wounded character who receives *successful* treatment from a *skilled* character has the time required to regain each characteristic point reduced as follows: the number of percentage points below the modified treatment chance the dice result shows is added to the full Endurance Rating of the character. The time required for the character to regain each characteristic point is then divided by this sum. **Example:** A character with a full Endurance Rating of **6** has lost **5** points from his Strength Rating. A skilled character that is treating him with a **60%** chance of success rolls a **40** (a difference of **20**). The base time required to regain each lost point (**6** days) is divided by **26,** so that one point is regained approximately every **5½** hours.

A character that is regaining points lost from more than one charactreristic must regain points for each characteristic as evenly as possible. Thus, a character that has lost

points from his Endurance and Agility must regain a point in each before regaining a second point in either (until one or the other has returned to its full rating).

If one or more of a wounded character's Physical Characteristics are at **0**, a check must be made every *game hour* to determine if permanent, untreatable damage occurs. Every hour (beginning one hour after the character incurred the wounds) he rolls percentile dice for each characteristic at **0**. If the dice result is **10** *or less,* the full rating for the charactersitic is *permanently reduced by* **1**. If the *Endurance* Rating is currently at **0**, and the dice result is a **01** or **02**, the character *dies.* These checks are made every hour until all Physical Characteristics are increased above **0** by healing. As long as a character's Endurance Rating remains at **0**, he is considered unconscious (see 30.2).

A character whose healing time is reduced by treatment begins healing at the new rate when the time required for treatment has passed.

[13.0] Technical Skills

Technical skills allow a character to repair weapons, robots, vehicles, and other equipment damaged during play.

When a device is damaged (as a result of weapon fire, other combat actions, or accident) the GM secretly determines the extent of damage (superficial, light, heavy or partially destroyed; see 30.5) and informs the players how the damage appears to them, without actually letting them know the category of damage. Any character may volunteer to repair a damaged device, but unless he has the appropriate Tech Skill, he will rarely be able to repair anything more than superficial damage to small items.

A character with a Tech Skill is familiar with the technology, materials, and operation of all devices related to the area of his skill. Aside from repair work, the GM may allow a character's Tech Skill to come into play in such other situations, as when the party is inspecting unknown equipment or, if the proper materials are available, when the character is attempting to build a device related to his Tech Skill.

A party may attempt to repair an item only if it has the requisite *kit*. A *basic repair kit* usually allows repair of superficial damage to any item smaller than a large ground vehicle, and superficial or light damage to any item that may be held by a character. Certain exceptions to this rule, and the type of kits required for repair of more extensive damage, are listed with the appropriate Tech Skill description. Certain kits may increase a character's Tech Skill Level for purposes of a given repair attempt. In such instances, the increase is applied to the Skill Level before any reductions are made for especially difficult repair jobs (as noted in certain Tech Skill descriptions). Detailed explanations of the attributes of all kits can be found in 22.2.

COMPU/ROBOT TECH
9 Levels/Limit: Intelligence
The character may repair all types of computers, portable and installed. He may also repair robots with a reduction of two to his Skill Level (to a minimum of **1**). An electrokit is required for repair of a computer that has incurred more than superficial damage. A robot kit is required for repair of a robot that has incurred more than superficial damage.

CONSTRUCTION
6 Levels/Limit: None
The character is familiar with the construction of houses, shelters and buildings sealed from harsh environments. He may repair any such structure. Building materials (made available at the GM's discretion) are required for repair of any small structure (survival hut, storage shed) that has incurred more than superficial damage, and any large structure (office building, barracks) that has incurred *any* damage. Certain kits may be used in specialized repair of structures (such as an armor kit for a damaged pill box).

ELECTRO TECH
8 Levels/Limit: Dexterity
The character may repair all types of hand-held, non-weapon devices, including scanners, portable labs, cameras, holographers, radios, and all other types of small electronic equipment. The electro tech skill may not be used to repair interstellar commlinks, psionic equipment, and computer systems. A character's Electro Tech Skill Level is reduced by **2** (to a minimum of 1) when repairing or inspecting any Civ Level 8 device. An electrokit is required to repair any of these items that has incurred more than light damage. Electro Tech also allows a character to operate a two-way radio skillfully.

ENERGY TECH
6 Levels/Limit: Dexterity
The character is familiar with all types of power systems. He may repair heating and cooling systems, electrical systems, air systems, and all non-combustion drive systems (including spaceship engines). The kit required for repair depends on the type of system undergoing repair. An electrokit would be used for most portable systems, a vehicle kit for damage to a vehicle climate-control system or engine, and a spaceship kit would be used for a spaceship engine or other spaceship system. A basic repair kit may not be used to repair power systems at all.

The character may also attempt to repair a damaged force field. When doing so he uses the lower of he *Energy Tech* and *Physics* Skill Levels. If he does not possess both of these skills, he may not attempt repair. An electrokit is required to repair a personal force field. A vehicle or spaceship kit (as appropriate) is required to repair a larger force field.

PSION TECH
8 Levels/Limit: Dexterity
The character may repair interstellar commlinks, psionic rigs, and other psionic equipment. He may also repair psionic navigation equipment in the jump pod of a spaceship with a reduction of **2** to his Skill Level (to a minimum of **1**). An electrokit is required to repair psionic navigation equipment that has incurred *any* damage.

SPACESHIP TECH
9 Levels/Limit: Intelligence
The character may repair damage incurred by spaceship hulls and pods (including battlecraft). Each damaged part of a spaceship must be repaired separately. When repairing damage to spaceship engine or to spaceship armor, the character's Skill Level is reduced by **2** (to a minimum of **1**). Psionic equipment may not be repaired with the spaceship tech skill. Repair of superficial damage requires a Civ Level 6 spaceship kit, light damage a Civ Level 7 spaceship kit, and heavy damage a Civ Level 8 spaceship kit. A partially destroyed part of a spaceship may only be repaired at a Class 4 spaceport.

SUIT TECH
8 Levels/Limit: Dexterity
The character may repair all types of expedition suits, respirators, respirator helmets, and body armor. He may also repair armor on small vehicles. However, when repairing armor his Skill Level is reduced by **2** (to a minimum of **1**). A character that is repairing body armor may declare that he is repairing punctures only. If he does so, his Skill Level is not reduced, but any reductions to the projectile and beam defense strength of the armor may not be repaired. A suit kit is required to repair an expedition suit or body armor that has incurred more than superficial damage. A suit kit may not be used to repair the projectile and beam defense strength of armor. An armor kit is required to do full repair work on body armor and vehicle armor.

VEHICLE TECH
8 Levels/Limit: Dexterity
The character may repair all types of vehicles listed in 21.0. When he is repairing a military vehicle, an air vehicle, or armor on any vehicle, his Skill Level is reduced by **2** (to a minimum of **1**). A vehicle kit is required in order to repair a small vehicle that has incurred any damage, or a large vehicle that has incurred any damage.

WEAPON TECH
8 Levels/Limit: Dexterity
The character is familiar with the workings of projectiles and beam weapons, both hand-held and mounted. He may repair any type of weapon listed in 19.0. He may also repair artillery and spaceship missile, laser and particle fire systems with a reduction of **2** to his Skill Level (to a minimum of **1**). A weapon kit is required to repair any hand-held weapon that has incurred more than light damage and any larger weapon that has incurred more than superficial damage. A spaceship kit is required to repair any damage incurred by spaceship weapon systems.

[13.1] One character may attempt to repair an item that is damaged, whether or not he possesses the appropriate Tech Skill.

When a character declares that he wishes to do so, and announces the type of kit he is using, the following steps are undertaken:

1. The GM secretly determines the *base repair chance,* depending on the type of damage incurred by the item, as indicated on the **Damage Repair Table** (see page 28).

2. The GM secretly determines the *maximum repair time* by multiplying the *Base Repair Time* (listed in the description of the item under repair) by the appropriate *Repair Time Multiplier* listed above.

3. The GM determines the *actual repair chance* using the following formula: Base Repair Chance + Tech Skill Level^2 + Intelligence Rating^2. A character's Tech Skill Level may be increased (before squaring) for this purpose if the appropriate kit is being used. The actual repair chance may exceed **100%.**

4. The character attempting repair rolls percentile dice. If the dice result is greater than the actual repair chance, the attempt fails; conduct **A**, below. If the dice result is equal to or less than the actual repair chance, the attempt succeeds; conduct **B**, below.

A. The GM determines how much time is spent in the futile attempt to repair the item. He divides the maximum repair time (as calculated in Step 2) by the character's Tech Skill Level (plus any increase the kit allows) *squared, or* by his *Intelligence Rating* (not squared), whichever is higher. The amount of time derived from this calculation passes as the party waits for the repairer to realize that he cannot do the job. If this period of time is long, an encounter may even occur.

B. The GM determines how much time is spent successfully repairing the item. The dice result obtained in Step 4 is subtracted from the *actual* repair chance. The difference is applied as a percentage reduction to the maximum repair time to determine the *actual* repair time. **Example:** The actual repair chance to repair an item with a maximum repair time of **24** hours is **70%.** The player rolls a **30**, which is less than the actual repair time by **40** (this can also be expressed as 60% of the maximum repair time). The actual repair time is then **14½** hours.

If the dice result in a successful repair attempt is less than the actual repair chance by more than **90%**, the maximum repair time is reduced by **90%** only.

A character without the appropriate Tech Skill may only attempt to repair superficial or light damage to an item. When doing so, his actual repair chance is equal to the base repair chance. He receives no adjustments for his Intelligence Rating or the kit he is using.

The GM may implement the passage of time when a character is attempting to repair an item in one of two ways: he may announce the amount of time at the outset and skip directly to the point in time that repair is accomplished or failure is realized; *or* he may allow time to pass normally and not reveal the result of the repair attempt until the moment of realization is reached. If he chooses the latter, and repair is successful but lengthy, he should inform the players that the attempt will be successful and how long it will take well before the repair is accomplished. The amount of time that passes before revealing successful repair may be calculated as in Step A above, except of course, that the GM announces success instead of failure.

[13.2] **A character who rolls a 0, 1, or 2 on either die when attempting repair receives an Experience Point.**

The GM may also give a character an Experience Point in this manner when the character is rolling percentile dice for some other use of his tech skill.

[13.3] **A damaged item that the characters are unable to repair may be taken to a repair service.**

A town or suburb area on a planet is considered to have services for repairing any item of a Civ Level equal to or less than that of the planet. An urban area is considered to have services for repairing any item of a Civ Level up to **1** greater than that of the planet.

Exception: Spaceships and spaceship parts may be repaired only at a spaceport. A Class 2 spaceport has facilities for repair of superficial and light damage, a Class 3 spaceport for heavy damage, and a Class 4 spaceport for partially destroyed spaceships. Psionic equipment may be repaired only at a psionic institute (see 10.5).

An item taken to a repair service is automatically repaired. The repair time is always equal to the *Base Repair Time* multiplied by the *Repair Time Multiplier.* This product, when expressed in hours, also represents the *cost* to repair the item in 100's of Mils. Thus, an item with a Base Repair Time of **6** hours that has suffered heavy damage would take **24** hours of work time to repair and the job would cost **2400** Mils (2.4 Trans). The price of repair service may not be haggled over.

[14.0] Interpersonal Skills

Interpersonal skills are used by the character when dealing directly with society, in business, leisure, legal, and communication matters. More so than with other skills, the GM should consider the *player's* actual interplay with NPC's or authorities when using one of these skills. For example, a character may have a high Diplomacy Skill Level, but if the player blatantly insults the individual that he is conversing with, the skill should not do him much good.

DIPLOMACY
6 Levels/Limit: Empathy

The character is experienced in all manner of official conversation and negotiation, and is generally well-spoken and tactful. He will be most effective when dealing with those from the *local establishment* or a higher social standing (see 5.7).

When a character is acting as party *spokesman*, he may use his streetwise and/or diplomacy skill to aid the establishment of friendly communications with an NPC or group of NPC's (see 28.7). During Step 4 of the NPC Encounter Procedure, the chance of successful communication is calculated by the GM: To the base chance of **40%** is added *twice* the spokesman's *Empathy Rating.* The spokesman declares whether he is using his *streetwise* or *diplomacy* skill. If he declares use of the skill that the NPC's *social standing* responds to, the *square* of the Skill Level is added to the chance. If he declares the skill that the NPC's social standing does *not* respond to, the Skill Level (not squared) is added to the chance. If the spokesman is unskilled in both streetwise and diplomacy, his Empathy Rating (not doubled) is added to the base chance *only*. The GM rolls percentile dice and applies the outcome to the NPC Reaction Table (28.8) in terms of *shifts*, as explained in the NPC Encounter Procedure.

In addition to the communications task, the GM should take a character's streetwise and/or diplomacy skill into account when the character is participating in any sort of extended dialogue with NPC's. These skills do not aid a character in financial negotiations (the *trading* skill is used for money matters).

A character who rolls a **0, 1,** or **2** on either die when using his streetwise or diplomacy skill receives an Experience Point.

DISGUISE
8 Levels/Limit: Dexterity

The character can control his voice, mimic a wide variety of postures, and alter his facial appearance through the use of make-up, latex, skin injections and dyes. It is assumed a character with this skill possesses the requisite materials to alter his appearance; however, accessories such as clothing and insignia must be acquired by the character when necessary. The base time required to prepare a disguise is four hours. The character's *Dexterity Rating* and the *square* of his *Skill Level* are added to the base chance of the following tasks.

T► Disguise self to resemble person that has been extensively observed: **50%.**

T► Disguise self to resemble person that has been seen briefly or in pictures only: **25%.**

The GM rolls percentile dice secretly and compares the dice result to the modified chance:

Result under chance by **more than 20:** The disguise fools all except those intimately familiar with the subject. If the character is unskilled, the next outcome is used instead.

Result equal to or under chance by **20 or less:** The disguise fools those who do not have everyday contact with the subject.

Result over chance by **30 or less:** Anyone who gets a good look at the disguise, or hears the character say more than a few words will not be fooled. If the character is skilled, he is informed of this fact. If he is not skilled, he is told that the disguise looks fine.

Result over chance by **more than 30:** The character fails his attempt and is told that it will not work.

A character that rolls a **0, 1,** or **2** on either die when attempting disguise receives an Experience Point.

ECONOMICS
8 Levels/Limit: Intelligence

The character understands the complex economic systems of the future; how the resources, shipping schedules and laws of supply and demand on the worlds of the federation affect the value of any item from place to place. If he has a business computer, the character may attempt to predict the price af any declared item in the future at a declared location. If the location is another star system, he must have access to an interstellar commlink. The base time required for price prediction is **12** hours.

T► Determine price of an item at a declared time and location: **35%** minus the number of weeks (or fraction thereof) in the future the price is requested for. The character's *Intelligence Rating* and the *square* of his *Skill Level* are added to the base chance.

The GM rolls percentile dice. If the dice result is equal to or less than the modified chance, the attempt succeeds; the GM im-

mediately uses the Actual Price Table (18.0) to determine the price and announces it to the character. A dice result above the modified chance indicates failure (after **12** hours have passed). If a failing dice result is even, the character is told that the prediction is unsuccessful. If a failing dice result is odd, the GM reads the player a random result from the Actual Price Table as if it were a correctly predicted price.

A character who rolls a **0, 1,** or **2** on either die when attempting to predict a price receives an Experience Point.

FORGERY/COUNTERFEITING
8 Levels/Limit: Dexterity

The character is experienced in the art of forging documents used for identification, shipping, and other business and government transactions. If he has the requisite materials (as determined by the GM) and a model to work from, the character may attempt to copy a document or piece of currency. The character's *Dexterity Rating* and the *square* of his *Skill Level* are added to the base chance of the following tasks. The time required for each task is determined by the GM, depending on the complexity of the document.

T► Forge commercial document: **50%.**

T► Forge world or local government document: **30%.**

T► Forge federal document: **10%**

T► Counterfeit 100 Mil note: **25%**

T► Counterfeit 1 Tran note: **0%**

The GM rolls percentile dice secretly and compares the result to the modified chance:

Result under chance by **more than 20:** The document passses all inspections (visual and electronic). **Exception:** If the character is unskilled and/or the world has a Law Level of **4,** the next outcome is used instead.

Result equal to or under chance by **20 or less:** Document passes all visual inspection. **50%** chance that the document will be found false each time it undergoes electronic inspection.

Result over chance by **30 or less:** Document found false by any electronic inspection. When undergoing visual inspection, the GM rolls percentile dice; if the result is less than or equal to the inspector's *Intelligence Rating* plus the *square* of his *Forgery/Counterfeit Skill Level,* the document is found false. **Note:** A character with forgery/counterfeit skill may attempt to detect false documents made by others in the same way.

Result over chance by **more than 30:** Document will not fool anybody. If the forger is skilled, he is told of this fact.

Any repercussions of character's forged documents being found out are left up to the GM.

A character who rolls a **0, 1, 2** or **3** on either die when attempting forgery receives an Experience Point.

GAMBLING
6 Levels/Limit: Intelligence

The character is familiar with all common games of chance. If he is at a casino, some other gaming establishment, a bar or inn with an informal game, or with another character or NPC who wishes to play against him, the character may gamble. He must state his *bet size* (if playing against another character or NPC, both agree on a bet size). The bet size is not the total amount to be risked, but rather an amount that will be continuously risked over the four or five hour period that each gambling attempt represents. The character's *Intelligence Rating* and *Gambling Skill Level* (*not squared*) are added to the base chance.

T► Gamble at a casino or established gaming house: **35%.** Minimum bet size: **10 Mils;** Maximum bet size: **1 Tran.**

T► Gamble at an informal gathering in public place: **40%.** Minimum bet size: **1 Mil;** Maximum bet size: **100 Mils.**

If the dice result is less than the modified chance, character wins an amount equal to the difference multiplied by the bet size. If the dice result is greater than the modified chance, the character loses the amount.

When gambling against another character or NPC, both individuals roll percentile dice separately, adding their Intelligence Rating and Gambling Skill Level to the dice result. The difference between the dice results is multiplied by the bet size, and the character with the lower dice result must pay the product to the character with the higher result.

A character may declare that he is *cheating* in any gambling attempt. If he does so, his Skill Level is *doubled,* but if his dice result is *even,* the GM checks for detection by his opponent. He rolls two dice. If the result is *less than* the opponet's Intelligence Rating plus his Skill Level, minus the cheating character's Skill Level, the character's cheating is revealed. A casino is considered to have a combined Intelligence and gambling skill of **18,** and an informal gathering of **15** for this purpose. The consequences of revealed cheating and/or a character's inability to pay a gambling debt are up to the GM.

A character who rolls a **0** or **1** on either die when gambling receives an Experience Point.

LAW
8 Levels/Limit: Intelligence

The character is learned in the structure of most federal and local laws and judicial systems. He is a skillfull speaker and is eligible to practice law in court. The character may attempt any of the following tasks, adding his *Intelligence Rating* and the *square* of his *Skill Level* to the base chance. The chances of all these tasks assume that a basically honorable legal system is being dealt with; the GM should apply modifiers if the system is corrupt.

T► Bribe authority to ignore trespassing, illegal possessions or other criminal act: **20% plus 1** for *every 100 Mils* offered, *minus* **10 ×** the *Law Level* of the world. In addition, the GM should secretly reduce the chance by anywhere from **0** to **50,** based on the loyalty of the individual being bribed toward his employer or government. For example, **50** would be subtracted for an elite federal soldier while a local security guard might cause no subtraction at all.

T► Convince authority that a criminal act is not illegal or that the party is exempt: 10% *minus* the authority's *Intelligence* Rating and minus **10 ×** the Law Level of the world.

T► Successfully defend innocent party in court: 35% *plus* **10 ×** the Law Level of the world.

T► Successfully defend guilty party in court: **35%** *minus* **10 ×** the Law Level of the world.

Any dice result under the modified chance indicates success. Any dice result over the modified chance indicates failure. If a bribery attempt fails by more than **10** percentage points, the authority will either accept the bribe and report the party anyway, or will report the party's bribe attempt as well as their original transgression, at the discretion of the GM.

A character who rolls a **0, 1,** or **2** on either die when attempting a law task receives an Experience Point. An unskilled character may not defend a party in court.

LINGUISTICS
8 Levels/Limit: Intelligence

The character is fluent in other languages other than Universal. He can speak, read, and write in a number of additional languages equal to his Skill Level. A character that receives the linguistics skill during character generation should choose any languages from among those listed in 1.0 and note them on the back of his Character Record. **Exception:** A language written in a non-roman alphabet may not be chosen until Skill Level 3 is reached. All characters are considered fluent in Universal.

When the party must speak with an NPC in an unknown language, a skilled character may attempt to comprehend the NPC and make himself understood. A *translator* (see 23.3) is not required to use the linguistics skill, but the device does increase the user's Skill Level (even if he is *unskilled*). A translator does not increase the number of languages a character may speak. The chance of successful communication equals the sum of the NPC's *Intelligence Rating,* the character's *Intelligence Rating,* (if skilled) and the *square* of the character's *Skill Level.* The GM secretly rolls percentile dice and compares the result to the chance:

Result under chance by **more than 20:** All imformation that the NPC and characters wish to exchange is understood.

Result equal to or under chance by **20 or less:** Simple direction, numerical and identification information is exchanged.

Result over chance by **20 or less:** Names and small numbers may be exchanged only.

Result over chance by **more than 20:** Absolutely nothing is understood by either party or, if the GM wishes, one side totally misunderstands the information or intent of the other.

The linguistics skill may also be used to attempt communication with certain creatures, once the desire to communicate has been established. See 28.6, Procedure CC.

A character who rolls a **0** or **1** on either die when attempting to communicate in an unknown language receives an Experience Point. Each time a character attains a new level in linguistics he may choose a new language. The new language should be one he attempted to use since his last Skill Level

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increase. A character *never* receives an Experience Point for a language he already understands.

RECRUITING
6 Levels/Limit: Empathy
The character is skilled in the administrative and personnel side of business. When the party seeks NPC's to aid in any venture they are undertaking, the character may attempt to hire individuals with good qualifications. The character declares how many NPC's he wishes to hire and the pay he is offering. Two hours must be spent recruiting for each NPC declared, with a minimum time of **6** hours. The character's Empathy Rating and the square of his Skill Level are added to the base chance.

T► Hire NPC's in a starport or urban area: **50%**

T► Hire NPC's in a suburban area or town: **35%**

The GM may modify the base chance, depending on the pay offered, skills requested, the danger and legality of the job, and the means of seeking new employees (working through an employment agency would be helpful). A decent weekly salary for an individual is **100 Mils** × the Civ Level of the equipment he will be dealing with. If the job is dangerous, the pay should be increased by **500 Mils** to **1 Tran** per week. An average individual for hire possesses a Mental Power of **1** and an Aggression of **6**. His other characteristics average **4.** He has a skill level of **3** in his home environ, of **1** in his home gravity, and has eight Skill Points distributed among all other skills by the GM.

If the dice result is equal to or less than the modified chance, the declared number of NPC's are found. The attributes of the NPC's may be improved by the GM as follows: For every percentage point below the modified chance the result indicates, each NPC is improved by one Skill Point of one Characteristic Point. The GM should apply these increases to characteristics and skills that would be helpful in the upcoming job. If the dice result is greater than the modified chance, fewer NPC's than requested are found and/or their attributes are reduced, at the discretion of the GM.

A character who rolls a **0, 1, 2** or **3** on either die when attempting to recruit receives an Experience Point. Only one recruitment attempt is allowed in a single area for a given purpose.

STREETWISE
4 Levels/Limit: Empathy
The character is up on the slang and friendly expressions used among the common folk throughout the federation. He will be most effective when dealing with those from the skilled tech class or a lower social standing. The streetwise skill is used for the *communications* task (see diplomacy skill description).

TEACHING
6 Levels/Limit: Empathy
The character has experience teaching and/or tutoring and is able to pass knowledge he has acquired onto others. He may attempt to aid another character (hereafter called the student) increase his expertise in any skill that the teacher possesses at a *higher level* than the student. One week of both characters' time is required to teach a skill. This time may not be reduced but may be increased, as explained below.

When the teacher and student have declared the particular skill they wish to study together, the chance of successful teaching is calculated: To the base chance of **30%** is added the student's *Intelligence Rating,* the teacher's *Empathy Rating* and the *square* of the teacher's *Teaching Skill Level.* The teacher rolls percentile dice. The student receives **1** Experience Point in the studied skill for every **10** percentage points (or fraction thereof) below the modified chance the dice result indicates (for example, if the modified chance were **55%** and the teacher rolled a **31,** the student would immediately gain **3** EP's for the declared skill). However, a student may never increase a *Skill Level* by more than **1** in a single "study session" (any excess EP's are lost). If the dice result is no more than **10** above the modified chance, the student gains **1** EP and the teaching time is increased by **10%** for each percentage point over the chance the result indicates. A result that is more than **10** above the modified chance indicates failure; one week is expended and the student gains no EP's.

No more than one student may be taught at a time, and any equipment necessary to use the skill being taught must be available (such as a weapon, vehicle, or tech kit). A teacher may attempt to teach a specific student a specific skill once only. An unskilled character may attempt to teach (using the base chance of **30%** only); however, his student may receive no more than **1** EP from the study session. A psionic skill may be taught only if both the teacher and the student possess a Mental Power Rating of **4** or higher and the student has or is eligible to acquire the skill. A character with teaching skill may charge any fee he can get for his teaching services. Conversely, the GM may have an NPC offer to teach a character a skill as a favor or for pay.

A character who rolls **0, 1,** or **2** when attempting to teach receives an Experience Point.

TRADING
6 Levels/Limit: Empathy
The character is a skilled bargainer. He can get the most out of a transaction through his understanding of commerce and his ability to negotiate. When the GM is using the Actual Price Table (18.0) to determine the price of an item or service that a character is attempting to purchase or sell, the character may attempt to alter the price in his favor by bargaining. Any purchases from a federal establishment may not be bargained; such prices are set.

The base chance of successful bargaining is **20%**. To this is added the character's *Empathy Rating* and the *square* of his *Skill Level.* The character rolls percentile dice. If the dice result is greater than the modified chance, the attempt fails; **10** is *added* to the GM's *Actual Price* roll. If the dice result is less than the modified chance, the difference is *subtracted* from the GM's Actual Price roll.

One character should check for bargaining each time such a situation arises. If the character is unskilled, nothing is added to his base chance.

A character who rolls a **0** or **1** on either die when bargaining receives an EP.

[15.0] Environmental Skills

AGRICULTURE
8 Levels/Limit: None
The character is skilled at farming tillable soil and in the science of hydroponics (growing without soil). Breakthroughs in fertilizers and genetic research also enable the growth of crops to be greatly accelerated. When working with a hydroponic farm, **2** is *subtracted* from the character's skill level (to a minimum of **1**). A skilled character may always grow any plant (as long as he has the proper shoots or seeds) in an environ with arable land or in an established hydroponic garden. If the character wishes to grow a plant in a more exotic location or wishes to accelerate the growth of a crop, the GM should assign a base chance to the declared task. The character's *Intelligence Rating* and the *square* of his *Skill Level* are added to the base chance. As a guideline, the simplest of agriculture tasks would have a base chance of **95%** while an attempt to grow a fruit tree in an arctic environment with a poisonous atmosphere would have a base chance of **−5%**. A robot with an agriculture system increases a character's skill level by **2.**

A character who rolls a **0, 1,** or **2** on either die when attempting an agriculture task receives an Experience Point.

ASTEROID MINING
6 Levels/Limit: None
The character is familiar with the business and techniques of mining and processing resources from asteroids and small planetoids. The tasks and procedures of this skill are identical to those of the *mining* skill.

ENVIRONS
6 Levels/Limit: None
As explained in character generation, each character receives positive or negative Skill Levels in all 33 environs shown on the Environ Skill Display. A character's Skill Level in the environ he is in is used during an encounter for the following:

Twice the highest Environ Skill Level among the characters in the party is *subtracted* from the awareness chance during a creature or NPC encounter (see 28.2).

The character chosen as the party's *leader* during an Action Round (see 19.1) adds his Environ Skill Level to his *initiative die roll.*

A character's Environ Skill Level is added to his chance to perform an *ambush* task (see the ambush skill, 9.0).

The Experience Point system explained in 8.0 is not used to improve Environ Skill Levels. Instead, the GM "hands out" Environ Skill Level increases. If a character spends one week (give or take a day, at the GM's discretion) adventuring in a particular environ away from urbanized areas, the GM should reward him with a Skill Level increase of one in that environ. No single environ skill may be increased beyond Level **6.**

GRAVITY
5 Levels/Limit: None
As explained in character generation, each character receives positive and negative Skill

Levels in all four gravity types shown on the Gravity Skill Display. A character's Skill Level in the gravity type he is in is added to his *Action Round Movement Rate* (see 29.2).

A character's Gravity Skill Level also affects his chance of avoiding a gravity-related accident (see 38.0).

Experience Points are not used to improve Gravity Skills Levels. If a character spends eight weeks (give or take a week, at the GM's discretion) adventuring in a particular gravity type, the GM should reward him with a Skill Level increase of **1** in that gravity type. No single gravity skill may be increased beyond Level **5.**

MINING
6 Levels/Limit: None
The character is familiar with the business and technique of planetary mineral and metal mining and processing. After a minable resource has been found in an environ (see the geology skill, 12.0), the character may attempt to separate a quantity of it from the ground in raw form. Simple digging tools, a *rock blaster* or a robot with a *miner* system are required. The latter two items provide the character with a Skill Level increase. After raw ore has been mined, the character may refine it if he has a robot with a miner system (the Skill Level increase applies). The character's *Intelligenc Rating* and the *square* of his *Skill Level* are added to the base chance.

T► Mine raw ore from an identified source: **25%.**

T► Refine previously mined raw ore: **0%.**

Each of these task requires **12** hours to attempt. This time may be reduced if the attempt is successful (see the task procedure in the chapter introduction). For every percentage point *over* the modified chance the dice result indicates, the amount of ore mined or processed is reduced by **5%** (the time required is not increased). If the dice result is greater than the chance by **20** or more, the attempt fails completely.

The GM determines the quantity of ore that a character may mine in a single attempt as follows: locate the ore on the World Resource Table (25.8) and note the number of environs the Table states that the ore may appear in (if the ore is abundant on the world, double this number). The *square* of the number represents the number of *kilograms of refined ore* that may be mined in a single attempt (its actual weight in its raw form will be considerably more). **Exception:** If the World Resource Table states that the ore exists at a *site* only, *one gram* of the ore may be mined in a single attempt.

These tasks are not used when the character is dealing with larger mining facilities. In such a case, his Skill Level would effect the administration of the factory and the efficiency with which it operates.

A character who rolls a **0, 1** or **2** on either die when attempting to mine or process ores receives an Experience Point.

SURVIVAL
8 Levels/Limit: Intelligence
The character is experienced in "living off the land" and staying alive with a minimum of supplies in the wild. If the character is in a party that has exhausted its supply of food and water, he may attempt to forage for the basic necessities to sustain himself and his comrades. The survival skill will *not* aid a party that has exhausted its oxygen supply. A survival task takes **6** hours to conduct and if successful, lasts for one full day (including the time spent foraging). The character chooses the most favorable task listed below that applies to the party's situation. He adds his *Survival* Skill Level to the *highest Environ Skill Level in the party* and *squares* the *sum* (a negative sum is considered **0** for this purpose). The result of this calculation *and his Intelligence Rating* are added to the base chance.

T► Survive in environ with edible game and/or plants: **90%.**

T► Survive in environ with arable land: **60%.**

T► Survive in environ with any type of vegetation: **30%**

T► Survive in environ that contains water: **0%.**

T► Survive on world that contains water: **−50%.**

T► Survive on world that contains no water: **−150%.**

For every **10** (or fraction thereof) below the modified chance the dice result indicates, one character may be kept alive and well. If the dice result is over the modified chance at all, no characters receive the basic necessities of life. The GM determines the effect of lack of food and water, depending on the party's current situation.

A character who rolls a **0, 1** or **2** on either die when using his survival skill receives an Experience Point.

URBAN
6 Levels/Limit: None
A character may receive an Urban Skill Level during character generation. A character's urban skill is used and improved when the character is in a built-up area (an area where the natural features have been entirely replaced with artificial structures and technology) exactly as an environ skill is used and improved.

IV. Robots

Robots may function as either mechanical aides and/or thinking companions for characters. Robots may be used to increase characters' Skill Levels when performing a given task, and sometimes they can replace a character for minor jobs. They will often be able to provide information to the characters which would otherwise be unavailable.

Within society, robots are regarded with little overt concern, yet doubts exist over the degree of independent thought which they should be given. Therefore, some legal restrictions have been placed on the actions and available systems of all robots, to avoid any problems with these thought systems. Robots with artificial intelligence occasionally go "insane," and the GM may implement an incident of this kind when an accident is generated on the Encounter Table (see 27.0). the specific descriptions of robot thought systems detail the likelihood of breakdowns such as these.

[16.0] Robot Attributes

Robots are controlled by their owners, but others may illegally gain control through use of programming and compu/robot tech skills. When purchased, a robot consists of a *chassis*, a variable number of *systems* of the owner's choice, and two *controllers*: a headset and a hand-held version.

The GM and the players should record each robot's characteristics and systems on an index card for use during play.

Robots may be purchased with a one-week waiting period at the prices listed on a world of a Civ Level equal to or higher than the Civ Level of the robot. Upon placing the order for the robot, a character must declare which systems he wants.

If attempting to purchase a Civ Level 8 robot on a Civ Level 7 world, the price is doubled; on a Civ Level 6 world, the price is multiplied by **10**. Below Civ Level 6, Level 8 robots would be very scarce and only available through the black market. These price relationships hold true for purchasing a Civ Level 7 robot on lower Civ Level worlds.

The names given on the Robot Chassis Chart are model names only; the characters should invent individual names for their robots.

[16.1] A robot chassis contains its central processor and any appendages necessary for full function.

A robot chassis with no systems may move and pick up and carry objects. It can see and hear as well as a human, but cannot synthesize the information it receives, and will reveal this information in an absolutely non-analytical manner. It will remember nothing, and will only do something when commanded. It will attempt to do what it cannot possibly do without any hesitation. Each chassis comes complete with whatever systems the owner wishes and which can fit into the unit. The chassis are rated for both Hardware Points and Software Capacity, and the systems are given point and size ratings. A chassis cannot contain more hardware or software than its capacity in either area.

The owner controls a robot through vocal commands or through a controller (see 16.2). These controllers are to every robot as keys are to an automobile; thus, the controller for robot A cannot be used to command robot B. Through these controllers the owner's voiceprint is placed in the robot's central processor, and thereafter the robot will only answer its owner's voice. Civ Level 8 robots may have three other voices encoded in addition to the owner, but will always give the owner's voice priority. This programming of the additional voices is accomplished via the controller itself.

When in audible range, the robot may be commanded verbally without the use of

the controller. The robot will answer and speak to the owner in a normal vocal range. The volume can be altered with the controller.

Robots will never object to being turned off by anyone, which is a simple matter of flipping a switch on the controller. A chassis may operate for **2** weeks before exhausting its energy. The batteries then need replacement or recharging. Any vehicle with a range of 2,000 km or greater may be used to recharge a robot's battery, and any city will have recharging facilities. A normal fee for this service is 100 Mils. Extra batteries may be purchased for 500 Mils per battery.

A chassis has a standard vocabulary, and understands the meaning of all distance and time measurements.

[16.2] **A controller is a device used to operate a robot.**

This device allows communication with a robot's central processor. Controllers come in three configurations: hand-held (pocket calculator size), headset (fits inside a respirator helmet), and wristmount (twice the size of a normal watch). The hand-held, headset, and wristmount versions all have a TV screen, transceiver, and — except the headset — a keypad. The TV screen allows the user to see exactly what the robot sees while the transceiver allows verbal two-way communication. The keypad is used to transmit coded commands to the robot and can at any time be used to operate the robot without verbal communication. The keys are not marked, and only the owner knows which keys issue which commands. This information can be shared with anyone the owner wishes, and this is the only way anyone whose voiceprint is not in the robot's memory may operate it. Anyone with a programming skill may attempt to gain access to a robot through the controller's keypad. If successful, the robot may be given new voiceprints and the keypad new coding.

A controller's range is 10 km, and subject to normal radio interference. The hand-held and headset versions (both Civ Level 7) come with the robot, while the wristmount (Civ Level 8 robots only) cost 5 Trans extra.

[16.3] **A robot may be used to engage in combat.**

A robot with a weapon may fire it at a specified target by receiving an order to do so. It must have a weapon target system *and* a weapon system to engage in fire combat. The robot may fire as many times in an Action Round as a human could. If a robot is firing a recoil weapon, it does not suffer adverse modificiations due to the recoil. A robot will not fire a weapon (unless malfunctioning) without a specific command.

To engage in close combat, the robot must have a close attack system and be ordered to engage. **Exception:** A robot with a creative thought system may engage in close combat by its own choice.

Movement of robots in an Action Round is detailed in 29.2. A robot may travel a number of kilometers per hour equal to its Agility Rating, and it is affected by terrain as detailed in 26.4. **Note:** This means a robot with an Agility Rating less than **5** cannot keep up with humans traveling on foot.

[16.4] **The Robot Chassis Chart lists the various types of robots and their characteristics.**

See page 28.

[17.0] Robot Systems

Robot systems are self-contained units which augment the physical or logical capacities of the robot. Each system details what abilities if confers on the robot, how much it costs (if purchased independent of a robot), and how many Hardware Points or how much Software Space it occupies. Hardware adds to the physical capabilities of a robot; Software contributes logic systems which allow various thought processes. Certain systems are available to Civ Level 8 robots only.

When deciding upon systems for a robot, the total Hardware Points and/or Software Sizes may not exceed the capacity of the robot. Extra systems may be purchased, but may only be interchanged by a skilled individual who has access to and can operate the robot's controller. An individual with programming skill can interchange one Software Point in half an hour; an individual with compu/robot tech may interchange one Hardware Point in half an hour.

All systems that include a weapon are bound by the same legal restrictions governing ownership of firearms by humans (see 19.0).

The following list of systems includes the abilities the system confers, their cost, and their Hardware Point total and Software Size.

Aerodynamic. Allows flight via a modified jetpack as per 29.3. Flies in all respects as a character with Skill Level 4. **Price:** 25 Trans. **Hardware:** 2. **Software:** 1.

Agriculture. Functions just like a character with agriculture Skill Level 5. **Price:** 15 Trans. **Hardware:** 1. **Software:** 1

Anti-Bio. Includes all attributes of the bio system, *plus* stun pistol, needle pistol, and a full supply of drugs and poison for use against creatures. Weapon target system for those weapons *only* also included. **Price:** 40 Trans. **Hardware:** 2. **Software:** 1.

Aquatic. Allows robot to swim above and beneath water. Robot's speed in an Action Round is twice its Agility in hexes; long distance movement is twice Agility in kilometers per hour. Maximum depth is 50 meters. **Price:** 35 Trans. **Hardware:** 2. **Software:** 0.

Arc Gun. Includes arc gun and weapon target system that may be used only for that weapon. **Price:** 30 Trans. **Hardware:** 1. **Software:** 1.

Bio. Aids a character with biology skill; adds **2** to his Skill Level. Includes a catalog of all known creatures, a Civ Level 8 bioscanner, and a Civ Level 8 neuroscanner. **Price:** 40 Trans. **Hardware:** 1. **Software:** 1.

Chemical. Aids a character with chemistry skill; adds **2** to his Skill Level. Includes a Civ Level 7 chem lab and a Civ Level 8 chem synthesizer. **Price:** 25 Trans. **Hardware:** 1. **Software:** 1.

Close Attack. Allows robot to engage in close combat during an Action Round. The robot's Close Combat Strength is determined by adding together its Strength, Dexterity, and Agility Ratings. If any of these is greater than its Strength, that rating is considered *equal* to its Strength when calculating this sum. A robot which does not have this system may never *attack* in close combat and, if defending, uses its Strength Rating only. Unless a robot possesses the creative thought system, it will never attack unless commanded to do so. **Price:** 50 Trans. **Hardware:** 0. **Software:** 1.

Compu/Robot Tech. Federation prohibits robots with this system.

Construction. Functions in all respects as a character with a construction Skill Level of 4. **Price:** 15 Trans. **Hardware:** 1. **Software:** 1.

Creative Thought. Includes all features of self-activation, information, language, and learning systems. The robot can interact with humans in all manner of conversation and intellectual activity. An always operating logic sub-system allows the robot to make conclusions and connections concerning any data it has in its memory. The robot may make observations the origins of which may elude the characters. The robot always speaks in deference to humans, but does not like being shut down. Movement is greatly improved by this system; if a robot's movement in an Action Round is **0** or less, it may always move one hex (like a character). **Note:** Robots with this system may suffer mental malfunction due to a common, rare, or unique accident. This system may only be mounted on Civ Level 8 robots. **Price:** 100 Trans. **Hardware:** 2. **Software:** 5.

Driver. Functions in all respects as a character with a vehicle Skill Level of 4; generic vehicle type (military, ground, air, or marine) must be chosen by the purchaser who must also allocate 10 Sub-Skill Points to specific vehicle types. **Price:** 30 Trans. **Hardware:** 0. **Software:** 1.

Electro Tech. Functions in all respects as a character with an electro tech Skill Level of 5 with repair capabilities of a Civ Level 8 electrokit. **Price:** 25 Trans. **Hardware:** 1. **Software:** 1.

Force Field. Robot has a force field. Unless robot also has a self-activation system, it must be commanded to turn on the field. Any one character standing immediately next to the robot is also included in the field; both robot and character are subject to normal force field restrictions. **Price:** 65 Trans. **Hardware:** 2. **Software:** 0.

Geo. Includes all attributes of the miner system and has a Civ Level 8 geoscanner. **Price:** 30 Trans. **Hardware:** 2. **Software:** 1.

Grenade Launch. Functions in all respects as a character with grenades Skill Level of 5. Requires weapon target system to fire. Includes two dozen grenades of any kind; refills must be provided by owner. **Price:** 15 Trans. **Hardware:** 1. **Software:** 0.

Gunnery. Functions in all respects as a character with a gunnery Skill Level of 6. **Price:** 50 Trans. **Hardware:** 0. **Software:** 2.

Heightened Vision. Robot can see twice as far as a human and may see in the dark (at normal range) as if it were light. **Price:** 15 Trans. **Hardware:** 0. **Software:** 1.

Holographer. Equips robot with holographer. If robot also has self-activation system, this does not take up any Software Space. **Price:** 15 Trans. **Hardware:** 1. **Software:** 1.

Information. Enables robot to remember all data which it is exposed to. The robot will not analyze or draw any conclusions from this data; will discuss anything it knows impartially and uncreatively. The robot's memory is an open book; it will build a library of knowledge once activated. **Price:** 30 Trans. **Hardware:** 0. **Software:** 1.

Language. Allows the robot to communicate in additional languages besides Universal. In Civ Level 7 robots, one additional language; in Civ Level 8 robots, four additional languages. If all languages are not chosen and the robot is exposed to a new one, it will rapidly learn it and store it in its memory. **Price:** 30 Trans. **Hardware:** 0. **Software:** 1.

Learning. Enables robot to gain Experience Points for using any of its systems which involve a Skill Level. A robot may never exceed the maximum Skill Level obtainable by a character. This system includes all features of the information system. **Note:** Robots with this system may suffer mental malfunction due to a *unique* accident. This system may be mounted only on Civ Level 8 robots. **Price:** 75 Trans. **Hardware:** 0. **Software:** 2.

Medical. Aids a character with diagnosis or treatment skills. Adds **3** to his Skill Level and includes attributes of a Civ Level 8 mediscanner with a full complement of drugs and medicines. **Price:** 50 Trans. **Hardware:** 1. **Software:** 2.

Miner. Aids character with miner skill. Adds **2** to his Skill Level. Includes mining laser (equivalent to Civ Level 6 laser pistol), scooper/digger, rock blaster, and ore refiner. This system is required to refine ore. **Price:** 25 Trans. **Hardware:** 2. **Software:** 0.

Missile Guidance. Functions in all respects as a character with a missile guidance Skill Level of 6. **Price:** 50 Trans. **Hardware:** 0. **Software:** 2.

Pilot. Functions in all respects as a character with a pilot Skill Level of 6. **Price:** 55 Trans. **Hardware:** 0. **Software:** 2.

Recorder. Equips robot with a VTR unit. Enables it to make an audio/visual recording of whatever it sees. **Price:** 10 Trans. **Hardware:** 1. **Software:** 0.

Self-Activation. Enables robot to take actions without commands. The robot will use any of its abilities and equipment as the owner wishes without specifically commanding it to. **Note:** Robots with this system may suffer mental malfunction due to a *rare* or *unique* accident. This system may be mounted only on Civ Level 8 robots. **Price:** 75 Trans. **Hardware:** 0. **Software:** 2.

Spaceship Tech. Functions in all respects as a character with a spaceship tech Skill Level of 7 with repair capabilities of a Civ Level 8 spaceship kit. **Price:** 110 Trans. **Hardware:** 3. **Software:** 1.

Suit Tech. Functions in all respects as a character with a suit tech Skill Level of 7 with repair capabilities of a Civ Level 7 armor kit. **Price:** 30 Trans. **Hardware:** 1. **Software:** 1.

Valet/Secretary. Enables robot to perform all functions of a gentleman's gentleman, combined with a live-in maid. **Price:** 30 Trans. **Hardware:** 0. **Software:** 1.

Vehicle Tech. Functions in all respects as a character with a vehicle tech Skill Level of 5 with the repair capabilities of a Civ Level 8 vehicle kit. **Price:** 35 Trans. **Hardware:** 2. **Software:** 1.

Weapon. Functions in all respects as a character with a weapon Skill Level *two* less than the maximum allowed for the weapon with which the robot is equipped. Weapon choices include paint gun, laser pistol, rifle, submachine gun, machine gun (owner must choose which). Requires weapon target system to fire. A Civ Level 7 robot takes as much time to reload as a human; a Civ Level 8 robot can reload in the same Action Round it fires. The system includes the chosen weapon; a robot may be equipped with more than one weapon system. **Price:** (10 + weapon cost) Trans. **Hardware:** 1. **Software:** 0.

Weapon Target. Required to fire weapon. May target any number of weapons, one at a time. **Price:** 20 Trans. **Hardware:** 0. **Software:** 1.

Weapon Tech. Functions in all respects as a character with a weapon tech Skill Level of 6 with the repair capabilities of a Civ Level 8 weapon kit. **Price:** 20 Trans. **Hardware:** 1. **Software:** 1.

V. Equipment

In order to adventure on the vast and varied worlds of known space, the characters must take advantage of the technology of the federation. Equipment is a loose term encompassing all weapons, protective attire, vehicles, and scientific, technical, and personal equipment the characters may purchase or receive. Most items of equipment and their pertinent specifications are presented on the equipment charts. Additional information about particular items and other items not mentioned on the charts are included in the appropriate Sections.

The hostile environments in which characters will often operate demand the use of costly equipment. If characters do not receive what they need from their professional benefits and do not have the funds to purchase such things as an expedition suit or simple vehicle, the GM should see that they are provided with those items necessary for survival at the least (even if on loan from an employer).

[18.0] Economic Guidelines

The basic costs of every piece of equipment are listed on the equipment charts. These prices may vary, depending on many factors.

If the price of an item is **1 Tran** or less, the basic price is used when purchasing the item on a world that has the same (or a higher) Civ Level as the item. If the item's Civ Level is one higher than the world of purchase, the price is *doubled* and the item will be available only in urban areas (concentrated population of 200,000 or more). If the item's Civ Level is two higher than that of the world of purchase, the price is *multiplied by* **10** and the item will be available only in urban areas, if it is available at all. In such a case, the GM rolls one die; if the result is **4** or less, the item is available in that area. A separate check may be made for each distinct urban area on the world.

If an item costs more than **1 Tran**, the **Actual Price Table** (see page 28) is used to determine the price of the item on a given world. The table lists modifiers that are applied to the percentile dice roll. These include a modifier for any resources used in manufacturing the item (see the World Resources Table and attached explanation, 25.8). For example, if a character wished to purchase a holographer, a modifier of **−20** would be applied if the world had *abundant cesium*, a modifier of **+20** would be applied if the world had *no cesium*, and no modifier would be applied if the world had *limited* cesium. Other modifiers take the Civ Level of the world into account. A character may use his *trading skill* to modify the Actual Price Table dice result (see 14.0). The general availability of an item costing more than **1 Tran** that is of a higher Civ Level than the world of purchase is subject to the same restrictions as items costing less than a Tran.

An item with a Civ Level of *more than two* above the Civ Level of a given world is *illegal* on that world. If the item can be found at all (at the GM's discretion), its cost is multiplied by **10** *times the Law Level* of that world. A weapon that is classified as *military* is illegal (see 19.0). A weapon that is classified as *restricted* is illegal unless the purchaser has received a permit from the authorities (if he was going to an area populated with dangerous creatures, for example). The GM may make an illegal weapon available to the characters, but if he does so, he should multiply its price by the Law Level of the world (and should also apply modifiers based on the Civ Level and the other variables discussed above).

Even though robots and spaceships are not included in this Chapter, their price is affected by all these variables. The GM should always use the Actual Price Table and these modifiers for a character that is buying or selling large amounts of goods or resources (such as a merchant or interstellar trader). A character may use his *economics* skill to determine the price of items or resources that he wishes to buy or sell on other worlds at a future time (see 14.0). The base price for all types of resources in bulk are listed on the World Resource Table.

The basic costs of living are not discussed in detail. As a guideline, a week's room and board of mediocre quality in a spaceport or city costs **300 Mils** (**50 Mils** per day). A day's travel rations (tang and spacefood

sticks) costs **5 Mils**. A seven-course meal in a first class restaurant costs at least **100 Mils**.

[19.0] Weapons

Personal weapons range from a simple dagger to the arc gun, a duo-laser beam military assault weapon. The federation prohibits the ownership of military weapons by the general public. Other weapons are available with permit, for scientific use and personal protection (if cause can be shown to authorities). Archaic personal weapons may be owned by anyone. The following list of weapons is divided into three categories (open, restricted, and military). All information necessary for use of each weapon is provided on the **Weapon Chart** (see page 29). Some of this information includes:

- **Rate of Fire.** The maximum number of fires that may be conducted per Action Round (see 29.5). Also represents the number of fires in a single clip (one load) for the weapon.
- **Hit Strength.** The force with which a single fire from the weapon strikes a target.
- **Base Hit Chance.** The percentage chance of a single fire from the weapon hitting a target. This chance varies depending on how many hexes away the target is (*range in hexes*). A hex equals **5 meters**. The Terrain Value of the area is multiplied by the *Terrain Multiplier* (which varies with the range); this product also affects the Base Hit Chance. See also 29.6.

No cost or availability is given for ammunition used in these weapons. Aside from the time required to reload during Action Rounds (see 29.5), it is assumed that a character with a weapon has plenty of ammunition. If the GM wishes to keep track of ammunition, he should have the players note the expenditure of one clip each time they fire a number of shots equal to the weapon's *Fire Rate* (cumulative from Action Round to Action Round). The GM is responsible for determining the price, weight, and availability of each type of clip if he is keeping track of ammunition.

OPEN

Musket, short bow, long bow, crossbow, dagger, and sword.

RESTRICTED

Paint Gun (Civ Level 6). A rifle-shaped laser weapon using a low intensity laser as an aiming device. Once the target is spotted, the intensity is increased. This version is very bulky due to the need for a power pack.

Laser Pistol (Civ Level 6). A single shot laser weapon. Requires reloading after each shot.

Stun Pistol (Civ Level 7&8). A pistol shaped weapon emitting a subsonic pulse temporarily deadening the target's nervous system, stunning it (see 30.4). Does not work in a vacuum.

Needle Rifle (Civ Level 5 & 7). A longarm which fires needles; the needles do no damage, but any substance they contain may (see 30.7).

Also, rifles, smoke grenades, illumination grenades, and gas grenades.

MILITARY

Paint Gun (Civ Level 8). Same as Civ Level 6 version except with improved rate of fire and much less bulky power source.

Arc Gun (Civ Level 8). A rifle shaped twin beam weapon using a sighting mechanism similar to a single lens reflex camera. The energy beams are harmless except at the point of intersection, which is adjusted by a slider on the barrel. The beams are not activated until the trigger is depressed. Ideal weapon for fighting inside spaceships due to its exact targeting. Requires a great deal of skill to use.

Plastic Pistol (Civ Level 6). Made of a high-density synthetic resin, this weapon is constructed entirely of non-metal parts and will not register on a metal detector if unloaded.

Needle Pistol (Civ Level 8). Similar to the needle rifle, but in a pistol configuration.

Laser Pistol (Civ Level 8). These power packs will allow three fires.

Fragmentation Grenade (Civ Level 4). The hit strength is applied to the target hex and every surrounding hex.

Also, pistols, machine guns, submachine guns, and carbines.

[20.0] Protective Equipment

The **Protective Attire Chart** (see page 29) summarizes the attributes of suits, body armor, and other devices the characters may wear to protect themselves when in a hostile environment and/or when involved in combat. Some of the attributes listed on this chart are:

- **Price.** Certain prices include a waiting period between the time the item is purchased and the time it is ready for use. The item is being contoured to fit the wearer's body during this time.
- **Air Supply.** After the listed time, the oxygen supply must be replenished. This may be done from any vehicle or structure with its own oxygen supply. Oxygen produced by a chem synthesizer may replenish the supply at a rate of **1** hour's oxygen for every **10** minutes of use.
- **Encumbrance.** A quantification of how much the item impedes the wearer's movement; the higher the rating, the slower the wearer may move. An *Encumbrance Rating* may be overcome by the wearer's EVA or Body Armor Skill Level. Certain types of body armor are augmented; the outfit is powered and may increase the strength and mobility of a wearer with body armor skill. The effects of encumbrance and augmentation are detailed in 26.4, 26.5, and 29.2.
- **Projectile and Beam Armor Defense Ratings.** Used in combat to defend against enemy fire, as explained in 30.6. The Projectile Defense Rating may also protect the wearer from blows and accidental impact.
- **Hit Strength.** Used to attack or defend in close combat (see 29.9).

The following material features additional information about the items on the chart and other items not listed.

Armor Vest. Protects the chest, trunk, and groin like body armor. When wearer is hit, check *Hit Table* die roll. If the *unmodified* roll is **4, 5, 6,** or **7**, the Armor Defense Ratings of the vest are used.

Battle Sleeve. Protects and increases the strength of the wearer's hand, arm, and shoulder. Its Hit Strength is used in close combat like body armor. When wearer is hit by fire, check the *Hit Table* die roll. If the *unmodified* roll is **1** or **2**, the Armor Defense Ratings of the sleeve are used.

Body Armor. Suit constructed of high-impact metals and ceramics. Includes all attributes of an expedition suit (see following). May withstand most corrosive atmospheres. Various production methods make some body armor more effective against projectiles (impact armor) and others more effective against beams (reflective armor). Much practice is required to use augmented armor, which electronically accentuates all movement by the wearer.

Expedition Suit. Provides complete protection from a vacuum, water, or contaminated or poison atmosphere. Contains two-way headset radio in helmet. Audio system allows wearer to hear and speak normally.

Filter Mask. Filter covering the mouth and nose, providing complete protection from contaminated atmospheres. Must be replaced after 10 days' use. Civ Level: **5**. Weight: Negligible. Price: **40 Mils**.

Force Field. Wire rig worn about the shoulders. When activated, an energy field surrounds the wearer providing excellent protection from projectiles and any other solid objects. Does not stop light. Wearer may not attack or be attacked in close combat. Energy pack allows one hour of continuous protection. Pack costs **1 Tran** to replace.

Respirator. Filter mask connected to oxygen tank (worn on the back). Allows character to function underwater, in a contaminated atmosphere, and in some poisonous atmospheres. Civ Level: **6**. Weight: **3 kg**. Price: **1 Tran**. Air Supply: **12** hours.

Respirator Helmet. Covers the head, shoulders, and upper chest. Includes all attributes of a respirator (see preceding). Contains two-way headset radio. Audio system allows wearer to hear and speak. When wearer is hit by fire, check Hit Table die roll. If the *unmodified* roll is an **8, 9,** or **10**, the helmet's Armor Defense Ratings are used.

[21.0] Vehicles

In addition to travelling between worlds and stars, characters will need to traverse the surface of worlds. On land, above or beneath the surface, vehicles are needed for transportation. The vehicles listed on the charts and those detailed in this Section do not represent all the vehicles of the universe. They are intended as a guide from which the GM should borrow to invent others.

The vehicle charts detail important data for each individual vehicle type, including the following information:

- **Range in 100 km.** Maximum range vehicle can travel before refueling. Refueling costs: (Range in **100 km**) × Mils.
- **Performance Modifier.** A quantification of the vehicle's responsiveness and structural integrity. Applied to the chance to avoid an accident, in accordance with 11.2.

• **Repair Time in Days (or Hours).** Base time required to repair the vehicle (see 13.1).

Every vehicle Civ Level **6** or higher which carries more than one person comes equipped with a planetary short wave radio. All vehicles with an air lock come with an oxygen supply equal to twice the vehicle's Civ Level in days. An airlock holds one or two people at a time (GM's discretion). Civ Level 8 vehicles may, at the GM's discretion, come equipped with an oxygen synthesizer which will recycle breathable air for a period of three months, at which time the system must be cleaned and recharged at a cost of **1 Tran**.

[21.1] **Land vehicles are used to traverse the solid surface of a world.**

The **Land Vehicle Chart** (see page 30) lists various land vehicle types. Listed for each is a *Terrain Value Limit* and a *Terrain Value Modifier*. The Terrain Value Limit indicates the maximum Terrain Value the vehicle may traverse (see Terrain Effects Chart). The Terrain Value Modifier affects the actual speed with which a vehicle may travel through an allowable terrain. To calculate this speed, add the Terrain Value Modifier to the Terrain Value of the environ. If the sum is less than **1**, treat it as **1**. Divide the listed speed in km/hour or hexes per Action Round by this sum (round down). This is the maximum number of km or hexes the vehicle may move in that terrain. Treat a road as having a Terrain Value of **1**; a trail as having a Terrain Value of **2** (when in a higher Terrain Value). The car, horse cart, and tractor all are similar to vehicles the players and GM are familiar with. The others are detailed below:

Scout Car. A small non-enclosed vehicle using caterpillar treads for movement; petroleum powered. No air lock.

Crawler. An enclosed ATV using either balloon tires or telescoping legs for movement; nuclear powered. Has an air lock. Three Action Rounds (45 seconds) are required to change from wheels to legs.

Rover. A non-enclosed ATV with balloon tires and dynamic suspension for ease of movement; nuclear powered. No air lock.

Mobile Lab. A three-sectioned ATV with normal tires for movement. Each section is independent of the others and connected (like train cars) by accordion bags. The first section is for the driver and crew; the second is the lab; the third is for holding creatures and can adapt its atmosphere to match those suitable to its occupants. The whole lab is enclosed and air tight; nuclear powered. An air lock connects sections 2 and 3; another connects section 1 with the outside.

Amphibian. Truly an all-terrain vehicle, this ATV can travel on land, on the surface of water, or submerged. Uses semi-balloon tires for land movement and is propeller-driven in water. Enclosed and air-tight; has an air lock. Applicable driver's skill depends on mode of operation. Maximum depth in water of **75** meters.

Van Rig. A large truck with sleeping quarters for the driving team; designed for continuous travel. Enclosed and air tight; nuclear powered. Has an air lock.

AutoSled. Uses skis and treads to propel it through snow and over ice; petroleum powered and not enclosed.

Half-Track. Uses treads in rear and wheels in front; not enclosed. Petroleum powered.

Loricate. An armored personnel carrier using treads for movement. Enclosed, air tight, and nuclear powered. Has an air lock.

Armored ATV. An armored ATV using treads for movement; armed with a machine gun. Enclosed, air tight, and petroleum powered. Has an air lock.

Tank. Similar to tanks the players know except uses sophisticated laser aiming to achieve accurate fire of either anti-personnel or armor-piercing shells. Petroleum powered, not air tight.

Self-Propelled Artillery. An artillery gun on treads; not enclosed; petroleum powered.

[21.2] **Marine vehicles are used to travel either on or under the surface of water.**

A sailing ship and all other types of wind or man powered water craft are familiar to the players and the GM, and are among those summarized on the **Marine Vehicle Chart** (see page 29). Others include:

Mini Submarine. A propeller driven submersible with a maximum depth of 100 meters. Petroleum powered; has an air lock.

Flexicraft. Traverses the surface with an eel-like motion; uses no propellers. Enclosed with an air lock; nuclear powered.

Reef Walker. Much as its name implies, this submersible has a set of telescoping legs for travel along the bottom of the ocean. Nuclear powered, it has a maximum depth of two kilometers.

Water Scooter. A propeller driven one-seater; not enclosed. Runs on electric batteries similar to a robot's.

Amphibian. See land vehicles (21.1) for details on this vehicle.

[21.3] **Air vehicles are used to fly above the surface of a world.**

All propeller driven and jet planes are familiar to the players and the GM, and are among those summarized on the **Air Vehicle Chart** (see page 30). Others include:

Dragonfly. A small man-powered craft with wings which are driven by the arms and legs; very light and fragile.

Ornithopter. A large flying vessel using the actual beating of its wings for lift. Enclosed, air tight, and with an air lock, the example given is the largest and most powerful of its type. Nuclear powered.

Air Car. The common man's transportation; powered by an electrical turbine which uses the atmosphere as a propellant. Powered by batteries similar to a robot's.

Levitator. An anti-gravity craft using magnetic monopoles to repel the gravity field; maximum altitude is one kilometer. Enclosed with an air lock.

Floater. Similar to a levitator with a maximum altitude of 500 meters.

Skimmer. Similar to levitator and floater except it has no air lock and cannot rise above 5 meters in altitude.

Shuttle. Similar to the shuttle of the 1980's except it needs no rocket boosters (lifts off like an airplane) and is nuclear powered.

Jetpack. Rocket powered backpack (solid fuel propellant) allowing wearer to fly in any atmosphere (or vacuum). Wearer uses jetpack skill (not air vehicle skill). Civ Level: **7**. Cost: **75 Trans**. Range: **200 km**. Speed (km/hr): **200**. Repair Time: **12** hours. Weight: **40 kg**.

[22.0] Personal Equipment

Representative personal scientific equipment, tech kits, communications gear, and miscellaneous equipment is summarized on the **Personal Equipment Chart** (see page 31).

[22.1] **Scientific equipment enables a character to undertake specific scientific tasks.**

Three kinds of equipment are available: *labs*, which require a piece of the item to be analyzed; *scanners*, which allow remote analysis up to a certain range; and *synthesizers*, which require imput of raw material to produce usable substances.

Geo Lab. Allows geology *analysis* tasks only (see 12.0).

Geo Scanner. Allows any geology task; has a range of **50** times its Civ Level in kilometers. Will give direction of item being scanned if task is successful; gives distance only if item is within **50 km**.

Medi Scanner. Allows diagnosis and treatment tasks. Must touch the being to be activated.

Bio Scanner. Must be within **5** meters of the entity being scanned in order to operate.

Neuro Scanner. Can detect the electromagnetic waves emitted by any living thing within **300** meters. Will reveal the number and type of every living thing within range and also their general direction. If the population is very dense, this scanner is virtually useless. No skill required for use.

Chem Lab. Allows chemistry *analyze sample* tasks (see 12.0).

Chem Synthesizer. Allows chemistry *synthesis* tasks. Amount synthesized will be small (one kilo for simple compounds, one gram for complex compounds). Synthesis of a gas (oxygen, for example) will yield abundant amounts.

Energy Scanner. Used for all physics tasks except energy tapping. Range is **100** meters.

[22.2] **Tech kits enable a character to attempt to repair various types of damage to specific equipment.**

The kits include replacement parts, troubleshooting equipment, tools, and other items of repair. Unless otherwise stated, a kit may be used to repair any type of damage to the appropriate item (even if the item is partially destroyed).

Basic Repair Kit. Allows repair of superficial damage to any item smaller than a large vehicle, and of light damage to any item weighing less than **15 kg**.

Suit Kit. Allows repair of environment suits and respirators. Also allows repair of punctures to body armor.

Armor Kit. Allows repair of environment suits, body armor, and all other items listed

on the Protective Attire Chart, except the force field. May repair projectile and beam armor on body armor, vehicles, and armored structures. The Civ Level 7 kit does not allow repair of a partially destroyed item.

Weapon Kit. Allows repair of all weapons except those mounted on a spaceship. The Civ Level 6 kit does not allow repair of a partially destroyed item.

Electro Kit. Allows repair of all types of small electronic equipment (scanners, labs, etc.). Partially destroyed equipment weighing more than **15 kg** may be repaired only with the Civ Level 8 version of the kit.

Robot Kit. Allows repair of all types of damage to all robots.

Vehicle Kit. Allows repair to all types of vehicles. Does not repair any damage done to the armor of these vehicles. The Civ Level 6 version of this kit will not repair a partially destroyed vehicle.

Spaceship Kit. Allows repair to all facets of spaceships, one compartment at a time. No spaceship kit will repair anything that is partially destroyed.

[22.3] **Communications gear allows characters to converse over distances or translate speech.**

Any communications device relying on the transmissions of radio waves will be subject to the normal vagaries of that medium. The GM should feel free to allow occurrences such as solar flares, magnetic deviations, and signal jamming to interfere with the characters' transmission. Amongst other communication devices, there are:

Headset Radio. Installed inside a respirator helmet, this has a range of **2 km**.

Planetary Shortwave. Allows communication anywhere on any world and also into orbit, if the two radios are on the same side of the world.

Interplanetary Radio Dish. Allows communication anywhere within a star system.

Interstellar Commlink. Psionic device available to the public allowing instantaneous communication between star systems. Puts character in contact with psion who will transmit short message anywhere in settled space. In addition to purchase cost, there is a charge for each use of **50 Mils** plus **5 Mils** per light year message is sent. *Exception:* No charge for thinker or psionic navigator.

Translator. Aids in communication with beings who speak a foreign language. The Civ Level 7 version simply translates what the other being is saying; the Civ Level 8 version may allow the character to speak in that language also. In this version, it will yield a phonetic version of the phrases to be uttered.

[22.4] **Miscellaneous equipment includes recording equipment, cages, vision equipment, and any other devices the characters may use.**

Superoid Camera. Produces a holographic still image; all developing is done within the camera. Price of the film (20 images) is one fourth of the camera.

Holographer. Produces a holographic still or moving picture; developing is done in the camera. Price of the film (one hour of images) is one fifth of the camera.

Force Cage. A cage used to hold creatures utilizing a force field instead of bars. One force cage may hold a large creature. Force cages may be joined together to hold larger entities.

Night Glasses. Allow vision in the dark through infrared emissions. The item resembles binoculars.

Rocket Flare. A flare which, when shot from any pistol, rises to a height of **1 km** and explodes, sustaining the light for **½** hour, floating on a small set of rockets.

Super Cage. A non-metallic, entirely sealed container. Buffered walls protect fragile lifeforms.

Rock Blaster. Shock absorbing jackhammer/compressor. May hold ore it extracts. Increases mining and asteroid mining Skill Levels by **1**. Price: **15 Trans**. Weight: **25 kg**. Civ Level: **6**.

Anaerobic Torch. Hand-held, electrical/chemical light source. Provides daylight in **20** meter radius for **100** hours. Works in any atmosphere or a vacuum.

Computer Time. Available to characters in any urban environment of Civ Level 5 or above. *Library data* time will be found at a Data Center, and most unclassified information concerning the world, star system, and federation will be easily found. It is very rare that information of a classified nature will be obtainable (even through use of programming skill) at a terminal of this type. One hour of time costs **10** times the Civ Level of the world in Mils. The sophistication of the information obtained increases with the Civ Level of the computer used.

Programming time is obtained differently. This includes all official commercial use of computers by the characters. All small business and record keeping procedures the characters may wish to carry out can be accomplished on a small portable business computer. Often, however, the GM will decide the task which the characters need to accomplish will require a larger machine. One hour of time is available through large corporations at a cost of **20** times the Civ Level of the world in Mils.

Audio Sealed Case. An attache case with the voice print of the owner encoded within the locking mechanism. Also has projectile Armor Rating of **2**. Price: **15 Trans**. Weight: **10 kg**. Civ Level: **7**.

False Identity. A full set of false ID papers, photos, fingerprints, retinal patterns, etc. Price: **25 Trans**. Weight: Negligible. Civ Level: **6**.

Business Computer. A small portable computer capable of performing many menial calculations and record keeping. Comes in many different sizes and I/O configurations. Price: **5 Trans**. Weight: Varies; approximately **10 kg**. Civ Level: **6**.

Plastic Explosives. Produces explosions of varying intensities; the GM must adjudicate their effects. Price: **1 Tran**. Weight: **1 kg**. Civ Level: **5**.

This list by no means exhausts all the equipment the characters will wish to purchase. The GM must create these items within the framework of the guidelines shown in this Section; he should feel free to be as creative as he desires. This particular area will personalize a GM's campaign more than any other.

VI. World Generation

Once the GM has introduced the players to the game with the enclosed adventure, he must create other star systems. The world generation system is designed to provide the GM with only as much information about a world as he wants, and the process is accordingly punctuated with convenient stopping places.

If, while creating a world, the GM decides to finish the details himself without rolling dice, he is encouraged to do so. This chapter is intended as a guide for the creation of a world; the GM need not let the dice determine his universe. Logic and creativity, in proportions, should be injected into this system.

Generating each star system may yield planets, with each planet's size, type, and position determined. Moons may be similarly generated. At this point, the GM will have a graphic layout of the whole system and enough information to give the players if they are examining the system from above or below the ecliptic. It is up to the GM to name the stars and worlds. The names of the stars listed on the Stellar Display are sometimes very dry and technical; the GM should feel free to invent interesting names.

Generating the geographic features of each world yields the atmosphere, mean temperature, hydrographic percentage, distribution of land and water, and the specific gravity of each environ. At this point, the GM will have an actual map of each world to show the players if they are in orbit around the world.

Generating the population and technology of each world yields the total population, type of settlement, Law Level, Spaceport Class, Civ Level, distribution and development of resources, and the distribution of the population. At this point the GM will have enough information to referee any adventure involving the world.

GLOSSARY

The following terms are used throughout this chapter:

Binary or Trinary Star. Two or three stars revolving around a common center of gravity; may limit the number of possible planets.

Biosphere. The most habitable zone (for humans) of a star system; affects the type of planet or moon within it.

Civilization (Civ) Level. A number from **1** to **8** measuring a world's economic contribution to the the federation.

Environ. One of a variable number of areas on a world's surface. Each environ is a

square 4,000 km to a side. An environ may be drawn at a scale of 100 km per hex on an Environ Hex Map.

Hostile Zone. The most inhospitable zone (for humans) of a star system; affects the type of planet or moon within it.

Law Level. A number from **1** to **5** measuring the quality and degree of law enforcement on a world.

Moon. A body which orbits a planet; also referred to as a world.

Neutral Zone. The area of a star system not in the biosphere or hostile zone; affects the type of planets or moons within it.

Planet. A body orbiting a star; also referred to as a world.

Resource. A natural feature of value found on a world.

Settlement Status. A term summarizing the type and extent of human settlement on a world.

Site. A small location within an environ of special interest; natural sites are not usually noticeable without extensive exploration.

Spaceport Class. A number from **0** to **5** measuring the quality of facilities available at a spaceport.

Spectral Class. A standard astronomical term quantifying a star's luminosity. Used in *Universe* to determine a star's likelihood of having planets.

Star System. A star with its orbital bodies, including planets, moons, asteroids, and comets. Graphically represented in *Universe* on a Star System Log.

World. Any planet, moon, asteroid belt, or other heavenly body on which an adventure may take place; graphically represented on a World Log.

[23.0] Star Systems

The GM is responsible for choosing a star to generate. The Interstellar Display shows every known star within 30 Light Years of Sol, each star's Spectral Class, and whether it is able to support planets. Some stars form binary or trinary systems; their peculiarities are detailed in 23.2. The Star System Log is used to record the information concerning the star and its planets. To generate a complete star system, the GM conducts the following steps:

1. Choose a star from the Interstellar Display. Note the star's coordinates, its distance from Sol, and its Spectral Class on the Star System Log.

2. Determine the number and positions of the planets in the system, and record them on the Log.

3. Determine the size and type of each planet in the system.

4. Determine the number of moons for each planet and record the results on the Log. The size and type of each moon are determined, and that information is also recorded.

5. Note the gravity of each world.

[23.1] The GM chooses a star from the Interstellar Display.

Each star listing includes its cartesian coordinates (**X, Y, Z**), its name, Spectral Class, and whether or not it can sustain planets. When choosing a star system to generate, the GM should keep in mind that the farther a star is from Sol, the less its chance of having a highly developed civilization and quality interstellar trade routes. Also, the farther away from Sol the greater the chance of undiscovered resources and life forms. The Spectral Class of the star affects the number of planets and the habitability of each planet. The GM would do well to spend time examining all the charts and tables detailed in this Chapter before picking a star.

[23.2] The binary and trinary star systems contain abnormalities.

These systems have exceptions to the normal distribution of planets. The anomalies are due to a number of factors including the stars' Spectral Classes and the distance between the stars. The types of restrictions limit the planet positions that can be rolled (for instance, **1-7** indicates that only the first seven positions can be rolled for). Star systems restricted in this manner are listed in the **Binary/Trinary Star System Summary** (see page 32).

[23.3] The GM should familiarize himself with the use of the Star System Log.

Space is given on this log to record the star's Spectral Class, name, and distance from Sol. Also listed are the biospheres, neutral zones, and hostile zones for all five Spectral Classes. Each planetary position (**12** in all) gives the Planet Size Modifier and the distance from the star in Astronomical Units (AU's).

The GM records the information concerning the star on the log. As each planet is generated, he notes the name, size, type, and number of moons for the planet. Below these listings is additional space to note detailed information about the worlds (both planets and moons).

The log is also used to record general information concerning the system itself, such as interworld and interstellar trade routes, governmental types, amount of federal intervention. This information is derived from 25,0, 32.0, and 33.0.

[23.4] The GM determines the number of planets in the system.

Refer to the **Plant Creation Table** (see page 32) and roll two dice for each possible planet position shown on the Star System Log. If the result matches the range listed, a planet exists at the position. If a planet does not exist, put an **X** through the circle at the position. The circles of all the existing planets are left blank for the time being. A total of **12** dice rolls are made (unless using a restricted binary or trinary system).

If a position has no planet, this does not mean there is no world of any kind there; but that there is no world of any interest there. The GM is free to place dead worlds (gas giants, volcanic worlds, etc.) wherever he wishes in order to fill out a star system.

[23.5] The GM determines the size and type of each planet.

For each existing planet, refer to the **Planet Size and Type Table** (see page 32). Roll one die twice to determine the planet's size, habitability, and resource category. One or both die results may be modified, as listed on the table and on the Star System Log. For each Spectral Class listed in the upper left-hand corner of the log, there is a line reading across the planet listings. This indicates which positions for that Spectral Class are within the biosphere, neutral zone, or hostile zone. The biosphere gives a **-2** modifier, and the neutral zone a **+2**, both to the second die roll only. The hostile zone indicates the second die is not rolled; the roll is treated as a **10** and that row is used to locate the result. Record all attributes derived from the table on the log. The GM should invent a name for each planet and record it on the log.

The abbreviated attributes are defined as follows:

E: Earth-like; similar to Earth in most natural features.

T: Tolerable; can be inhabited with a certain amount of technological aid.

H: Hostile; habitation is very difficult and very expensive.

A: Asteroid belt; possibly a broken up planet such as exists in the Sol system. Treated as a size **4** planet for purposes of resource determination.

r: Resource rich; abundant resources in easily accessible locations.

p: Resource poor; resources are either scarce or very inaccessible.

1 through **9:** Planet size; affects gravity (see 23.7), number of environs, and determines which World Log is used.

[23.6] The GM determines the number of moons for each planet.

Use the **Moon Creation Table** (see page 31) for each planet created; size **1** and **2** planets cannot possess moons. Cross reference one die roll with the planet size to find the number of the planet's moons; record the number on the System Log.

Determine each moon's size and type using the **Moon Type Table** and **Moon Size Table**. The concepts used in this procedure are similar to those in 23.5. The GM should realize here the only distinction for game purposes between a planet and a moon is the body which they orbit. Also, it is possible to generate a size **0** moon, but a size **0** planet cannot be generated.

[23.7] The gravity of each world is determined by the size of the world.

On each World Log, the gravity is listed for that size world. Gravity is expressed in G's, with Earth's gravity equalling 1.0G. The gravity types range from **none** to **2.5**; see **World Gravity Table**, page 46, for summary.

On worlds with a "trace" gravity, objects will slowly settle to the surface. However, any object propelled with a velocity equal to or greater than that of a pitched baseball will escape the gravitational field.

[24.0] Geographical Features

The generation of geographical features for a world will yield not only factual information but an actual pictorial representation of the world as it would be seen from orbit. This is accomplished by use of the World Log, which is a graphic layout of the world as viewed from the poles. The information

generated in Section 23.0 and the features determined in this Section are recorded on this log. It is recommended that the GM use colored markers or pencils when drawing the world map. To generate the geographical features, the GM conducts the following steps and records the information generated on the World Log corresponding to the appropriate world size:

1. Determine the world's atmosphere.

2. Determine the world's mean temperature.

3. Determine the hydrograph percentage.

4. Note the number and type of land/water environs for the world and distribute them amongst the environs of the World Log.

5. Draw in the land masses and water bodies on the world map, creating continents, oceans, rivers, islands, etc.

6. Determine the environ type for each environ on the log. Record this information or draw out the environ type using markers or pencils.

7. Determine the day length (optional).

[24.1] **The GM should familiarize himself with the use of the World Log.**

There are, in this booklet, **10** World Logs, which represent variously sized worlds.

Each World Log is a graphic representation of a world as it is viewed from the poles. The size **0** log has only one view due to its small size. These views are divided into environs, which represent areas on the surface 4,000 km across. Each environ is numbered, and each ring of environs represents a different temperature ring on the world. Each ring contains a temperature modifier which is applied to the mean temperature generated for the world to determine the mean temperature of that ring.

Each log has space to list the world's name, type, atmosphere, temperature, hydrograph percentage, day length, population, Civ Level, Law Level, Spaceport Class, and resources. The size and gravity of each world is already listed at the top.

The map of the world is divided into environs. The GM should examine the log carefully to note which environs are adjacent to one another. Special attention should be paid to how the rings which form the outer circumference of the north and south views connect with each other.

The GM should create two logs, one containing all the fine detail for himself, and one which is mainly pictorial in nature for the players. Record all the raw data on a piece of scrap paper or an extra copy of the log and make the final copy only after all information has been determined. For each environ, the land/water distribution, environ type, resources, and population must be recorded.

[24.2] **The GM determines the atmosphere for the world.**

Referring to the **World Atmosphere Table** (page 32), the GM rolls one die and adds the world size to the result (a world of size **0** or **1** automatically possesses no atmosphere). The modified die result is cross-referenced with the world type and the atmosphere is recorded on the World Log. The atmosphere types and their effects follow:

None. Full expedition suit required at all times. All structures must be airtight with air-lock door systems.

Thin. Respirator required. Survival without respirator possible for up to **2** hours (or up to GM's discretion). Higher quality structures are airtight; most structures have air compressors.

Thin, Contaminated. Respirator required. Small possibility of disease. Higher quality structures are airtight. All structures must have air compressors and filter doors.

Normal. No special equipment or structures are required.

Normal, Contaminated. Filter mask required. All structures have filter doors and small compressors.

Poison. Respirator required; expedition suit recommended. All structures are airtight with oxygen supply. Disease, deterioration, and frequent storms are possible; low visibility is common.

Corrosive. Full expedition suit required; body armor recommended. All structures must be airtight with air-lock door systems. Higher quality structures are armored. Constant storms are possible; no visibility. Deterioration and disease are likely.

[24.3] **The GM determines the mean temperature of the world.**

Using the **World Temperature Table** (page 32), the GM rolls one die and applies modifiers listed on the table. The result is cross referenced with the world type and the temperature is recorded on the World Log. This temperature is the mean for the entire world; the actual temperature varies from one environ ring to another. All temperatures are in fahrenheit.

Each World Log lists the temperature modifier for each ring of environs on the world. This modifier is added to the mean temperature of the world to determine the average temperature of all environs in that ring. For example, a size **4** world has a mean temperature of **50°** Reference to the World Log shows environs **1** and **14** will have a temperature of **25°**; **2** through **5** and **15** through **18** will have a temperature of **50°**; and **6** through **13** will have a temperature of **75°** The specific temperature of an environ is used with the Environ Type Table when determining the nature of an environ.

When creating a world with an odd axial tilt (for instance, pointing toward the star) or with no rotation, the GM should change the distribution of the temperature modifiers on the World Log and/or widen the range of modifiers. The modifiers are designed for a world with an axis nearly perpendicular to the plane of the star system ecliptic and with axial rotation. The GM should feel free to alter them to fit the individual pattern.

[24.4] **The GM determines the hydrograph percentage of the world.**

The GM refers to the **World Hydrograph Table** (page 46). Using the world's size and mean temperature to ascertain which column to look in, the GM rolls one die and records the hydrograph percentage on the World Log. Note that worlds which possess no atmosphere or whose temperature is below **0°** or above **125°** automatically have no free-standing water.

The GM then refers to the **Land and Water Distribution Chart** (page 46). Seven types of land-water distribution which might exist in an environ are listed across the top of the chart (see explanation following). Using the line which corresponds to the world size and hydrograph percentage, the GM reads across to find how many environs of each type exist on the world. Note the total of all the numbers on a single line equals the number of environs on the world. The following seven types are included:

Water. All liquid with no land.

Water with Minor Islands. 90 percent water with scattered small islands.

Water with Major Islands. 75 percent water with islands or land masses possibly connecting to a larger land mass out of environ.

Water with Land. 50 percent water and land masses.

Land with Major Water. 75 percent land with water; such as a coast line or major lake within the land mass.

Land with Minor Water. 90 percent land with small water; a small part of a coastline, a river network, small lakes, etc.

Land. Land with no bodies of water.

These descriptions are intended as guides only; the GM should decide what elements make up the distribution type. See the Adventure Guide for visual examples of these distributions.

The GM should actually draw these environs on the log, assigning them to whichever environ seems consistent, logical, or aesthetically pleasing. Many water-only environments could be combined adjacently to form a large ocean. Coastlines from environ to environ should be contiguous, and the GM should be constantly aware of which environs are actually adjacent although graphically separated on the log. This drawing process should be done roughly in pencil at first, with a final colored version executed when all decisions are finalized.

[24.5] **The GM determines the terrain feature and contour of each environ.**

Using the **Environ Type Chart** (page 45), the GM determines the topography of each environ with some land. He locates the column containing the correct land/water distribution and the correct temperature of the environ (remembering that temperatures vary from environ to environ, see 24.3). The GM rolls percentile dice and reads down the column until locating the numerical result which most nearly equals the dice result without being less than the roll. The environ type corresponding to the numerical result is the predominant terrain feature and contour of that environ (for example, a roll of **34** in the first column would yield a result of barren/peaks). Repeat this procedure for every environ on the world until all have been determined. The GM should graphically depict in each environ the predominant terrain feature and contour.

After generating each environ's type, the GM should look at the world and feel free to juggle environs around to form a cohesive whole. For example, if ice is generated in a non-polar environ and there is no ice at the

pole, the GM should swap the environs to make up for the anomalies created by the random dice system.

For each environ type listing, the first feature is the terrain feature, and the second is the contour.

CONTOURS:

Flat. Land is perfectly flat and provides no cover whatsoever.

Hills. Gently rolling hills, very little hindrance to travel; provides some cover at long range.

Mountain. Heights which erosion has smoothed over, some hindrance to travel; cover fairly easy to find except at extremely close range.

Peaks. Jagged mountains with precipices, travel almost impossible; cover is available virtually everywhere.

TERRAIN FEATURES:

Volcanic: Active volcanoes exist throughout the environ; travel is possible with care; cover varies. Note that it is impossible to have volcanoes in a flat environ.

Crater. Land is churned up, travel is difficult; cover is easy to find.

Barren. Totally featureless cracked dry earth; no hindrance to travel; no cover.

Light Vegetation. Sparse grass, lichen, brush; travel unaffected; no cover.

Woods. Widely dispersed trees with undergrowth; travel possible with care; no cover except at long range.

Forest. Dense trees with undergrowth; travel slowed; cover easy to find.

Jungle. Land is choked with foliage and undergrowth; travel except on foot is nearly impossible; cover very easy to find.

Marsh. Bits of vegetation; some trees and undergrowth; travel slowed greatly; some cover available on occasion.

ICE ENVIRONS:

Ice/Flat. Treat as barren/flat; travel with care is possible; no cover.

Ice/Hills. Very jagged ice formations; travel almost impossible; cover available at all except close range.

The following environ types are included in the World Logs in the Adventure Guide. Refer to them for possible methods of drawing and coloring them.

On the Planet *Titus:*
n02 Water with minor islands; woods/hills. **n03** Land/water; light veg/mountains; **n05** Water with minor islands; volcanic/hills. **n09** Water with major islands; forest/mountains. **n12** Water with major islands; jungle/mountains. **n20** Land/water; barren/mountain. **s01** Water; ice/flat. **s04** Water with major islands; marsh/hill. **s13** Water with major islands; barren/peaks.

On the Planet *Kryo:*
n01 Land/water; ice/hill. **n03** Land with major water; woods/mountains. **s02** Land with major water; light veg/flat. **s03** Land with minor water; barren/peaks.

On the Planet *Laidley:*
n02 Land only; barren/mountain. **n05** Land only; crater/flat. **s05** Land only; volcanic/mountains.

When the GM has finished drawing out the world on the log, he will have a picture he may show to his players which will represent the world as they might see it through their viewscreens.

[24.6] **The GM may determine the world's day length.**

This procedure is optional as there will be complications caused by having worlds with different day lengths. The GM refers to the **World Day Length Table** (page 32) and locates the column which matches the world type. He then rolls one die and records the result on the World Log.

If the GM wishes a simpler solution, he may ignore the table and assume all worlds have a 24-hour day. The effects of having days of differing lengths must be judged before such a decision can be reached. Many game systems are designed to measure their time expenditures in terms of hours. Thus, if the world's hour does not match the character's hours, two separate tracks must be kept to measure time. Also, the GM must be ready to apply the physical and psychological effects of different day lengths to the characters in order to simulate the problems encountered. One possible answer is to measure all time expenditures according to the spaceship's clock, and let the world's day vary as it might.

[24.7] **The GM may decide to create an Environ Hex Map.**

When it becomes desirable to enlarge an environ and reproduce it on a hex map, the GM should use the hex map provided with the game. This map is drawn at a scale of 100 km per hex, and on it the GM creates the major land masses and water bodies of the environ as he has indicated on the World Log. The terrain features and contours are added, but in much greater detail than before. The GM may place *sites* on this map in particular hexes. A site indicates a small location not apparent on the World Log of special interest to the area. Sites the GM might wish to consider include the following:

Rain Forests	Roads
Swamps	Trails
Beaches	Cities
Rivers	Mines
Caves	Raw mineral deposits
Alien Ruins	Lakes
Old Settlements	Ponds
Glaciers	Cliffs
Meteor Craters	Volcanoes
Psionic Institutes	Lava Fields
Abysses	Towns

When drawing in the details of the environ type on the hex map, not only that type should appear. The GM should refer to the Environ Skill Display on the Character Record and locate the box corresponding to the predominant environ type; the eight adjacent boxes indicate environ types which may also occur in the environ. The GM should cover about two-thirds of the Envirion Hex Map with details of the predominant environ type, and the rest may be divided up as he sees fit. He may also place terrain features along the edges of the hex map that match those of neighboring environs on the World Log.

During the character generation process, a home environ skill is determined for every character in a particular environ type. It is to be assumed the character came from an environ in which that type was predominant. The GM may place the character's home on a world which contains the appropriate environ type and has some form of settlement. Due to the detail with which the character would know this environ, the GM may desire to create an Environ Hex Map of that environ and possibly show it to the player, depending how much information the player desires.

Refer to the Adventure Guide for an example of an Environ Hex Map.

[25.0] Population and Technology

The final details of a world include the elements of population and technology. These items will breathe life into an otherwise colorless world. The GM is encouraged to use the information available in this Section as a springboard from which he may fully realize a world's potential for enjoyable play. Each world will be given general indications of total population, Law Level, Spaceport Class, Civ Level, resources available, locations of those resources, and the effects of those resources on prices and economics. These indications should be utilized to guide the GM in reaching his own final conclusions about the world, its inner workings, and how each settlement and citizen fits into the whole.

The GM conducts the following steps to determine a world's population and technology:

1. Determine the settlement status, population total, Law Level, Spaceport Class, and Civ Level.

2. Determine the amount and type of resources and their availability on the world.

3. Assign the resources to various environs.

4. Assign the population to sites in the various environs.

[25.1] **The GM uses the World Development Table to determine the settlement status, human population, Law Level, Spaceport Class, and Civ Level.**

As explained on the table, the GM determines the Development Value based on the world's atmosphere, temperature, and hydrograph percentage. The GM rolls two dice and adds the Development Value to the result. He then locates this sum on the table and records the listed information on the World Log. For example, a resource rich world with a thin atmosphere, 75° temperature, hydrograph of 40% that is 20 light years from Sol would have a Development Value of **11**. Rolling a **15** on two dice and adding the Development Value of **11** would yield a result of **26**, which indicates a **minor state**, a population of **1 billion**, a Law Level of **4**, a Spaceport Class of **3**, and a Civ Level range of **6-8**. The GM should choose an appropriate Civ Level from the range given.

[25.2] **World Development Table**

See page 46.

[25.3] **The settlement status and population indicate the general extent of human presence in the world.**

The human settlement of a world may be in any of the following states:

Uncharted. Never mapped; unnamed.

Unexplored. Charted, but not traversed.

Explored and Abandoned. Surface has been traversed, but colonization never occurred; GM's discretion as to why not.

Abandoned Pioneer Colony. Colonization was started, but environment proved too harsh or resources dried up.

Active Exploration. Extant investigation by one or more groups; no governmental structure as yet.

Pioneer Colony. Just beginning to establish permanent population and develop resources; federation begins to take notice.

Subsidized Scientific Colony. Taking in much more raw material than it produces, but interest in the world's secrets and potentials make the output of knowledge a sufficient payoff. Federal presence exists.

Subsidized Working Colony. Takes in more than it produces, but shows promise of becoming a profitable commercial venture. Federal presence.

Self-Sufficient Colony. Stands on its own economically and accordingly draws the attention of the federation consistently.

Full Tech Colony. Commercial hub of a few systems, but has not yet been recognized as a minor state; the federation has not released the control it exercises.

Minor State. Commercial hub of a few systems, but federation has relinquished control to the point where the system operates more or less on its own.

Major State. Major commercial center of many systems. Federation does little except keep a watchful eye open.

The GM should use the human population figure as a guide. The total number of humans indicated is an approximate figure which the GM should adjust as he sees fit. This population may be divided into any social and/or political factions which are consistent with the world's settlement status.

The languages which any population may speak are chosen by the GM. As is mentioned in 1.0, there are a variety of languages, and this choice should be integrated into the overall flavor of the settlement.

It is to be assumed that any official federation representatives will speak Universal, as will most local law enforcement and governmental officials.

[25.4] **The degree to which the federal laws are enforced is indicated by the Law Level of the world.**

Throughout the universe, the laws have remained the same. The actions which are criminal in one sector are criminal to the same degree in another. What varies is the intensity and quality of enforcement and the way punishment is meted out. The Law Levels and their effects follow:

1. A cavalier attitude toward justice; the maximum punishment for capital offenses is incarceration for a short time. Very often a fine is the only penalty prescribed. Illegal weapons or items are simply confiscated. Very few enforcement agents are present.

2. The quality of justice varies with the individual agent. The maximum punishment for capital offenses is heavy fining and incarceration. Illegal weapons or items may result in imprisonment. The number and quality of law enforcement agents rises.

3. The judicial system is fair and reasonably accurate. The maximum punishment for capital offenses varies in proportion to the illegal act. Illegal weapons or items will result in imprisonment. Enforcement agents are seen regularly.

4. The search for truth and justice supercedes all else. Maximum punishment for capital offenses is death. Illegal weapons or items will result in long term imprisonment. Highly intelligent enforcement agents abound.

5. Strict adherence to judicial codes and practices results in accurate justice meted out swiftly. Maximum punishment for capital offenses is death. Possession of illegal weapons or items may be classified as a capital offense. Enforcement is of the highest quality and training. This level occurs only in Class 4 Spaceports and on Earth.

The Law Level of a world also influences the distribution of encounters concerning law enforcement agents. The **Enforcer Encounter Table** (page 46) indicates how often an encounter should be with a local law enforcer of some type.

These agents represent local authorities who will be inspecting parcels, luggage, equipment; looking out for trespassers; protecting the rights of citizens; apprehending criminals; and so forth. See 27.0 and 36.0.

[25.5] **The Spaceport Class represents the sophistication of facilities available for spaceship maintenance.**

Spaceports orbit around the world they serve, acting much in the same fashion as the 20th Century airport. Worlds with a Spaceport Class of ½, however, have no orbital station; rather, they have a landing strip on the surface. Thus, ships which are not streamlined cannot land there. Orbital stations have a shuttle service to the world's surface; the number of flights per day equals the *square* of the Spaceport Class.

The Spaceport Class also affects the degree of trade and commerce a world can engage in. The Spaceport Classes are:

0. No facility whatsoever.

½. Landing strip on the world surface. Energy for emergency use only. No security force stationed. Administered by one or two people. No repair service at all.

1. Energy is sometimes (50% chance) available. No repair service. A small federal detachment administers (10–15 people).

2. Energy is usually (85%) available. May repair superficial or light damage to pods and spaceships; a few used ships and pods may be available. No hyperjump maintenance. A full federal customs and security detachment (50–150 people). If it is the major port in the system, it includes an Astroguard patrol squadron.

3. Energy is always available. May repair superficial, light, or heavy damage to spaceships or pods; many standard ship types and pods are available. Hyperjump maintenance available at a Psionic Institute (see 10.5). Reinforced federal customs security, and administrative force (200–500 people). Astroguard patrol squadron present. If the major port in a system, it also includes a federal navy force.

4. Energy always available. May repair any type of damage; full ship construction available. Hyperjump maintenance is available at a Psionic Institute (see 10.5). It is the center of federal activity; endless customs, security, and administrative forces (500–2,000 people). Astroguard command post. Federal naval command (fleet headquarters).

5. Earth. Same as Class 4, but also includes the federal headquarters from which all military forces are administered.

If a spaceport is the highest class in a system, it is also considered the center of the federal administration of the system itself. The population of a world includes the population inhabiting the spaceport.

The Spaceport Class affects the type of trading route existing between the world and other worlds within the system, and between the system and other star systems (see Chapter VIII).

[25.6] **The Civ Level of a world indicates the degree of that settlement's contribution to the federation.**

The Civ Level of a world corresponds roughly to centuries in Earth's past and indicates the level of industrial output of the world. It does not necessarily indicate the sophistication of the population, nor does it reflect the intelligence of the individuals living on the world. A scientific colony, for instance, would have all the latest equipment, but would not be able to survive if the equipment broke down; they need their technology imported.

The Civ Levels and their corresponding Earth Centuries are: Level 1 (1600 AD); Level 2 (1700); Level 3 (1800); Level 4 (1900); Level 5 (2000); Level 6 (2100); Level 7 (2200); Level 8 (2300).

Any experimental equipment or scientific breakthroughs developing during play would be considered Civ Level 9.

Most individuals found on any world will be aware that high-tech items exist, and such items may be found on those worlds. However, in order to maintain or produce those items, the world must be of an equivalent or higher Civ Level.

[25.7] **The GM uses the World Resource Table to determine the world's resources and then assigns them to various environs.**

The GM rolls percentile dice the number of times indicated and applies any modifiers indicated on the Table. Every resource generated should be recorded on the World Log, along with the number of environs in which the resource appears. Note that rolling a resource twice indicates that resource is

abundant; rolling it once indicates the resource is *limited*. A resource cannot be rolled more than twice; if one is generated a third time, the dice are re-rolled. Rolling a site **(S)** listing twice equals one environ listing.

After the correct number of rolls have been conducted for the world, the resources are placed in the various environs of the world or at sites as indicated. All placements are the province of the GM. Once the resources are placed, the lettered results of each resource generated are examined. Every lettered result for the world's Civ Level and all lower Civ Levels apply for that resource on this world. These lettered results are explained on the World Resource Table. If no letters exist for a resource at a given Civ Level, that resource has not been discovered.

Example: One of the 13 rolls on an Earth-like size **5**, resource rich world results in chromium existing in one environ. The Civ Level of the world is **5**, so the lettered results **A**, **S**, **R**, and **D** apply to chromium there.

The GM should use the explanation of the lettered results as both factual information and as guidelines concerning the industrial output of the world, in terms of what the world does and does not produce. The explanations will guide the GM in general, and do imply specific incidents in the history of the world. Logic should rule all ambiguous situations, and the world's consistency should be maintained.

For example, using the world generated above, chromium lettered results indicate the resource has been discovered in every environ in which it occurs (as per result **A**); the **D** result is superceded by the **A** result; chromium has been refined in every environ in which it occurs (result **R**). Also, if iron is available, chromium has been used to manufacture Level 5 impact armor (result **S**). If the world settlement status was that of a subsidized scientific colony, for example, the GM would have to decide how much (if any) impact armor is being manufactured and whether the armor can be repaired there. Given the nature of a subsidized scientific colony, the answer might be that enough is manufactured for repair only.

The resources and Civ Level on a world affect what products are available on the world and what prices are asked for those items (see 18.0). The World Resource Table lists prices for all resources in a refined state. For trading purposes, it is wiser to sell products or resources to worlds where their availability is limited or nil. Prices for resources in a raw state are one-half to one-quarter their price in a refined state.

[25.8] **World Resource Table**
See page 48.

[25.9] **The GM assigns portions of the population to various environs on the world.**

The GM assigns population to the environs of the world in any way he sees fit, so long as the total population assigned to all the environs equals the population as indicated on the World Development Table. The population of an environ is recorded by placing a number from **0** to **9** in the environ. This number represents a power of **10**. Thus, if a **5** were recorded in a space, its population would be 100,000. A population level between one exponent and the next may be recorded by writing a multiple before the exponent. Thus, **3/5** would represent 300,000.

While assigning population to a world, the following restrictions must be adhered to.

- No more than 100 people may be placed in an environ with no vegetation *and* no water.
- No more than 1,000 people may be placed in a 100% water environ.
- No more than 100,000 people may be placed in a water with minor land masses environ.
- No more than 10 million people may be placed in a water with major land masses environ.
- No more than 100 million people may be placed in a water/land environ.
- No more than 1 billion people may be placed in a land with major water environ.
- No more than 10 million people may be placed in a land with minor water environ.
- No more than 10,000 people may be placed in a land with vegetation but no water environ.

The GM should relate the population centers on the world to various resource concentrations of sites of interest in a logical, consistent fashion.

VII. Character Action

Once the players have generated characters and the GM has created at least one star system (or has studied the star system in Chapter X), an adventure may be played. The GM must provide some method for the characters to meet and, once gathered, must provide them with a common purpose, enemy, or goal, so that they will be enticed to work together and enter the worlds created by the GM. A group of characters that are setting out together on an adventure are called a *party*, and this term is used in these rules in reference to all the players' characters.

An adventure usually consists of a series of *encounters*, or unusual situations that the GM places the characters in. An encounter provides the party with a source of information, mystery, personal gain, amusement, or straight-forward combat against creatures or non-player characters. Through the imaginative use of encounters, the GM weaves an ever-expanding story, written with the help of the characters' actions in those encounters.

The adventure in Chapter X serves as an example of how an adventure may be created and played.

[26.0] Travel and Record Keeping

As the adventures the GM has created are played, he will have to keep track of the players' actions and positions at all times. This is done to keep an accurate accounting of time passage and to place and resolve encounters.

The GM will need to keep track on his own map of the characters' progress while travelling and record the passage of time in whatever method he finds most convenient. For this purpose, the GM will need to create maps of various scales as need arises. Often a specific site will have to be mapped out at an extremely small scale to facilitate detailed exploration and interaction.

[26.1] **The GM keeps track of the party's location on the World Log, on an Environ Hex Map, or on a map of his own devising showing part of the environ in more detail.**

A map or log should always be available for the players to refer to, although it may contain much less information than the GM's version of the map.

When the party is travelling through an environ that is not of particular importance to the adventure, the GM need not provide a hex map; the terrain and contour features are considered the same throughout the environ (except for the shape of any land or liquid masses). Remember, each environ represents a square area 4,000 km to a side.

When the party is travelling through an environ with specific points of interest and varying terrains and contours, the GM provides the players with an Environ Hex Map (created in accordance with 24.8). Each hex on the map represents an area approximately 100 km across. When the party is in a particular hex of the map, the contour and terrain features of that hex are used for all game purposes, instead of the overall features of the environ.

If the GM wishes to provide the players with a map that shows a specific hex or site within a hex in great detail, he may use a blank Environ Hex Map. Often an incident within an adventure will involve a building, campsite, spacestation, cavern, spaceship, or other small-scale location. The map of this location should be drawn at a small enough scale to allow easy tranfer to an Action Display should any combat need to be resolved. Buildings and other rectilinear structures may be drawn easier on four squares to the inch graph paper and then transferred to the Action Display.

[26.2] **The GM is responsible for keeping time during play.**

The passage of game time while the characters are on an adventure is measured in three different scales, depending on the needs of the situation.

Action Rounds. Each Action Round represents about 15 seconds. Often a specific task during a combat situation will take a certain amount of time (a 60-second fuse on a time-bomb, for instance), and the GM must keep track of the number of Action Rounds elapsed to measure time and apply these effects.

Hours. Travel overland or in planetary space will often require keeping track of time in hours. This measurement allows calculating movement as well as air supply, repair time, healing time, and other game functions.

Days. Interplanetary travel, supply expenditure, power availability (robot batteries, for instance) all require keeping track of time in days elapsed.

The GM must inform the players at the beginning of an adventure how much time has elapsed since the resolution of the last one. This does not apply if the preceding adventure was left "frozen" to be picked up later. Letting the players know this allows them to calculate any expenses they might have incurred, any healing which needed to be done, and whether any equipment or robots they might have ordered are ready. It is recommended the GM allow at least one week (of game time) to pass between adventures for these purposes.

[26.3] **The party will usually travel on the surface of a world in a vehicle.**

The vast distances and hostile environments on most worlds make long distance travel on foot nearly impossible, especially when scientific or military equipment must be carried. If the party is not provided with a vehicle by their sponsor for an adventure, they should be given the means to purchase, lease, or borrow one by the GM.

The rate at which a vehicle travels is listed on the appropriate vehicle chart, in kilometers per hour. The speed of a ground vehicle is affected by the ***Terrain Value*** of the environ it is travelling through (see the Terrain Effects Chart, 21.1). Many vehicles are prohibited from entering heavily vegetated and/or mountainous areas. Often while travelling, the party will come to an area they wish to investigate that their vehicle cannot traverse. The vehicle then becomes a base from which the characters venture, exploring and adventuring, returning for supplies.

[26.4] **When the party is travelling by foot, they may traverse 50 kilometers in one day's travel under ideal conditions.**

One day's travel is roughly equal to 12 hours of marching, interrupted by a short break, followed by 12 hours of relaxation and sleep. If the party wishes to march for a longer period without rest, or wishes to march at a faster rate, the GM may allow this. However, he should penalize the party's subsequent actions. For example, an exhausted party would be much more likely to be *unaware* of a creature or NPC that they might encounter.

The party's daily movement rate is reduced by the Terrain Value of the environ they are travelling through and the gravity of the world. Refer to the Terrain Effects Chart to find the Terrain Value of the environ. Multiply the Terrain Value by the gravity (in G's) of the world. Divide the ideal movement rate by this product to determine the party's actual movement rate (rounded to the nearest five kilometers, for ease of play). Thus, a party that is travelling through lightly vegetated mountains on a Size **7** world (**1.7** G's) may traverse about 15 km in one day.

A character wearing an expedition suit or body armor may be slowed down by its Encumbrance Rating (or he may move faster if in augmented body armor). The suit/armor movement modifiers in 29.2 apply.

Note: For purposes of calculating daily movement rates, a Size **1** or **2** world is considered to have a gravity of **0.4G** (like that of a Size **3** world). Thus, movement through the same environ on a Size **1**, **2**, or **3** world is conducted at an identical rate.

[26.5] **The number of kilograms of equipment and accoutrements that a character can carry is limited by his Strength Rating.**

A character may move unhindered when carrying a number of kilograms *equal to or less than* his Strength Rating. The movement of such a character is not affected during long treks or during an Action Round.

A character may move, but is *hindered*, when carrying a number of kilograms equal to or less than **4** × his Strength Rating. The daily movement rate of such a character is *divided by two.* He may move a maximum of *one hex* on the Action Display during a single Action Round.

A character may lift, but *may not move*, with a number of kilograms equal to or less than **10** × his Strength Rating.

All the preceding limits are *divided* by the gravity (in G's) of the world the characters are on. There is no limit *per se* to the number of kilograms a character in a weightless environment or on a size **1** world may carry. However, the GM should consider the bulk of the items the character wishes to carry; would the character actually be able to hold all those things?

The weight of a character's expedition suit or body armor *is* considered when determining how much he may carry. **Exception:** If the character's Body Armor or EVA Skill Level is *equal to or greater than* the Encumbrance Rating of the suit or armor (see Protective Attire Chart), the weight is *not* considered. If a character wearing *augmented* body armor possesses a Body Armor Skill Level that is *greater* than the Encumbrance Rating of the armor, the *difference is added* to his Strength Rating when determining how much he can carry.

[26.6] **The positions of the characters relative to each other and to any creatures, NPC's, or landmarks they encounter are shown on the Action Display.**

Any large hexgrid map may be used as the Action Display; one is not provided with the game (although the spaceship combat maps will suffice if nothing else is available). A sheet with 19mm or 25mm hexes is recommended. The Action Display has a scale of **5** *meters per hex.*

Any available cardboard counters or miniature figures may be used to represent the characters and other individuals in the adventure. Those pieces representing the characters may be deployed in the hexes of the display at the beginning of the adventure to show their march order; i.e., if the party is on foot, the order in which they will be walking. Each time the party stops to rest or changes their march order, the players alter the relative position of their characters to show their new deployment. When the characters encounter a creature or NPC, the GM places a piece or pieces on the display to show their position in relation to the characters.

If an encounter results in the conduct of an *Action Round*, the involved characters, creatures, and NPC's are moved through the hexes of the Action Display by the players and the GM according to 28.0 and 29.0.

The GM may show specific features (such as a crater edge, building, or dense patch of vegetation) on the Action Display by placing additional pieces on it or by drawing on it.

[27.0] Creating Encounters

As the characters travel through the GM's worlds, they will encounter creatures, non-player characters, and other interesting or dangerous situations. The Encounter Table provides the GM with a wide source of encounters he may place the characters in, depending on their current location. Results from the table provide the GM with a type of encounter (spaceship, federal, accident, etc.). The specific nature of the encounter is then determined in accordance with this Section and/or Chapter IX.

[27.1] **The GM uses the Encounter Table three times per game day (once every eight hours).**

Exception: When the characters are travelling in a spaceship, the Encounter Table is used *once per day* (every 24 hours).

The GM secretly rolls percentile dice and locates the result in the column of the Table corresponding to the current location of the characters. The type of encounter corresponding to the dice result is then carried out. Certain encounters are treated as *no encounter* if the conditions detailed on the table are fulfilled.

Each creature encounter listed on the table is assigned a *Creature Value* ranging from **1** to **6**, which affects the chance of the encounter occurring in each environ type. If the Creature Value listed with the encounter is *equal to or greater than* the Creature Value of the environ (see the Terrain Effects Chart, 27.7), a creature is encountered. If the encounter result Creature Value is *less than* the Creature Value of the environ, no encounter occurs. Thus, the *lower* the Creature Value of an environ, the more chance of a creature encounter in that environ. The Creature Value of a given environ is *increased by* **1** if the party is travelling faster than 20 km per hour. The GM may reduce the Creature Value of an environ by assigning the entire world a *Danger Level* of **1** or **2**. The Danger Level of a world is subtracted from the Creature Value in every environ on the world. A world without an assigned Danger Level has a Danger Level of **0**.

Example: The party is travelling through a woods/hill environ (Creature Value of **3**) in an ATV at a speed of 25 km/hour. The Danger Level of the world is **2**; thus, the Creature Value is considered **2** (3 + 1 − 2). If the GM rolls a creature encounter result with a Creature Value of **2** or higher, an encounter will occur.

The Creature Value and Danger Level have no affect on any types of encounters other than creature encounters.

An encounter need not be put into play the moment it is rolled. The GM may wait until an opportune or logical situation arises within a few game hours of the roll. In fact, if the GM makes his use of the Encounter Table

too predictable, the players will always be ready for a possible encounter.

[27.2] **The Encounter Table is used to determine if the party has an encounter.**
See page 47.

[27.3] **Spaceship encounters may occur in planetary space or in deep space.**
Planetary space is defined as all space within 300,000 km of any world (this equals 15 hexes on the *DeltaVee* hex maps). *Deep space* is all space outside planetary space. While hyperjumping, a spaceship travels across no space at all, so no encounters will occur while a ship moves in this manner.

When a spaceship encounter occurs, the GM refers to 37.0 and chooses a common, rare, or unique spaceship encounter (as indicated by the Encounter Table) appropriate to the situation. The few examples given in no manner approach the varied number of different ships which ply the space lanes, and the GM will need to create many others.

The GM should rationalize every ship which the characters would encounter; space travel is still not an easy task, and any ship encountered will have *some* good reason for being there. This reason need not be obvious to the player characters; indeed, many ship captains will be hesitant to let every passer-by in on his business. Most of the time the ships the characters encounter have simple, logical reasons for going where they are going (resource trade, scientific missions, etc.). Occasionally a ship will have business to conduct it wishes to keep secret (whether or not this business is illegal) and the GM might utilize this kind of encounter to rouse the players' curiosity.

[27.4] **Non-player character encounters may occur wherever the player characters find themselves.**
When an NPC encounter occurs, the GM refers to 36.0 and chooses a common, rare, or unique NPC (as indicated by the Encounter Table) appropriate to the situation. The examples given cannot possibly cover all the varied types of people the characters would encounter while living in a futuristic society, and the GM should create NPC's of his own.

The GM does not have to create all NPC's in the detail of those in 36.0; most people the characters will meet become mere memories soon thereafter and are never again heard from. This type would include most officials, men-on-the-street, etc., and these should be created as the need arises on the spur of the moment and discarded when the encounter is finished. Others, however, will have a lasting effect, be constantly encountered, or used as a character's companion, and these should be fully fleshed out. The GM may create these using the character generation procedure or dream them up out of his head, whatever he wishes. NPC's should be varied in ability and background, and form a group of both enemies and friends the player characters come to know.

NPC's need not follow the skills, professions, or areas of study player characters must; their development should fill in the areas of society the player characters do not. There are and will be many more non-adventuring individuals with mundane skills in society and the NPC's should reflect this fact.

It is not necessary for the GM to fill out a Character Record for every NPC he fleshes out. This file of NPC's will grow and is often better handled by using 5″×7″ index cards and a card file, filling out the NPC's characteristics, skills, possessions, and any other pertinent information on the card.

[27.5] **A federal encounter may occur in a spaceport, urban area, or suburban area.**
Federal encounters are the major means by which the GM may trouble characters that have committed crimes or that are carrying illegal weapons. A federal encounter may take the form of a customs agent in a spaceport, a civil inspector and entourage on the surface of an underdeveloped world, or a detachment of rangers or spacetroopers operating in a restricted or dangerous area. If the characters possess any objects that are two Civ Levels (or more) in sophistication above that of the world, a civil inspector may question them as to the source of the items. If the characters cannot account for their possession, the items may be confiscated.

The Law Level of a world affects the nature of federal encounters. If the Law Level is **0** or **1**, no federal presence exists and the encounter is considered "no encounter." If the Law Level is **2** or higher, the characters will be badgered with an increasing degree of determination. Illegal weapons that are discovered by a federal agent will always be confiscated if official cause cannot be given for their possession. Fines and/or incarceration will vary depending on the Law Level.

If a character is foolish enough to kill a federal agent (a capital crime), any future federal encounters should be geared toward bringing the character to justice.

Federal encounters do not include planetary authorities, which are considered non-player characters.

[27.6] **A creature encounter may occur in any environ without a high concentration of human population.**
When a creature encounter occurs, the GM consults the *Creature Location* section of the Terrain Effects Chart (27.7). Cross-referencing the type of encounter (common, rare, or unique) with the environ the party is in will yield a group of numbers. Each number corresponds to one of the creature descriptions in 35.0. The GM chooses one of the listed creatures to use as the encounter. Additional restrictions may be placed on a creature (such as temperature or gravity ranges) by its description, and these should be considered when choosing a creature. The meaning of all the creature descriptions and explanations of any special powers they may possess are detailed in 35.0. Once a creature is chosen, the encounter is played out in accordance with 28.1.

The creature list in 35.0 is by no means intended as a comprehensive bestiary of known space. The manner in which the creatures are described, and the way that their powers may be mixed and matched, makes it easy for the GM to modify the listed creatures and to design his own creatures. When the GM has a good grasp of how the creatures work in play, he may create creatures in the same format. The general explanation of the creature descriptions should be used as a guideline; it details the meaning of each part of the creature description and how each is used in play.

[27.7] **The Terrain Effects Chart summarizes the effect that each environ type has on movement, combat, and creature encounters.**
See page 47.

[27.8] **An accident may occur in any location listed on the Encounter Table.**
When the GM rolls a *common*, *rare*, or *unique* accident encounter, he refers to the list of accidents in 38.0 and chooses one that fits the character's current situation. The list presents two types of accidents (either of which may be chosen). An *avoidable* accident is actually a dangerous situation that the characters may attempt to overcome by using their skills. An *unavoidable* accident is an occurrence that the characters are powerless to prevent.

An avoidable vehicle accident is resolved as described in 11.2. That procedure may also be used to resolve a spaceship accident (using pilot skill). However, any damage incurred by a spaceship would be applied using the *DeltaVee* hit system (see DV8.0).

An avoidable expedition suit, body armor, or jetpack accident is resolved as follows:

1. The base chance to avoid the accident is determined (see 38.0). If the character is skilled, his Agility Rating and the square of his Skill Level is added to the chance.

2. The endangered character rolls percentile dice. If the dice result is less than or equal to the modified chance, no accident occurs. If the result is greater than the modified chance, proceed to Step 3.

3. The GM subtracts the modified chance from the dice result and locates the difference on the Hit Table (30.9) to determine both the damage incurred by the involved equipment and the hits incurred by the character. If armor is involved, its Projectile Defense Rating may protect itself and the character, as described in 30.6.

When an *unavoidable* accident indicates that damage has occurred to equipment, the extent of damage is determined by rolling *two dice* and referring to the Hit Table, adding **3** to the dice result for a *common* accident, **11** to the result for a *rare* accident, or **20** to the result for a *unique* accident.

The GM need not limit accident checks to encounters. If a character declares that he wishes to attempt something especially risky, the GM may use these procedures, applying the appropriate skill, to see if the character comes through safely.

[27.9] **The GM may replace a "no encounter" result from the Encounter Table with a event of his own devising.**
Any event not covered by the Encounter Table results that the GM wishes to use in an adventure may be assigned a space on the Table occupied by a "no encounter" result. Such events might include the discovery of an alien artifact or structure, the discovery of abandoned equipment, news of an occur-

rence that may or may not affect the characters, or some event that may only occur in a specific location or at a specific time. See 42.4 of the Adventure Guide for an example. If the GM wishes that such an event definitely occur, he should forego use of the Encounter Table and automatically implement his event instead.

[28.0] Creature and NPC Interaction

Once the GM has determined that the party has encountered a creature or NPC, the encounter is played out, either verbally or on the Action Display. The appropriate encounter procedure (there are two; one for creatures and one for NPC's) is undertaken to determine how the two sides become aware of each other, how they react to each other and, if called for, how hostilities are initiated.

The GM is not required to use these procedures if he has provided the creature or NPC with a specific purpose and strategy. However, the step-by-step structure of the procedures will prove helpful in resolving all types of creature and NPC encounters.

[28.1] **When the party encounters a creature, the GM undertakes the following procedure:**

1. Secretly determine all the attributes of the creature (if not already done).

2. Make sure the characters are properly deployed on the Action Display.

3. Secretly roll percentile dice to determine the *awareness* of the creature and the party and place the creature on the Action Display in accordance with the awareness result. If the creature is *unaware* of the party, read its *sight* description to the characters and skip step 4. If both are aware of each other, read the *warning* description to the party. If the party is unaware of the creature, read nothing.

4. Use the Creature Reaction Table to secretly determine the creature's reaction to the party. If the party is unaware of the creature, and the creature chooses to attack or flee, conduct the Interaction indicated on the Creature Interaction Matrix.

5. If the sight description of the creature has already been read to the characters, allow them to attempt *perception* of the creature. Then ask the characters to declare their strategy (see 28.4). Cross-reference the character's strategy with the creature's reaction on the Creature Interaction Matrix and carry out the indicated Interaction.

Step five is repeated after each Interaction to determine the next Interaction. The character's are read the *sight* description of a creature at the beginning of the second conduct of step 5 in a given encounter (if they have not heard it before). The GM may change a creature's reaction to a party at the end of any Interaction or Action Round. If he chooses to do so, the Interaction Matrix is referred to again.

[28.2] **The awareness of the party and the creature they encounter determines the initial deployment of the creature and the initial information received by the party.**

The creature's *Initiative Percentage* is *multiplied* by the *Terrain Value* of the environ to determine the base *awareness chance.* The attributes of the party modify this chance as follows:

- Subtract *twice* the highest *Environ* Skill Level in the party.
- Subtract the highest *Battlefield* Skill Level in the party. If the encounter is with an NPC, subtract the *square* of the highest Battlefield Skill Level.
- Subtract *ten* if the party possesses an operating neuroscanner and the creature is protein-based or more terran-like.
- Subtract **20** if the party possesses a robot with a bio system and the creature is protein based or more terran-like. This subtraction may not be combined with the neuroscanner subtraction.
- Subtract the *square* of the highest *Life Sense* Skill Level in the party.
- Subtract the *square* of the highest *Mental Power* Rating in the party if the creature is *intelligent.*
- Add **20** if the party is resting without a watch.
- Add a variable amount if the party has exceeded the movement rate recommended in 26.4.

The GM rolls percentile dice. If the result is equal to or less than the modified chance, the party is *unaware* of the creature. If the creature's Aggression Rating is **7** or higher, place a creature in a hex of the Action Display from which it could attack one character (determined at random) without moving (often this will be in the same hex as a character). The creature is not committed to an attack at this point. If the Aggression Rating is **6** or less, place the creature in a hex at the edge of the party's sight (see 28.3).

If the result is greater than the modified chance by **30** or less, the party and the creature are aware of each other. Place the creature in a hex at the edge of the party's sight and read the creature's *warning* description to the party (see 35.0).

If the result is greater than the modified chance by more than **30**, the creature is unaware of the party. Place the creature in a hex at the edge of the party's sight and read the creature's *sight* description to the party.

With some alterations, the GM may use this procedure to check for character NPC awareness, if an encounter occurs in which one side might wish to ambush or elude the other. The NPC's Ambush and Environ Skill Levels should be taken into account (instead of the Intiative Percentage). If the party is unaware of an NPC, place him in the same hex as a character (if the NPC is unarmed) or four hexes away with a clear line of fire (if the NPC is armed).

[28.3] **The maximum range at which a being may be seen (and thus fired at) is 200 meters or 40 hexes.**

The maximum range in any given encounter is *divided* by the *Terrain Value* of the encounter area (see the Terrain Effects Chart). Thus, in a Forest Mountain area (Terrain Value of 4) the maximum range is **50** meters or **10** hexes. When the GM is placing a creature or NPC on the Action Display for an encounter, it should be placed in a hex at the maximum range from one of the characters (unless the characters are unaware, see 28.2). When a creature or NPC has moved beyond the maximum range from all characters the GM should remove it from the Display and conduct its actions secretly, keeping track of its position until at least one character has reestablished sight (by moving back within maximum range).

If the encounter is taking place in darkness, add three to the Terrain Value up to a maximum of six. **Exception:** A creature with heightened vision or a character with night glasses is not affected by darkness. The GM may impose other additions to the Terrain Value when determining maximum range in the case of dust, fog or other non-terrain visual obstructions.

[28.4] **A creature's reaction to the party, and the party's strategy determines how an encounter will be resolved.**

Unless the GM has chosen a reaction for the creature, he secretly rolls one die and *adds* the creature's *Aggression* Rating to the result. He locates the modified die result on the Creature Reaction Table to determine one of the following creature reactions:

Flee. Terrified of the party; will leave the area quickly as possible.

Leave Slowly. Bothered by the party; will amble off.

Watch Warily. Suspicious of the party but has not yet decided what to do about it.

Ignore. Totally unconcerned about the party and its actions.

Protect. Will attack to defend itself if provoked.

Attack. Angered or hungry; will attempt to kill or capture (depending on the creature type).

Communicate. Intelligent; will attempt to establish contact with the party.

If the party is aware of the creature, the GM asks them to choose one of the following strategies:

Attack. The party plans to fire weapons, strike the creature, or take any other hostile action against the creature.

Maneuver. The party plans to move towards and around the creature without taking hostile action.

Watch Warily. The party will hold its ground, watching and recording the creature's actions.

Ignore. The party will disregard the creature.

Flee. The party will move away from the creature as quickly as possible.

Communicate. The party will attempt to establish contact with the creature.

The GM secretly cross-references the creature's reaction with the character's strategy on the Creature Interaction Matrix and carries out the indicated *Interaction.* Each possible Interaction is explained with the table and may call for the conduct of an Action Round, may allow maneuver by one

side or the other, or may indicate some other activity. The GM should return to Step 5 of the Creature Encounter Procedure after conducting an Interaction, unless otherwise stated in the Interaction description. When it becomes obvious that the party will not be changing its strategy and the creature will not be changing its reaction (especially when combat has been initiated by one or both sides), the GM should stop using Interactions. Instead, Action Rounds are conducted until the encounter is resolved.

Note: Any reaction result calling for movement by an immobile creature is considered a Watch Warily reaction. However, the creature will "close up" if possible.

[28.5] **The GM uses the Creature Reaction Table to determine a creature's attitude toward the party.**
See page 50.

[28.6] **The GM uses the Creature Interaction Matrix to determine the interaction between a creature and the party.** See page 50.

[28.7] **When the party encounters an NPC, the GM undertakes one of two procedures, depending on the type of encounter he envisions.**

The GM secretly determines all the attributes of the NPC (if not already done) and assesses the party's situation. If he feels that combat would precede any vocal interaction (in say, an ambush or battlefield situation), the following steps are conducted.

1. Make sure the characters are properly deployed on the Action Display.

2. The GM secretly rolls percentile dice to determine the *awareness* of the NPC and the party (see 28.2). Place the NPC(s) on the Action Display in accordance with the awareness result.

3. Conduct an Action Round. If one side is unaware of the other, the aware side has the automatic initiative; and step 4 of the Action Round is skipped. Continue conducting Action Rounds until the combat is resolved or both sides choose to cease hostilities. After the first Action Round, both sides are considered aware of each other.

If the GM does not feel that combat would be immediately initiated and wants to allow interaction between the party and the NPC (conversation and reaction) the following steps are conducted (unless the GM has chosen a distinct attitude for the NPC).

1. The GM secretly rolls percentile dice and compares the dice result to the NPC's *Aggression* Rating *times ten.* This comparison will yield a positive or negative *reaction number.* **Example**: An NPC's Aggression Rating of **4** multiplied by **10** equals **40.** Percentile dice are rolled and the result is **76.** Comparing the multiplied Aggression of **40** with the roll of **76** yields a reaction number of **+36.**

2. The GM locates the reaction number on the NPC Reaction Table (28.8) and makes a mental note of the indicated NPC reaction. The party may now choose one character among them as their *spokesman.* If no spokesman is chosen, skip Steps 3 and 4 and proceed to Step 5.

3. The spokesman rolls one die. If the result is *less than* his *Empathy Rating,* the GM reads the *Key Word* of the NPC reaction to the party, as an indication of the NPC's apparent intentions. If the die result is *equal to* or *greater than* the spokesman's Empathy Rating, the Key Word is not revealed.

4. The spokesman may perform the *communication task;* see the streetwise and diplomacy skill descriptions (14.0). For every **10** (or fraction) *below* the modified chance for the task the dice result indicates, the party receives a *friendly shift* of *one line towards* **0** on the Reaction Table. For every **10** *above* the modified chance, the party recieves a *hostile shift* of one line *away* from **0.**

5. The GM checks the list of Reaction Shifts (listed with the Reaction Table) to determine whether any shifts are applied (in addition to any applied as stated in Step 4). Any verbal interaction by the players may also be considered. Apply the shifts in the direction indicated.

6. After all shifts are applied, the GM locates the new line on the NPC Reaction Table. He reads or paraphrases the Key Word and the NPC reaction to the players (if he thinks it would be obvious) and the result is enacted as it applies to the situation.

[28.8] **The GM uses the NPC Reaction Table to determine the attitude of an NPC towards the party in an encounter.**
See page 51.

[29.0] Action Rounds

Action Rounds are used to resolve combat between characters. NPC's and creatures. When a possible combat situation arises, the GM and the players prepare the Action Display as described in 26.6, the Creature Encounter Procedure (28.1) and the NPC Encounter Procedure (28.7).

During a creature encounter, an Action Round is undertaken when called for by an Interaction (see 28.4). Some Interactions call for the conduct of one Action Round, and then another Interaction is determined. Others call for the repeated conduct of Action Rounds until combat is resolved (one side or the other is incapacitated or escapes).

During an NPC encounter, an Action Round is undertaken if either the characters or NPC's wish to initiate combat. Action Rounds are repeated until combat is resolved or both sides choose to cease hostilities.

ACTION ROUND PROCEDURE:

1. If not stated in the Encounter Procedure or Interaction, determine which side has the *initiative* (see 29.1).

2. Every individual which is not stunned, passed out or restrained on the side *with initiative* may move, fire and/or perform other actions. Each individual conducts his actions one at a time; that is, one performs actions, than the next, then the next, and so on. The order in which individuals perform their actions is up to the players (if characters) or the GM (if NPC's or creatures). If an enemy individual is attacked or fired upon, the effects are implemented immediately.

3. Every individual on the side *without* initiative that was fired at in Step 2 must conduct a *willpower check.* Those individuals that fail the check must now perform a *rash* or *protective* action.

4. Every individual on the side *without* initiative may perform actions as described in Step 2. **Exception:** An individual that was attacked in *close combat* during Step 2 or that *failed* a willpower check in Step 3 may not perform any actions *at all.* This step is skipped if the side without initiative is unaware or is ignoring the side with initiative.

5. The GM may check the NPC's or creatures to determine if their reaction to the characters changes. The characters may also change their strategy. If one or both sides wishes to continue combat, return to Step 1 of this procedure. However, if one or both sides changes their strategy during a creature encounter, check the appropriate interaction to see how the next Action Round will be conducted (if at all).

Throughout this section, any references to abilities and options of the characters also applies to NPC's.

[29.1] **The players and the GM determine which side has the initiative at the beginning of each Action Round.**

The players use the one character in their party that has the highest *Initiative Value,* determined as follows: Add together the character's *Leadership* Rating (if the enemy is a creature, *Intelligence* may be used instead), his *Environ* Skill Level, and his *Battlefield* Skill Level (if the characters are fighting NPC's, *double* the Battlefield Skill Level). The highest sum obtained by one character is the party's Initiative Value and that character is considered the party's leader.

The GM secretly determines the Initiative Value of the enemy force. If a creature, its initiative percentage is used as its Initiative Value. If NPC's, the Value is determined in the same way as for characters. One side's Initiative Value may be increased in accordance with a creature interaction (see 28.6).

The player controlling the character being used for initiative rolls one die and adds the result to his Initiative Value. The GM secretly does the same for the enemy force. The side that achieves the higher sum receives the initiative this round, and performs actions first.

If one side is unaware in the first Action Round of a combat, they are considered aware in all the following Rounds. However, until the initially unaware side actually gains the initiative in an Action Round, **3** is subtracted from all their initiative die rolls.

A character or NPC that is currently stunned, unconscious, or that failed a will power check in the previous Action Round may not be used to determine the Initiative Value.

Close Combat Initiative. If a character is engaged in close combat with an NPC or creature (see 29.9), the GM should have the character and his enemy check for intiative in

relation to each other separate from the rest of the combatants. Their rolls will have no effect on the other individuals. Thus it is possible that a character will have the initiative in his close combat situation while the rest of the party will not, and vice versa.

[29.2] **A character may move a number of hexes equal to his Agility Rating in a single Action Round, with the following modifiers:**

- Add the Terrain Movement Modifier for the environ (see the Terrain Effects Chart).
- Add the Gravity Movement Modifier for the world (see the world log).
- Add the character's appropriate Gravity Skill Level.

Example: A character with an Agility Rating of **7** in a woods/hill environ (**−4**) on a size **4** world (**+2**) who has a Light Gravity Skill Level of **+1**, would be able to move up to **6** hexes in a single Action Round.

The number of hexes a character may move may be increased or decreased if he is wearing an expedition suit or body armor. *Subtract* the character's EVA or Body Armor Skill Level (whichever is higher) from the *Encumbrance Rating* of the suit or armor. If the result is greater than one, *divide* the character's movement rate by the result (rounding to the nearest whole number). If the result of the subtraction is one or less, the character's movement is not affected. **Exception:** If a character using his Body Armor Skill is wearing *augmented* armor, and the subtraction result is **−2** or less, *multiply* the character's movement rate by the *absolute value* of the result.

Example: Assuming the character in the above example is wearing Civ Level **7** Impact Armor (encumbrance Rating of **3**, augmented) and does not have the EVA or Body Armor Skill, he would be able to move only two hexes per Action Round (**6÷3**). If he had a Skill Level from **2** to **4**, he could move the full six hexes. If he had a Body Armor Skill Level of **5** (or **6**) he could take advantage of the armor's augmentation and move **12** (or **18**) hexes.

Unless a character's Agility Rating is **0** (which indicates that he may not move at all) or he is restrained, he may always move at least one hex, even if his calculated movement is **0** or less.

The movement rate of a robot is calculated in the same manner as that of a character (robots have no Gravity Skill Levels). However, if a robot's calculated movement rate is **0** or less it may not move *at all* (unless it has a creative thought system).

The movement rate of a creature is equal to its Agility Rating only. The effects of gravity and the environ are already included in its Agility Rating.

[29.3] **When a character is eligible to move, he may perform other actions before, after or instead of moving.**

An action a character performs during an Action Round other than movement may reduce the number of hexes he may move in that Round or may prevent him from moving altogether. Unless otherwise specified, actions may be performed before moving, after moving, or instead of moving. They may not be performed before and after moving and may not interrupt movement. Thus a character may perform actions and then move, or he may move and then perform actions, or he may perform actions only. If a single action would reduce a character's movement rate below **0**, he may still perform that action but may not do anything else in the Action Round.

Fall prone. No reduction. May be performed after move only.

Get up. **−1** hex. Performed before move if prone.

Open or close door. **−1** hex.

Pick up object. **−2** hexes.

Pass through narrow opening. **−2** hexes.

Load weapon. One Action Round.

Fire weapon. No reduction (however, see 29.6).

Draw weapon. **−1** hex.

Exit enemy-occupied hex. **−2** hexes. May not be performed if engaged in close combat. May be performed before move only.

Attack in Close Combat. **−3** hexes. May be performed after move only. A character may conduct no more than one close attack in a single Action Round.

Break off from Close Combat. Movement rate reduced to one hex. Character must have the initiative and may not break off if restrained. May be performed before move only.

Pressurize or Depressurize in Airlock. Two Action Rounds.

Emplace Machine Gun. Two Action Rounds (a machine gun mounted on a structure or vehicle in considered emplaced).

Jump over object. **−3** hexes. May be performed after move only, although the jump may include an additional forward momentum of one hex. A character may jump a number of feet equal to one half of his total movement rate for the Action Round.

Perceive Creature without Bioscanner. No reduction.

Perceive Creature with Bioscanner. One Action Round.

Jet Pack Movement. A skilled character wearing a jetpack may move (fly) a number of hexes equal to twice his Agility Rating, plus his Gravity Skill Level, plus the Gravity Movement Modifier, plus the *square* of his Jetpack Skill Level. No modifier for terrain is considered. An unskilled character may move a number of hexes equal to his Agility Rating plus his Gravity Skill Level plus the Gravity Movement Modifier (the GM may wish to check for an accident when an unskilled character is using a jetpack). Jetpack movement is halved (rounded up) if a character is taking off or landing before or after the move. A character using a jetpack cannot take off and land in 1 Action Round.

The movement rates of vehicles (in hexes per Action Round) are listed on the appropriate vehicle chart. As long as a vehicle is being driven, it may move at its listed movement rate (as modified by the Terrain Value of the environ (see 21.1). A character that wishes to switch from driving a vehicle to moving on foot (or vice versa) must spend one Action Round shutting down (or starting) the vehicle.

A character that is controlling a robot's actions in an Action Round may not himself move, fire a weapon or perform any other actions in that Round (unless the robot has a self-activation system).

[29.4] **The size of an individual or object determines how much space it occupies in a hex.**

The size classifications are: *Miniscule* (smaller than a coin), *Very Small* (the size of a book), *Small* (the size of a small child), *Man-size, Large* (the size of a large horse), *One-hex, Two-hex, and so on.*

There is no limit to the number of miniscule or very small objects or individuals that may occupy a hex. Twenty small, 10 man-size, or three large objects or individuals may occupy a hex. The size of an object or individual affects weapon fire in the form of a modifier applied to the Hit Chance (see the Fire Modifier Chart).

[29.5] **When eligible to move, a character may fire a loaded weapon he possesses at any target within his sight.**

He may fire the weapon up to a number of times equal to the weapon's *Fire Rate* (listed on the Weapon Chart). However, if he fires a number of times *greater than half* the weapon's Fire Rate, the weapon becomes *unloaded* and may not be fired again until loaded (an action listed in 29.3). Thus, a weapon with a Fire Rate of **1** must be reloaded after each fire. As long as a weapon is fired a number of times equal to or less than half its Fire Rate, the character need not pause to reload. A character that is *not* skilled with a weapon may only fire it once in an Action Round.

For each fire he wishes to conduct, the character declares his intended target and conducts the following steps:

1. Referring to the Weapon Chart, cross-reference the type of weapon being fired with the column corresponding to the number of hexes away the target lies to find the Base Hit Chance. This range is counted by including the target hex but not the firing character's hex.

2. Multiply the *Terrain Value* in the environ by the *Terrain Multipier* (listed with the range on the Weapon Chart) and *subtract* this product from the Base Hit Chance. If the target is *prone, double* the subtraction.

3. If the firing character is skilled with the weapon, add his Dexterity Rating and the square of his Skill Level to the Hit Chance.

4. Consult the Fire Modifier Chart to see if any other additions or subtractions are applied to the Hit Chance, depending on the situation. Certain Hit Chances for manual weapons indicate that the character's *Strength* Rating is also added to the Hit Chance (see the Weapon Chart).

5. The character rolls percentile dice. If the dice result is equal to or less than the modified Hit Chance, he hits the target; refer to the Hit Table to determine the damage incurred by target in accordance with 30.0 (**Exception:** If a target is fired at more than once, damage is determined after all fires are conducted). If the dice result is greater than

the chance, he misses the target; the GM may check to see if the fire hits a *likely target* (see 29.7).

A character may fire at any number of different targets in a single Action Round (within the limit of his weapon's fire rate). However, a reduction (listed on the Fire Modifier Chart) is applied to *all* fires if he does so. A reduction is also applied to all fires when firing a weapon with recoil more than once in an Action Round (even if firing at the same target).

A character in a hex occupied by an enemy capable of movement may only fire at a target in that hex.

[29.6] **The Fire Modifier Chart lists all the modifiers that may be applied to the Hit Chance when firing a weapon.**
See page 51.

[29.7] **If a fire misses its intended target, the GM may check to see if a likely target is hit instead.**

The GM locates the difference between the dice result and the modified Hit Chance on one of the following likely target results. If one applies, that object or individual suffers the effects of the fire.

1-30. No other object hit. **Exception:** If the target is engaged in close combat, the fire hits the target's adversary.

31-50. Fire hits an object or individual other than the intended target in the target hex or in a hex that the fire passed through (including hexes beyond the target).

51 or more. Fire hits an item or individual in a hex adjacent to any hex in the above result.

The GM determines which likely target is hit if more than one is eligible. Any fire that does not hit its target or a likely target always hits a *wall* (if present) behind the intended target (this could be very dangerous if a vacuum or a hostile atmosphere exists beyond a pressurized chamber). **Exception:** A skilled character firing an *arc gun* will never hit an object, individual or wall behind his intended target.

If the dice result is greater than the modified chance when throwing a *grenade*, the grenade strikes one hex away from the target hex for every **10** percentage points (or fraction thereof) over the chance the dice result indicates. The GM randomly determines which direction from the target the grenade goes.

[29.8] **A character without initiative must conduct a will power check if he is fired upon and does not incur damage.**

The character rolls one die; if the result is *equal* to his *Aggression* Rating, he passes the check. The character may add or subtract a number *up to* his *Mental Power* Rating or his *Battlefield* Skill Level (his choice) to or from the die result. Thus, a character with an Aggression of **7** and a Mental Power of **2** must roll a **5,6,7,8** or **9** to pass a willpower check. If the character has a Battlefield Skill Level of **3**, he must roll a **4** through **10** to pass the check

A character that passes a will power check may participate in Step 4 of the Action Round. A character that fails a will power check may not do anything in Step 4; instead, he must immediately perform one of the following:

- A character that fails a willpower check by rolling *too high* must immediately fall prone in the hex he occupies or any adjacent hex that is further away from the source of fire (his choice). A character that is already prone does nothing.
- A character that fails a will power check by rolling *too low* must perform a rash action. He must immediately move into the hex occupied by the individual that attacked him (or as close to this hex as possible if his movement rate is insufficient). If the character is able to conduct a close attack or fire his weapon after moving he must do so (his choice if able to do both). If a rash character is firing his weapon, he must conduct as many fires as possible. He may not fall prone after his rash action.

Creatures never conduct willpower checks. A character on the side with initiative does not conduct a willpower check when fired upon. A character does not conduct a willpower check when attacked in close combat.

[29.9] **A character or creature may attack an enemy in the same hex by using close combat, instead of firing a weapon.**

Once close combat is initiated, the two participants are considered *engaged* until one or the other is stunned, passes out, dies or breaks off. An individual *without* initiative that is engaged in close combat may not perform any actions *at all* in step 4 of the Action Round. An individual *with* initiative that is engaged may only conduct a close attack or attempt to break off (see 29.3) during Step 2 of the Action Round. A character is not required to initiate close combat when in an enemy-occupied hex; if he is not engaged, he may fire a weapon at a target in the hex instead.

The close combat strengths of the attacker and defender depend on how each individual declares he will fight; *unarmed,* with a *blade* or in *body armor.* An individual may declare any one of the three types for which he is eligible.

Attacking or defending unarmed. The character's Dexterity, Strength *or* Agility Rating (his choice) is added to the square of his Unarmed Combat Skill Level. If the character is not skilled, he uses one half (rounded up) of one of his Ratings only.

Attacking or defending with a blade. The character's Dexterity *or* Agility Rating (his choice) is added to the *Hit Strength* of his blade (see the Weapon Chart) and the square of his Blade Skill Level. If the character is not skilled, he uses the Hit Strength of his blade only.

Attacking or defending in body armor. The character's Strength Rating is added to the *Hit Strength* of his armor and the square of his Body Armor Skill Level. If the character is not skilled, he uses the Hit Strength of his armor *or* his Strength Rating only. **Note:** A character in body armor may declare that he is attacking or defending unarmed if he wishes.

Creature (attacking or defending): The creature's Combat Rating is multiplied by one half (rounded down) of his Agility Rating. Thus, a creature with a Combat Rating of **6** and an Agility Rating of **7** would have a close combat strength of **18.**

After determining the close combat strength of the attacker and defender, resolve the combat by *subtracting* the defender's close combat strength from the attacker's close combat strength to determine the differential (a negative number is possible). The attacker rolls *one die* and *adds* the die result to the differential.

- If the sum of the differential and the die result is **4** *or greater, divide the sum by two* (rounding down) and locate the halved sum on the Hit Table to determine hits incurred by the *defender* (see 30.1).
- If the sum of the differential and the dice result ranges from **−3** to **3** the attack has no effect.
- If the sum of the differential and the die result is **−4** *or less,* divide the *absolute value* of the sum by two (rounding down) and locate the halved sum on the Hit Table to determine hits incurred by the *attacker* (see 30.1).

Before resolving a close combat, the attacker (only) may declare that he is attempting to *restrain* his enemy. If this is declared, reduce any hits received in the combat by his enemy by three. If the adjusted number is **0** or higher, his enemy is considered restrained (suffering the adjusted number of hits) and remains restrained until the attacker releases him, or is stunned, passes out, or dies. A restrained individual may not perform any actions at all. An individual that is restraining an individual may not perform any actions other than movement (however, see 26.5), unless it is a creature that possesses the *multiple attack* power or that has restrained its adversary in *webs.*

[30.0] Hits and Damage

A character, creature, or NPC may suffer hits; and a vehicle, machine, or other piece of equipment may suffer damage, as a result of weapon fire, close, combat, or an accident. Hits against an individual reduce his Physical Characteristic Ratings. Points lost from Physical Characteristics are regained by healing (see 12.3 and the Diagnosis and Treatment skill descriptions). Damage to equipment may puncture the object and/or render it inoperable until repaired (see 13.1 and the tech skill descriptions).

The Hit Table is used to determine all types of hits and damage, although its use changes depending on the situation.

[30.1] **When an individual is hit by weapon fire, the character who fired the weapon uses the Hit Table to determine the number of hits his target receives.**

He rolls *one die* and *adds the Hit Strength* of the weapon to the die result. The modified die result is located on the Table to find which physical characteristic is affected and how many points are subtracted from that characteristics

If an individual is hit by more than one fire from the same weapon in a single Action Round, the Hit Strength of the weapon is

multiplied by the number of times the target was hit. One die is rolled and the result is added to this product to determine the one result that will be applied to the Hit Table. Thus, the Hit Strength of a paint gun that hits one target three times in one Action Round is **24** (3 × 8).

The die is not rolled when referring to the Hit Table after a close combat. The numerical result derived from a close combat (see 29.9) is applied directly to the Table to determine hits received.

When a creature is hit, the GM should secretly conduct the Hit Table die roll and apply any results unannounced.

[30.2] **Hits suffered by an individual are applied as reductions to his Physical Characteristics.**

When a character incurs a hit result, the listed number of points are immediately subtracted from the listed Characteristic Rating. This is done by recording the reduced Characteristic Rating next to the original rating on the Character Record (do not erase the original rating). Until healed, the character uses the reduced rating for all game purposes. When a character's *Endurance* Rating is reduced to **0**, he immediately *passes out* and will not come to until healing increases his Endurance to **1**. When a character's *Agility* is reduced to **0**, he may not move at all (he may use his hands to operate a small device or weapon). If a character's *Dexterity* is reduced to **0**, he may hold nothing and fire no weapon (he may still move). There is no immediate effect of a character's Strength being reduced to **0**. However, if a character's Strength *and* Endurance are reduced to **0**, he dies.

A Characteristic Rating may never be reduced below **0**. If a hit result calls for a greater reduction to a characteristic than is possible to apply, the excess reduction is applied to the next characteristic listed down on the Hit Table (the number of hits received is not increased). **Example:** A character with an Endurance Rating of **6** receives a hit result of **8 Endurance** (result **16**); his Endurance Rating is reduced to **0** and his Strength Rating (the next characteristic listed on the table) is reduced by **2. Exception:** If the **38 or more** result is incurred on the Hit Table, use the next characteristic *up* (Strength) after applying reductions to endurance.

When applying hits to a creature, treat its Combat Rating as its Strength and Endurance Rating (for purposes of using the Hit Table) and treat its Agility Rating as its Agility and Dexterity Ratings. When a creature's Combat Rating is reduced to **0**, it passes out. When its Combat *and* Agility Ratings are reduced to **0**, it dies.

[30.3] **Each time a character or NPC suffers one or more hits, he must immediately conduct a shock check.**

The hit character rolls one die. If the die result is equal to or less than his *Mental Power Rating*, he is unaffected. If the die result is greater than his Mental Power Rating, the character immediately drops whatever he may be holding and falls down; he may perform no actions at all for the remainder of the current Action Round and the entirety of the following Action Round. After the following Action Round, he is no longer affected. Note that a character with a Mental Power Rating of **0** will always fail a shock check. A character that passes out or dies when hit does not conduct a shock check. Creatures never perform shock checks.

[30.4] **An individual that is hit with a stun pistol pulse does not suffer any hits but may black out briefly.**

The Hit Table is not used. Instead, the GM rolls *one die* and *adds* the Stun Strength of the weapon (either **8** or **16**) to the die result. This modified result is compared to the *sum* of the target's *Endurance* and *Mental Power Ratings*. For every point above the sum the modified result indicates, the individual is stunned for one Action Round. Thus, a character with a combined Endurance and Mental Power Rating of **12** that suffers a modified stun result of **17** is stunned for five Action Rounds. A stunned individual immediately drops whatever he is holding and falls down; he may perform no actions at all until the requisite number of Action Rounds has passed. The count of Action Rounds for stun duration does not include the Action Round in which the individual is hit. The GM may wish to conceal the duration of a stun result from the characters, informing them only when the affected individual comes to.

The strength of a stun weapon is *halved* (before adding a die roll) if the target is wearing any type of full body armor or an expedition suit. A robot is not affected by stun weapons.

When checking for the result of a stun pulse against a creature, use its Combat Rating (only). Certain creature powers may render a stun pulse ineffective or alter its effects (see 35.0). In addition, the GM may choose to make creatures that have no central nervous system (in the GM's opinion) immune to stun weapons.

[30.5] **Damage to a robot, vehicle, or other piece of equipment hit by fire or involved in an accident ranges from superficial damage to complete destruction of the object.**

The Damage column of the Hit Table is used to determine whether the object suffers superficial, light, or heavy damage, or becomes partially or totally destroyed. An object that suffers more than superficial damage is rendered inoperable until repaired (see 13.0; the exact nature of the problem is up to the GM). An object that is totally destroyed may not be repaired.

When an object is hit by weapon fire, the damage result is determined as described in 30.1, using the Damage column instead of the Physical Characteristic column. A vehicle or robot that is hit by fire may be protected by its armor Defense Rating (see 30.6).

Damage to a vehicle or other object in an accident is assessed in accordance with 11.2 and 27.8. If a vehicle has a Projectile Armor Rating, the armor may protect the vehicle from damage. Note that any character in a vehicle that incurs damage may suffer hits as a result.

Damage suffered by body armor and other protective attire is not determined using the Damage column of the Hit Table. Instead, the Armor columns are used, as explained in 30.6.

[30.6] **A character wearing body armor or any other attire with a Projectile and/or Beam Defense Rating receives protection from hits.**

The Protective Attire Chart (20.0) lists a *Projectile Defense Rating* (use for protection from projectile weapons, close combat, and accidents) and a *Beam Defense Rating* (used for protection from laser pistols, paint guns, arc guns, and other beam weapons).

When a character incurs a result on the Hit Table due to any type of combat or mishap, he checks the *Armor Result* listed with the hit result.

- If the Armor Result is less than the appropriate Defense Rating of the character's armor, the character and the armor are not harmed at all.
- If the Armor Result is equal to the Defense Rating of the armor, the character is not harmed, but the armor suffers *superficial damage* and *both* of its Defense Ratings are reduced by **1**.
- If the Armor Result is greater than the Defense Rating of the armor, the armor is *pierced* and the character receives hits. The Defense Rating of the armor (before the current hit) is subtracted from the number of hits the character receives, and the appropriate Physical Characteristic is reduced by this adjusted amount. If the Armor Result is greater than the Defense Rating by **1**, the armor suffers *light damage* and *both* Defense Ratings are redued by **1**. If the Armor Result is greater than the Defense Rating by **2**, *heavy damage* is suffered, and both Defense Ratings are reduced by **2**. If greater by **3**, the armor is *partially destroyed*, and both Ratings are reduced by **3**. If greater by **4** or more, the armor is *totally destroyed*. An Armor Defense Rating may never be reduced below **0**.

There are four columns of Armor Results on the Hit Table. When hit by weapon fire, use the column corresponding to the total number of fires that the target was hit by. When involved in a close combat or an accident, use the **2 Fires** column of the Table.

All vehicles possess Armor Ratings which are used in the same way as personal armor to protect the machine from damage. Certain creature powers provide a creature with natural armor (with specific ratings given in the power descriptions), used in the same way as character armor.

[30.7] **The Toxin Effects Matrix is used to determine how an individual hit by a treated projectile is affected.**

When an individual is hit by a needle from a needle pistol or rifle, or is exposed to toxic gas from a grenade, the GM cross-references the type of toxin used with the composition of the target to determine the effects of poison. All character and NPC targets use the **Human** row of the matrix. A creature target uses the row that corresponds to its composition (only known by the GM, unless the characters have examined the creature, see 35.0).

A number from the matrix is treated as a Hit Strength; roll one die, adding the number to the die result, and determine the hits suffered by the individual as explained in 30.1

and 30.2. A letter result obtained from the matrix affects the target as explained (see matrix).

In addition to its toxic qualities, a needle has a Hit Strength of **1**. This applied to the target before determining the effects of the toxin. If the needle does no harm to the target, the toxin has no effect either.

[30.8] **The Toxin Effects Matrix explains the effects that various toxins have on beings of various compositions.**
See page 50.

[30.9] **The Hit Table is used to determine hits suffered by individuals and damage suffered by objects.**
See page 52.

VIII. Space Travel

There are two distinct methods of travelling between worlds. Hyperdrive uses the Mental Power of a psionic navigator to travel instantaneously from star system to star system. Unfortunately, hyperdrive will not work when a spaceship is within the gravity well of a star system. Thus, slower-than-light reaction drive (fission) is used to travel from planet to planet within a star system. A character conducting a hyperjump uses his navigator skill (this skill is not used to navigate a spaceship through interplanetary space). Pilot skill is used to control a spaceship through interplanetary space.

All the spaceships in *Universe* are composed of a ***hull*** and a variable number of *pods*. The hull determines the ship's size and overall performance. The pods are attached to the hull and give the ship a specific character: military, scientific, merchant, passenger, etc. This concept is more fully explained in *DeltaVee* Sections 1.0 through 5.0.

The gamesmaster creates spaceships from the various hulls and pods and introduces them into play so that the characters may travel in them, encounter them and, if wealthy enough, purchase them.

Two astronomical terms are used in this Chapter:

Astronomical Unit (AU). A standard measure of distance in interplanetary space. One AU equals 149 million km, the distance from Sol to Earth.

Ecliptic. The plane formed by a star and the orbital paths of all the planets around it. The mass of the worlds scattered around the ecliptic create a flattened sphere of gravity wells that may not be entered when hyperjumping.

[31.0] Hulls and Pods

Spaceship hulls and pods are manufactured on worlds with **Class 3** and **4** spaceports, and in orbiting factories attached to such spaceports. Like all other manufactured goods, spaceship parts come in a variety of Civ Levels (**6,7,8**) and will only be readily available on a world of an equal or higher Civ Level. Spaceships are far beyond the financial means of most people and, thus, the characters will be little concerned with the economics of spaceship construction and purchase. However, the characters will be able to book passage in commercial spaceships and during an adventure will sometimes receive free transport by an employer or may even be loaned a ship for the completion of a specific mission.

The GM uses the list of hulls and pods in this Section and the additional information in the *DeltaVee* rules (especialy concerning military spaceships) to create spaceships suited to his adventures. The hull/pod system allows the GM to design a wide variety of ships with a minimum of trouble. When constructing a ship, the GM should keep in mind the specifications of each hull and pod, especially their availability, Civ Level, and crew requirements, so that, when assembled, the ship may be logically (and legally) used by the characters.

[31.1] **Every class of spaceship hull contains the following:**

Each hull has a sub-light engine (using radioactives as its energy source, see 32.2), a control bridge with basic navigation and communication equipment, an airlock leading out of the ship, a docking port for rendezvous with other craft, and all the attributes listed in DV4.0 (especially DV4.9, the Spaceship Attribute Chart).

Additional information is listed with each spaceship hull description in 31.2. This information includes the following:

Availability (open, restricted, or closed). An *open* spaceship is available for purchase by anyone who has the funds. A *restricted* spaceship is available only with permission from the federation or an independent world. Such ships, equipped with quality defensive gear and light weapons, are preferred by merchant concerns and government agencies operating in dangerous areas. A *military* spaceship is designed specifically for combat and is available only to the federal navy, the Astroguard services, and the transport branches of military ground forces.

Crew Required. The minimum number of crew members required to keep the spaceship running and trouble-free, excluding gunner for the ship's burster or any crew necessary to service any pods the ship possesses.

Passenger Capacity. The maximum number of people the spaceship may accommodate when no pods are attached. Accommodations are basic: shared sleeping quarters, galley, and first aid station (fulfills equipment requirement for diagnosis and treatment tasks, provides no Skill Level increase). Any crew required to run the ship takes up passenger space.

Cargo. The maximum metric tonnage of cargo that the spaceship can transport. Cargo space may be increased by **0.1** ton per passenger below passenger capacity carried. The cargo hold will not sustain life.

Cost. Price in Trans for the spaceship hull when new if purchased on a world of the same or higher Civ Level as the hull. Price may fluctuate as described in 18.0.

Performance Modifier (PM). A quantification of the ship's responsiveness and structural integrity. Applied to the chance to avoid an accident, in accordance with 11.2.

[31.2] **The following spaceship hulls are the classes most common throughout the federation.**

• **Terwillicker 5000.** Favorite personal craft of wealthy individuals. Used as a light, short-range patroller by the Navy and the Astroguard, and as a courier by government and private concerns. **Availability:** Open. **Crew Required:** 1. **Passenger Capacity:** 2. **Cargo:** 0.3. **Cost:** 3,100. **PM:** 0.

A modified version of the *5000* is used as a surface landing vessel launched from the lander pod of a larger spaceship. It has a Velocity Rating of **1**, a Maneuver Rating of **4**, no armor, burster, or targeting program. **Crew Required:** 1. **Passenger Capacity:** 4. **Cargo:** 0.5. **Cost:** 1,500. **PM:** −5.

• **Terwillicker-X.** Short-range fighter craft, usually launched from the battlecraft pod of a large military spaceship. Orbiting space stations and commercial complexes often use the *X* for security and scouting. **Availability:** Restricted. **Crew Required:** 1. **Passenger Capacity:** 2. **Cargo:** 0.1. **Cost:** 6,900. **PM:** +25.

Note: All Terwillicker passenger capacities do not include a galley or first aid station.

• **Dagger.** Standard military patrol and pursuit craft. **Availability:** Military. **Crew Required:** 2. **Passenger Capacity:** 4. **Cargo:** 0.5. **Cost:** 12,200. **PM:** +15.

• **Sword.** Elite heavy cruiser, mainstay of the federal navy. **Availability:** Military. **Crew Required:** 5. **Passenger Capacity:** 10. **Cargo:** 3. **Cost:** 22,100. **PM:** +25.

• **Spear.** Military command post. Often used as the core spaceship of a federal navy task force or as an Astroguard headquarters. **Availability:** Military. **Crew Required:** 10. **Passenger Capacity:** 20. **Cargo:** 7. **Cost:** 27,900. **PM:** +10.

• **Piccolo.** Common high-performance craft. Popular with small businesses, independent explorers. **Availability:** Open. **Crew Required:** 1. **Passenger Capacity:** 6. **Cargo:** 1. **Cost:** 5,400. **PM:** +5.

• **Flute.** A heavily-defended craft used by many branches of the military (especially when a low profile is desired) and by corporations operating in dangerous areas. **Availability:** Restricted. **Crew Required:** 3. **Passenger Capacity:** 12. **Cargo:** 3. **Cost:** 20,700. **PM:** +20.

• **Clarinet.** The premier deep-space trading vessel. Its size, economy, and combat adaptability make it popular with interstellar traders and pirates. **Availability:** Open. **Crew Required:** 4. **Passenger Capacity:** 20. **Cargo:** 6. **Cost:** 14,100. **PM:** +10.

• **Corco Gamma.** Common small freight and passenger vessel. **Availability:** Open. **Crew Required:** 2. **Passenger Capacity:** 8. **Cargo:** 2. **Cost:** 6,700. **PM:** −10.

• **Corco Zeta.** One of the oldest commercial vessels; still widely used in safe areas. **Availability:** Open. **Crew Required:** 4.

Passenger Capacity: 20. **Cargo:** 5. **Cost:** 6,400. **PM:** −20.

• **Corco Iota.** Economical, well-defended trading vessel designed for government-sponsored commerce. **Availability:** Restricted. **Crew Required:** 4. **Passenger Capacity:** 25. **Cargo:** 10. **Cost:** 17,500. **PM:** 0.

• **Corco Mu.** Common large freighter and passenger vessel. **Availability:** Open. **Crew Required:** 5. **Passenger Capacity:** 30. **Cargo:** 15. **Cost:** 14,500. **PM:** −10.

• **Corco Omega.** Emergency craft launched from escape/EVA pod of a large spaceship. Contains burn-out hyperjump engine (see 32.1). **Velocity Rating:** 1. **Maneuver Rating:** 3. **Energy Capacity:** 10. **Energy Burn Rate:** 1. Not streamlined; has no burster, armor, force field, or targeting program. **Civ Level:** 7. **Availability:** Open. **Crew Required:** 1. **Passenger Capacity:** 4. **Cargo:** 0.2. **Cost:** 1,100. **PM:** −15.

[31.3] The GM may design additional spaceship hulls to use during play.

Any hull designed should be given ratings and attributes comparable to those found on the Spaceship Attribute Chart (DV4.9) and in 31.2. The spaceship may be made capable of carrying any number of pods. The Energy Burn Rate of a spaceship should be **20%** to **50%** greater than the number of pods it may carry. The cost of a spaceship hull is calculated by adding together the costs of all the following attributes:

- 200 Trans × Velocity Rating × Number of pods
- 100 Trans × Maneuver Rating × Number of pods
- 100 Trans × Passenger capacity of hull
- 10 Trans × Energy capacity of hull
- 100 Trans for a Class 1 burster; 1,000 Trans for a Class 2 burster
- Armor Class 1: 100 Trans Number of pods
- Armor Class 2: 1,000 Trans × Number of pods
- Force Field Class 1: 200 Trans × Number of pods
- Force Field Class 2: 1,000 Trans × Number of pods
- Target Program: 500 Trans for every subtraction of **1**
- Cargo: 100 Trans per ton of capacity

If the spaceship is streamlined, increase all the preceding by **50%**. These costs are based on the number of pods the ship is capable of carrying, not the number it is actually carrying at any particular time.

[31.4] Each spaceship hull may carry a variable number of pods, each containing a system that specializes or improves the ship's operation.

The concept of how pods work and details on combat abilities of certain pods can be found in DV1.0 and DV5.0, especially in DV5.8 (the Pod Attribute Chart). The following pods are the types most commonly used on spaceships. Each description includes the pod's availability, its requisite crew, passenger capacity, cargo capacity, and cost. These attributes are similar to those in 31.1. Unless a pod is assigned a specific Armor Class by the Pod Attribute Chart, it is considered to be Armor Class **0**. At an additional cost of **50** Trans, a pod may be purchased at Armor Class **1**. At an additional cost of **400** Trans, a pod may be purchased at Armor Class **2**. Any crew required to run a pod without passenger capacity must be housed elsewhere on the spaceship.

• **Arsenal.** See *DeltaVee*. **Availability:** Military. **Crew Required:** 6. **Passenger Capacity:** 0. **Cargo:** 0. **Cost:** 5,000.

• **Augmented Jump.** Allows spaceship to hyperjump. Navigator required. Jump engine never requires overhaul. Skill Level of navigator increased by **2** during hyperjump. **Availability:** Restricted. **Crew Required:** 3 (including navigator). **Passenger Capacity:** 1 (private cabin for navigator, includes interstellar commlink). **Cargo:** 0. **Cost:** 2,500.

• **Battlecraft.** Docking, refueling, and maintenance facilities for a *Terwillicker 5000* or *X*. Does not come with battlecraft. See *DeltaVee*. **Availability:** Open. **Crew Required:** 1. **Passenger Capacity:** 0. **Cargo:** 0. **Cost:** 500. **Civ Level:** 7.

• **Battle Communications.** See *DeltaVee*. **Availability:** Military. **Crew Required:** 8. **Passenger Capacity:** 1 (cabin suitable for the needs of the ship's commander). **Cargo:** 0. **Cost:** 3,000.

• **Buffered Cargo.** Pressurized, temperature controlled cargo hold. Facilities for fragile and organic (but not living) items included. **Availability:** Open. **Crew Required:** 1. **Passenger Capacity:** 0. **Cargo:** 20. **Cost:** 350. **Civ Level:** 7.

• **Bio-Research.** Complete research laboratory for the study of alien life forms. Contains chambers for keeping living specimens in their natural environment conditions and computer library of all known life forms. Fulfills equipment requirements for biology, diagnosis, geology, physics, chemistry, and treatment tasks. Provides Skill Level increases of **1** when performing any of the above tasks (Skill Level increase of **3** for biology tasks). **Availability:** Open. **Crew Required:** 1. **Passenger Capacity:** 1 (cabin/study for scientist). **Cargo:** 2 (contents of environment chambers). **Cost:** 1,800. **Civ Level:** 8.

• **Crew.** Basic accommodations for crew of a spaceship. Shared sleeping quarters and galley. **Availability:** Open. **Crew Required:** 1. **Passenger Capacity:** 40. **Cargo:** 0.5. **Cost:** 900. **Civ Level:** 6.

• **Energy.** Capable of holding and processing **144** Energy Units of radioactives. **Availability:** Open. **Crew Required:** 0. **Passenger Capacity:** 0. **Cargo:** 0. **Cost:** 140 (excluding energy). **Civ Level:** 7.

• **Escape/EVA.** Contains assortment of expedition suits, propulsion devices, and tethers for zero-G maneuver outside the ship. Has three airlocks and four launch tubes, each capable of holding a Corco *Omega* lifeboat (not included). **Availability:** Open. **Crew Required:** 0. **Passenger Capacity:** 0. **Cargo:** 0. **Cost:** 400. **Civ Level:** 7.

• **Explorer.** Combines certain elements of a survey pod and a bio-research pod, designed for small exploration missions. Contains burn-out hyperjump engine (see 32.1). Fulfills equipment requirements for biology, geology, physics, planetology, and chemistry tasks. Provides Skill Level increase of **1** when performing an astronomy or planetology task. Provides Skill Level increase of **2** when performing a biology task. Contains chambers for keeping living specimens in their natural environment conditions. **Availability:** Open. **Crew Required:** 2 (including navigator). **Passenger Capacity:** 0. **Cargo:** 0.5 (contents of environment chambers). **Cost:** 1,800. **Civ Level:** 8.

• **Heavy Weapon.** See *DeltaVee*. **Availability:** Military. **Crew Required:** 4. **Passenger Capacity:** 0. **Cargo:** 0. **Cost:** 3,000.

• **Hunter.** See *DeltaVee*. Contains burn-out hyperjump engine (see 32.1). **Availability:** Military. **Crew Required:** 2 (including navigator). **Passenger Capacity:** 0. **Cargo:** 0. **Cost:** 2,000.

• **Lander.** Contains airlocks, docking, refueling, and maintenance facilities for surface landing vessel (a modified *Terwillicker 5000* or *Piccolo*). Lander not included in cost of pod. **Availability:** Open. **Crew Required:** 0. **Passenger Capacity:** 0. **Cargo:** 0. **Cost:** 300. **Civ Level:** 7.

• **Light Weapon.** See *DeltaVee*. **Availability:** Restricted. **Crew Required:** 2. **Passenger Capacity:** 0. **Cargo:** 0. **Cost:** 1,700.

• **Living Cargo.** Contains 50 independently pressurized and heated compartments for holding all types of living cargo from plants to pets to alien life forms. Requisite life support systems included. Compartments range in size from 0.5 cubic meter to 30 cubic meters. **Availability:** Open. **Crew Required:** 1. **Passenger Capacity:** 0. **Cargo:** 10. **Cost:** 650. **Civ Level:** 7.

• **Luxury Cabin.** Spacious single and double occupancy staterooms for first class passengers. Includes recreational, bar, and dining area; galley and first aid station. **Availability:** Open. **Crew Required:** 5. **Passenger Capacity:** 15. **Cargo:** 0.5. **Cost:** 1,500. **Civ Level:** 7.

• **Medical.** Fully equipped medical laboratory/computer. Fulfills equipment requirements for all biology, diagnosis, and treatment tasks. Provides Skill Level increase of **1** when performing a biology task. Provides Skill Level increase of **3** when performing a diagnosis or treatment task. Alternatively, the computer may diagnose and treat a patient by itself, with diagnosis and treatment Skill Levels of **6**. **Availability:** Restricted (medicines and drugs require an accredited doctor). **Crew Required:** 1. **Passenger Capacity:** 5 (four sickbeds and one cabin/study for doctor). **Cargo:** 0. **Cost:** 2,000. **Civ Level:** 8.

• **Robot and Equipment.** Storage and maintenance facilities for robots and equipment used by the crew and passengers. Fulfills equipment requirements for all compu/robot, electro, energy, suit, vehicle, and weapon tech repair tasks. Provides Skill Level increase of **3** when attempting to repair

any such item brought into the pod. Alternatively, the maintenance system may repair an item by itself, with a tech Skill Level of **6**. (**Exception:** The system may not repair a robot by itself.) This pod does not aid the construction, psion tech, and spaceship tech skills. **Availability:** Open. **Crew Required:** 1. **Passenger Capacity:** 0. **Cargo:** 2 (items under repair). **Cost:** 1,200. **Civ Level:** 8.

• **Standard Cabin.** Double, triple, and quad occupancy rooms for standard passengers. Includes dining area, galley, and first aid station. **Availability:** Open. **Crew Required:** 3. **Passenger Capacity:** 30. **Cargo:** 0.5. **Cost:** 1,200. **Civ Level:** 7.

• **Standard Cargo.** Non-climate controlled cargo hold. Will not sustain life. **Availability:** Open. **Crew Required:** 0. **Passenger Capacity:** 0. **Cargo:** 35. **Cost:** 35. **Civ Level:** 6.

• **Standard Jump.** Allows spaceship to hyperjump. Navigator required. Jump engine requires monopole replacement every 200 light years (cost of replacement: **15** Trans). Skill Level of navigator increased by **1** during hyperjump. **Availability:** Open. **Crew Required:** 2 (including navigator). **Passenger Capacity:** 0. **Cargo:** 0. **Cost:** 1,500.

• **Survey.** Complete research center for studying a world being orbited or approached. Contains computer library on all known planetary phenomena. Provides Skill Level increase of **2** when performing an astronomy task and a Skill Level increase of **3** when performing a planetology task. **Availability:** Open. **Crew Required:** 1. **Passenger Capacity:** 1 (cabin/study for astronomer or planetologist). **Cargo:** 0. **Cost:** 1,600. **Civ Level:** 8.

• **Tractor Beam.** See *DeltaVee*. **Availability:** Restricted. **Crew Required:** 2. **Passenger Capacity:** 0. **Cargo:** 0. **Cost:** 2,500.

[32.0] Interstellar Travel

A psionic navigator conducts and controls instantaneous interstellar travel, or hyperjumping, by manipulating magnetic monopoles with his mind. A hyperjump occurs when the thought patterns of a psionic mind concentrating on a remote destination are encoded into a plate of monopoles. The mental image and the power of the navigator's mind force the perpetually unidirectional particles to reverse their polarity, causing a shift or jump to the point matching the monopole pattern. This inexplicable phenomenon is the key to both humankind's galactic expansion and the psionic community's continued economic well-being.

Failure of a navigator to wrest the monopoles to his mental command often results in a jump error and/or psychic damage to the psion. Gravitational fields increase this risk by disrupting the stability of the monopole screen that the navigator projects his mind onto. Because of this, spaceships must travel to the outskirts of a star system by conventional propulsion before a jump may be conducted. Conversely, the destination of a jump must be outside the gravity wells of the system so that the navigator's mind and the integrity of the ship will not be destroyed by monopoles reacting to forces other than his own thoughts. The point outside a star system that is closest to a given planet and yet far enough away from all gravitational fields in the system to conduct a safe hyperjump from is called that system's *jump point*. It is to this point that a navigator will bring a spaceship as the result of a perfect jump.

[32.1] **A spaceship must have a hyperjump engine in order to travel between stars.**

A standard jump pod, an augmented jump pod, a hunter pod, and an explorer pod each contains a jump engine. Any spacehship with one of these pods may hyperjump. **Exception:** The engine in a hunter or explorer pod may not be used when attached to a ship capable of carrying more than **3** pods. The Corco *Omega* lifeboat also contains a jump engine.

A jump engine does not consume energy; however, with the exception of the augmented jump pod, all hyperjump engines lose their stability after a time. A standard jump pod must be serviced as described in 31.4. The hunter pod, the explorer pod, and the *Omega* each contains a burn-out hyperjump engine. After a few jumps, such an engine must be entirely replaced. A hunter pod engine must be replaced after three jumps at a cost of **500** Trans. An explorer pod engine must be replaced after two jumps at a cost of **375** Trans. A Corco *Omega* engine must be replaced after one jump at a cost of **200** Trans.

[32.2] **A spaceship that is at a safe jump point and that has a psionic navigator aboard may hyperjump.**

A jump point for departing or arriving at a given planet lies above or below the plane of the ecliptic for the star system, such that a line drawn from the point to the planet would be perpendicular to the ecliptic.

See diagram below.

The length of this line depends on the Spectral Class of the planet's star and the distance between the planet and the star. Subtract the distance (in AU's) between the planet and the star from one of the following numbers:

Spectral Class A: **180** K: **60**
F: **130** M: **41**
G: **90**

The result of this subtraction is the minimum distance (in AU's) from the planet a spaceship must be to go into or come out of a jump. For example, the minimum jump point for a planet that is **7** AU's from a Class K star is **53** AU's. This distance would have to be traversed using normal propulsion and could take as long as four weeks (for an A Class star); see 33.0.

Note: A spaceship must be stationary (at **0** velocity) at the moment of hyperjump, and will thus be stationary when it comes out of hyperjump.

A hyperjump is conducted using the Hyperjump Table (32.3) in accordance with the navigation skill description (see 10.0).

[32.3] **The Hyperjump Table is used to resolve the outcome of a hyperjump.**
See page 52.

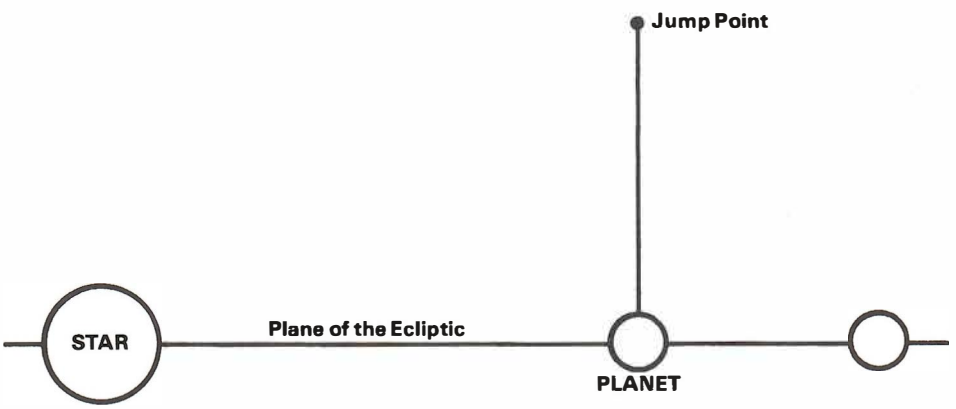
[32.4] **A character without a spaceship may travel between stars by booking passage on a commercial vessel.**

Commercial hyperjump voyages occur with a varying degree of regularity between many stars. The frequency and reliability of a commercial voyage between two stars depends on the distance between them and the highest Spaceport Class of a world orbiting each star. Commercial interstellar travel always begins and ends at the world in a star system with the highest Spaceport Class (by federal law). If two or more worlds in a system share the highest class, the GM chooses one as the interstellar terminal.

The Interstellar Route Chart is used to determine the type of route (if any) that exists between any two stars. The highest Spaceport Class in the destination star system is cross-referenced with the highest Spaceport Class in the system of departure to yield three numbers, each defining the maximum distance (in light years) at which a given type of route exists.

A **green** jump route is a well-travelled commercial lane with passenger and freight service occuring daily (or more often). If a character or party wishes to travel this route, roll *percentile* dice to determine how many *hours* he must wait for a ship with available space.

An **amber** jump route is an infrequently travelled commercial lane traversed by freighters and an occasional passenger vessel. Roll *two dice* to determine how many



days a character must wait for available space on this route.

A **red** jump route is a rarely travelled course traversed by a few exploratory and resupply ships. Roll *percentile* dice to determine how many *days* a character must wait for available space on this route.

When using the Hyperjump Table for a spaceship that a character has booked passage on, assume the ship's navigator has a Skill Level of **7**, a Mental Power Rating of **6**, is in a standard jump pod, and either frequents or has previously visited both star systems at some time.

The price of *standard* passage on a commercial interstellar spaceship is calculated with the following formula:

(Distance in LY's × 100 Mils) +
(Distance in AU's to and from each world's jump point × 20 Mils)

Standard passage includes a small room shared with two or three other passengers, a common toilet, a common dining area, and a baggage allowance of **100** kg. The price of a standard passage on a *red* jump is increased by **50%**.

A character travelling a green jump (only) may book *luxury* passage at **2.5** times the standard fare. A luxury passenger receives a private room (single or double occupancy, as requested) with private bath, a common recreation-bar-dining area featuring entertainment and gourmet dining, and a baggage allowance of **500** kg.

The total time of an interstellar voyage equals the time to travel from the world of departure to its jump point, and from the destination world to its jump point, in accordance with 33.0. The actual hyperjump takes no time.

[32.5] **Interstellar Route Chart**
See page 52.

[33.0] Interplanetary Travel

Travel between the worlds of a single star system, or between a world and its jump point is conducted at slower than light speeds. The most common sub-light spaceship engine is a reaction drive, using radioactive elements as fuel.

In an interplanetary journey, a spaceship accelerates at a constant rate to the journey's mid-point and then decelerates at the same rate until it reaches its destination. Thus, the longer the journey, the higher the velocity the ship will attain at its "turn over" point. All interplanetary distances are measured in AU's. The time required for the journey depends on the spaceship's rate of acceleration. A constant acceleration/deceleration of **1G** is the usual travel speed for a spaceship. The travel time using this speed is calculated with the following equation:

$$\text{Time (in hours)} = 48\sqrt{d}$$

d = distance in AU's

A spaceship without special equipment manned by a healthy crew may travel at a constant acceleration/deceleration as high as **2.5G**. This speed equals an acceleration or deceleration of **1** per turn in *DeltaVee*. Travel time using this speed equals:

$$30\sqrt{d}$$

A high performance spaceship (Velocity Rating of **2** or **3**) manned by a crew who all have *internal gravity webs* may travel at a constant acceleration/deceleration as high as **5G**. The speed is often used in long range military pursuit and equals an acceleration or deceleration of **2** per turn in *DeltaVee*. Travel time using this speed equals:

$$20\sqrt{d}$$

[33.1] **The distance between two planets in a star system varies widely due to their orbital paths.**

This distance may be as little as the *difference* between their distances from the star, or as great as the *sum* of their distances from the star (if the two planets are on exact opposite sides of the star). For example, the 11th and 12th planets on the Star System Log could be as close to each other as **15** AU's and as far apart as **65** AU's. Unless the GM wishes to determine the length of each planet's orbital year and set up an everchanging orbital model, he should use the following simplification to determine planetary distances: The distance between two worlds equals the distance from their star to the world of the two that is furthest from the star. Thus, the distance between the planets mentioned above would be **40** AU's.

For purposes of calculating interplanetary distances, a moon is considered to occupy the same position as its planet. The distance between a planet and any of its moons is left up to the GM. As a guideline, our moon is **.0026** AU's (360,000 km) from the Earth. At a constant **1G** acceleration/deceleration, a journey from the Earth to the moon would take about **2.5** hours.

[33.2] **As a spaceship travels through interplanetary space, it consumes fuel in the form of Energy Units and/or Energy Blocks.**

An Energy Unit for a reaction drive engine consists of one kilogram of radioactives and costs **300** Mils. Thus, it would cost **43** Trans to "fill up" an energy pod capable of carrying **144** Energy Units. Energy is always available at a Class 3, 4, or 5 spaceport. Energy may be available at a Class 1 or 2 spaceport; see 25.5. Any spaceport orbiting a world that contains radioactives as a resource will always have spaceship energy.

As explained in *DeltaVee*, the number of Energy Units a spaceship expends to maneuver depends on its Energy Burn Rate, which corresponds to the number of Energy Units in one *Energy Block* for that ship. The same concept applies to long-range interplanetary travel. A spaceship that is travelling at a constant acceleration/deceleration of **1G** must expend **1** Energy *Block* every **24** *hours* (or fraction thereof). A ship that is travelling at **2.5G** must expend **1** Energy Block every **6** *hours*. A ship that is travelling at **5G** must expend **1** Energy Block *every hour*. A spaceship that is lifting off from the surface of a world must expend an additional number of Energy Blocks equal to the size of the world (**1** to **9**). Lift-off does not increase the voyage time.

The GM must make sure that any spaceship he enters into play possesses the requisite energy to complete any voyage planned for it. Sometimes two or three energy pods will be required for a large ship travelling to and from jump points.

[33.3] **Any person in a spaceship undergoing high G forces must have an internal gravity web.**

A gravity web contains and protects a person's organs and arteries during the strain of high G acceleration and deceleration. The web is inserted throughout the person's body in a complex series of operations. All star sailors are provided with a gravity web, as are many members of the Astroguard. A character may undergo an operation for gravity web implantation on any world with a Civ Level of **7** or higher. The operation costs **15** Trans and the character will be in the hospital for **7** days.

A character without a gravity web cannot survive an extended period of acceleration or deceleration greater than **2.5G**.

When playing *DeltaVee*, a character without a gravity web cannot survive a velocity change of more than **2** (**5G**) in a single Command Phase.

[33.4] **A character without a spaceship may travel between worlds in a star system by booking passage on a commercial vessel.**

The frequency of commercial voyages between two worlds depends on the class of their spaceports. The Interplanetary Route Chart is used to determine the type of route (if any) that exists between any two worlds in the same system. The Spaceport Class of the destination world is cross-referenced with the Spaceport Class of the world of departure to yield the type of route: *course green*, *course amber*, or *course red*. The frequency and quality of service on these routes correspond to those of the jump routes of the same color designations in 32.4.

The price of standard passage on a commercial interplanetary spaceship equals the distance of the voyage (in AU's) multiplied by **40** Mils. If the spaceship must lift off from the surface of a world (Spaceport Class ½) or if the voyage is *course red*, the fare is increased by **50%**. In any case, the *minimum cost* for any interplanetary voyage is **250** Mils (including a voyage from a planet to one of its moons, and vice versa).

A character travelling on a course green voyage of at least one AU may book luxury passage at **2.5** times the standard fare. He receives the comforts of luxury passage described in 32.4.

A commercial vessel always travels at a constant acceleration/deceleration of **1G**.

[33.5] **Interplanetary Route Chart**
See page 52.

[34.0] Space Combat

When the characters are in a spaceship that encounters another spaceship, combat may occur. If possible, the characters should avoid spaceship combat; it is deadly. However, situations will certainly arise where combat is inevitable. When this happens, the GM and the players use the *DeltaVee* tactical space combat system to resolve the battle. *DeltaVee* is complete unto itself and may be

used as is, if the characters are in a ship that they are not controlling. The following rules modify the system, allowing characters to participate directly in the conduct of combat.

Combat burns up energy at a much faster rate than steady, uninterrupted travel. Conserving enough energy during battle so that the ship may get somewhere if it survives should be as much on the characters' minds as victory.

[34.1] **The GM sets up the tactical maps and the spaceship counters.**

Keeping in mind that each hex on the map is 20,000 km across, the GM may arrange the maps in any configuration and may place planets, asteroids, the characters' spaceship, and any spaceships encountered on the maps to match the situation he is describing. Unless the spaceships are near a world or jump point that they are travelling to or from, they will be travelling much faster than the velocities in *DeltaVee*. In this case, the Velocity markers assigned show their velocities relative to each other. The slowest ship should be assigned a **0** Velocity marker, and the others should have markers indicating their velocities in comparison with the slowest ship. If the GM wishes, he may use markers of his own devising to show velocities above **9**.

[34.2] **Before beginning battle, each character declares which part of the ship he is in.**

When in the bridge or certain pods of a spaceship, a character may use his space combat skills, as described in 9.2.

At the beginning of any friendly Command Phase during space combat, a character may declare that he is moving to another part of the ship. If he does so, his skills may not be used at all for that Command Phase and the next friendly Fire Phase. At the beginning of the following friendly Command Phase, the character may again use his skills (as allowed by his new location).

Unless the GM determines Skill Levels for the crew manning a spaceship that the characters encounter, he should use the *DeltaVee* system unmodified for their maneuvers, commands, and fires.

[34.3] **A character in a compartment of a spaceship that is hit by spaceship fire may suffer hits.**

A character in a compartment that becomes vulnerable is not harmed. A character in a compartment that becomes damaged must use the Hit Table, as if struck with a Hit Strength of **6** (see 30.1). A character in a compartment that is destroyed must use the Hit Table, as if struck with a Hit Strength of **20**. If he survives this injury, and he does not pass out, he may immediately move to any other compartment. If he passes out as a result of the injury, he dies.

Spaceship armor in *DeltaVee* uses a different classification system than personal and vehicle armor in *Universe*. If a situation should arise where a spaceship's armor is hit by forces other than spaceship weaponry, the Armor Classes of each pod and compartment can be translated into projectile and beam Defense Ratings as follows: Armor Class **0**: 2/2; Armor Class **1**: 4/4; Armor Class **2**: 6/6. A spaceship's force field may never be pierced by any projectile weapon.